APCL

Applied Physics & Chemistry Laboratory

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

December 09, 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 02-5613 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,

Regina Kirakozova
Associate 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 #: 801-025613B
Collected by: TAM/DJL/MES.
Collected on: 10/22/02

Received: 10/22/02
Extracted: N/A
Tested: 10/22-28/02
Reported: 11/05/02

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

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-23 02-05613-1	MW-23-1 02-05613-2	MW-23-2 02-05613-3	MW-23-3 02-05613-4
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	<4
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.5J	0.7	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.4J	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.8	0.6	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	0.7	0.9	<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-23-4 02-05613-5	MW-23-5 02-05613-6	MW-23-3D 02-05613-7	TB-23 02-05613-8
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	-	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	-	-	-	1J
TETRACHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-4 02-05613-5	MW-23-5 02-05613-6	MW-23-3D 02-05613-7	TB-23 02-05613-8
TRICHLOROETHENE	524.2	µg/L	0.5	-	-	< 0.5	< 0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	-	-	< 0.5	< 0.5

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

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Sample Description: Water from Pasadena, CA.
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Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-23 02-05613-1	MW-23-1 02-05613-2	MW-23-2 02-05613-3	MW-23-3 02-05613-4
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	<4
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	0.5J	0.7	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1 DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.4J	<0.5	<0.5
1,2 DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER-23 02-05613-1	MW-23-1 02-05613-2	MW-23-2 02-05613-3	MW-23-3 02-05613-4
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	<1	<1	<1	<1
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	0.8	0.6	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	0.7	0.9	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-4 02-05613-5	MW-23-5 02-05613-6	MW-23-3D 02-05613-7	TB-23 02-05613-8
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	-	<0.01	-
Dilution Factor				1	1	1	1
PERCHLORATE	314.0	µg/L	4	<4	<4	<4	-
VOLATILE ORGANIC COMPOUNDS							
Dilution Factor				1	1	1	1
BENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
BROMOBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
BROMOFORM	524.2	µg/L	0.5	-	-	<0.5	<0.5
BROMOMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLOROFORM	524.2	µg/L	0.5	-	-	<0.5	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2 DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2 DIBROMOETHANE (EDB)	524.2	µg/L	0.5	-	-	<0.5	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2 DICHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,3 DICHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1 DICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2 DICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1 DICHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,3 DICHLOROPROPANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TRANS-1,3 DICHLOROPROPENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result MW-23-4 02-05613-5	MW-23-5 02-05613-6	MW-23-3D 02-05613-7	TB-23 02-05613-8
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	-	-	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	-	-	<1	UJ
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	-	-	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TOLUENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	-	-	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	-	-	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	-	-	<0.5	<0.5

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

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

J: Reported between PQL and MDL.

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 00HW019 JPL

APCL Service ID: 02-5613

Applied P & Ch Laboratory
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Case Narrative

Project: JPL/Pasadena, CA./00HW019

For SOTA Environmental

APCL Service No: 02-5613

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-23	02-05613-8
MW-23-5	02-05613-6
MW-23-4	02-05613-5
MW-23-3	02-05613-4
MW-23-3D	02-05613-7
MW-23-2	02-05613-3
MW-23-1	02-05613-2
ER-23	02-05613-1

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
314.0 (Perchlorate, low level),

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

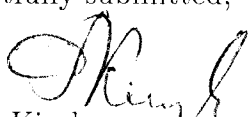
None

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,



Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

015701

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, CA APCL Quotation #

Due Date: ☑ Regular ☐ rush: ___ days ___ hours Sampled by: TAM/DJL/MES

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Tot Cr (2008)	Cr VI (7196)	Perchlorate (314.0)	Remarks
TB-23	Trip Blank	10-22-02	0630	Water	HCl	2	X				EPA Level III QA/QC
MW-23-5	MW-23-5		0713		—	1				X	
MW-23-4	MW-23-4		0745		HNO3	2		X			MS/MSD
MW-23-4	MW-23-4		0745		—	2			X	X	MS/MSD
MW-23-3	MW-23-3		0838		HCl	3	X				
					HNO3	1		X			
					—	1			X	X	
MW-23-3D	MW-23-3 Duplicate				HCl	3	X				
					HNO3	1		X			
					—	1			X	X	
MW-23-2	MW-23-2		1026		HCl	3	X				
					HNO3	1		X			
					—	1			X	X	

5613

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 10/22/02 15:30 Received by [signature] Date/Time 10/22/02 15:30

Relinquished by [signature] Date/Time 10/22/02 1615 Received by [signature] Date/Time 10/22/02 1615

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 Env. 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, CA APCL Quotation #

Due Date: ☑ regular ☐ rush: ___ days ___ hours Sampled by: MES/TAM/DJL

White – With report
Yellow – Lab copy
Pink – Originator

Field Sample ID No.	Sample Description	Date Collected	Time	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Tot Cr (200.8)	Cr VI (7196)	Perchlorate (314.0)	Remarks
MW-23-1	MW-23-1	10-22-02	1056	Water	HCl	3	X				EPA
					HNO3	1		X			Level IV
					—	1			XX		QA/QC
ER-23	Equip. Rinsate		0653		HCl	3	X				
					HNO3	1		X			
					—	1			XX		

5613

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 10/22/02 15:30 Received by [signature] Date/Time 10/22/02 15:32

Relinquished by [signature] Date/Time 10/22/02 1605 Received by [signature] Date/Time 10/22/02 1605

APCL USE ONLY Service # Note:

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

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Sample Receiving Checklist

APCL ServiceID: **5613** Client Name/Project: Sota Environmental

1. Sample Arrival

Date/Time Received 10/22/02 1615 Date/Time Opened 10/22/02 1615 By (name): Hung Huo

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Boy A.

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☑ Signed, dated? By: Paul 10/22/02

☐ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 8

☑ 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 3.9

(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: Henry Chan Date: 22 Oct 2002 Time: 9:01 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required 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.

015702

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

Sample Login: Check List

02-05613 (1288_ 403) (4858100_ 403)

10/22/02

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 Chan*
		Receiving Date/Time:	*10/22/02 1615*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		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:		*NFESA D*
☐	Disposal Option:		*Not specify*

015703

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-23	VOC	02-05613-8	W	V	C	40	2	G	102202	N	0	7	☐
2	MW-23-5	Perchl	02-05613-6	W	P		500	1	G	102202	N	0	7	☐
3	MW-23-4	CRVI/Perch	02-05613-5	W	P		500	2	G	102202	N	0	7	☐
4	MW-23-3	VOC	02-05613-4-α	W	V	C	40	3	G	102202	N	0	7	☐
	MW-23-3	CRVI/Perch	02-05613-4-β	W	P		500	1	G	102202	N	0	7	☐
5	MW-23-3D	VOC	02-05613-7-α	W	V	C	40	3	G	102202	N	0	7	☐
	MW-23-3D	CRVI/Perch	02-05613-7-β	W	P		500	1	G	102202	N	0	7	☐
6	MW-23-2	VOC	02-05613-3-α	W	V	C	40	3	G	102202	N	0	7	☐
	MW-23-2	CRVI/Perch	02-05613-3-β	W	P		500	1	G	102202	N	0	7	☐
7	MW-23-1	VOC	02-05613-2-α	W	V	C	40	3	G	102202	N	0	7	☐
	MW-23-1	CRVI/Perch	02-05613-2-β	W	P		500	1	G	102202	N	0	7	☐
8	ER-23	VOC	02-05613-1-α	W	V	C	40	3	G	102202	N	0	7	☐
	ER-23	CRVI/Perch	02-05613-1-β	W	P		500	1	G	102202	N	0	7	☐

Part 3: Analysis Information

Test Items:

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

015704

APCL

Applied Physics & Chemistry Laboratory

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

December 09, 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 02-5742 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,

Regina Kirakozova
Associate 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 #: 801-025742A
Collected by: TAM/DJL
Collected on: 10/29/02

Received: 10/29/02
Extracted: N/A
Tested: 10/29-11/04/02
Reported: 11/06/02

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

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-24 02-05742-1	MW-24-1 02-05742-2	MW-24-2 02-05742-3	MW-24-3 02-05742-4
Dilution Factor				1	15	1	1
PERCHLORATE	314.0	µg/L	4	< 4	985	< 4	< 4

Component Analyzed	Method	Unit	PQL	Analysis Result ER-24 02-05742-1	MW-24-1 02-05742-2	MW-24-2 02-05742-3
CHROMIUM (VI)	7196	mg/L	0.01	< 0.01	< 0.01	< 0.01
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
BROMOBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
BROMOFORM	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
BROMOMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	< 0.5	22.2	< 0.5
CHLOROBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
CHLOROETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
CHLOROFORM	524.2	µg/L	0.5	< 0.5	13.4	< 0.5
CHLOROMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
DIBROMOMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result ER-24 02-05742-1	MW-24-1 02-05742-2	MW-24-2 02-05742-3
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	0.4J
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	0.4J	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	1	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	<0.5	<0.5
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	<1	<1	<1
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	<1	<1	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	1.2	0.4J
TOLUENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	8.3	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	<0.5	<0.5

Applied P & Ch Laboratory
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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 02-05742-4	MW-24-4 02-05742-5	TB-24 02-05742-6
CHROMIUM (VI)	7196	mg/L	0.01	<0.01	<0.01	-
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
BENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
BROMOBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
BROMOCHLOROMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
BROMODICHLOROMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
BROMOFORM	524.2	µg/L	0.5	<0.5	-	<0.5
BROMOMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
N-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
SEC-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
TERT-BUTYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
CARBON TETRACHLORIDE	524.2	µg/L	0.5	<0.5	-	<0.5
CHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
CHLORODIBROMOMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
CHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
CHLOROFORM	524.2	µg/L	0.5	<0.5	-	<0.5
CHLOROMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
2-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	-	<0.5
4-CHLOROTOLUENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2-DIBROMO-3-CHLOROPROPANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2-DIBROMOETHANE (EDB)	524.2	µg/L	0.5	<0.5	-	<0.5
DIBROMOMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,3-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,4-DICHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
DICHLORODIFLUOROMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	-	<0.5
CIS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	-	<0.5
TRANS-1,2-DICHLOROETHENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,3-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	-	<0.5
2,2-DICHLOROPROPANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	-	<0.5
CIS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	-	<0.5
TRANS-1,3-DICHLOROPROPENE	524.2	µg/L	0.5	<0.5	-	<0.5
ETHYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
HEXACHLOROBUTADIENE	524.2	µg/L	0.5	<0.5	-	<0.5
ISOPROPYLBENZENE (CUMENE)	524.2	µg/L	0.5	<0.5	-	<0.5

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 02-05742-4	MW-24-4 02-05742-5	TB-24 02-05742-6
P-ISOPROPYLTOLUENE	524.2	µg/L	0.5	<0.5	-	<0.5
METHYLENE CHLORIDE	524.2	µg/L	1	<1	-	<1
METHYL-T-BUTYL ETHER (MTBE)	524.2	µg/L	1	0.6J	-	<1
NAPHTHALENE	524.2	µg/L	0.5	<0.5	-	<0.5
N-PROPYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
STYRENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1,1,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1,2,2-TETRACHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	<0.5	-	<0.5
TOLUENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2,3-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2,4-TRICHLOROBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1,1-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,1,2-TRICHLOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
TRICHLOROETHENE	524.2	µg/L	0.5	<0.5	-	<0.5
TRICHLOROFLUOROMETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2,3-TRICHLOROPROPANE	524.2	µg/L	0.5	<0.5	-	<0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5
1,2,4-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
1,3,5-TRIMETHYLBENZENE	524.2	µg/L	0.5	<0.5	-	<0.5
VINYL CHLORIDE	524.2	µg/L	0.5	<0.5	-	<0.5
O-XYLENE	524.2	µg/L	0.5	<0.5	-	<0.5
M/P-XYLENE	524.2	µg/L	0.5	<0.5	-	<0.5

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

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

J: Reported between PQL and MDL.

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
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 #: 801-025742B
Collected by: TAM/DJL
Collected on: 10/29/02

Received: 10/29/02
Extracted: N/A
Tested: 10/29-11/04/02
Reported: 11/06/02

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

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result ER-24 02-05742-1	MW-24-1 02-05742-2	MW-24-2 02-05742-3	MW-24-3 02-05742-4
Dilution Factor				1	15	1	1
PERCHLORATE	314.0	µg/L	4	< 4	985	< 4	< 4

Component Analyzed	Method	Unit	PQL	Analysis Result ER-24 02-05742-1	MW-24-1 02-05742-2	MW-24-2 02-05742-3
CHROMIUM (VI)	7196	mg/L	0.01	< 0.01	< 0.01	< 0.01
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	< 0.5	22.2	< 0.5
CHLOROFORM	524.2	µg/L	0.5	< 0.5	13.4	< 0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	0.4J
1,2-DICHLOROETHANE	524.2	µg/L	0.5	< 0.5	0.4J	< 0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	< 0.5	1	< 0.5
TETRACHLOROETHENE	524.2	µg/L	0.5	< 0.5	1.2	0.4J
TRICHLOROETHENE	524.2	µg/L	0.5	< 0.5	8.3	< 0.5
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	< 0.5	< 0.5	< 0.5

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 02-05742-4	MW-24-4 02-05742-5	TB-24 02-05742-6
CHROMIUM (VI)	7196	mg/L	0.01	< 0.01	< 0.01	-
VOLATILE ORGANIC COMPOUNDS						
Dilution Factor				1	1	1
CARBON TETRACHLORIDE	524.2	µg/L	0.5	< 0.5	-	< 0.5
CHLOROFORM	524.2	µg/L	0.5	< 0.5	-	< 0.5
1,1-DICHLOROETHANE	524.2	µg/L	0.5	< 0.5	-	< 0.5
1,2-DICHLOROETHANE	524.2	µg/L	0.5	< 0.5	-	< 0.5
1,1-DICHLOROETHENE	524.2	µg/L	0.5	< 0.5	-	< 0.5
METHYL T-BUTYL ETHER (MTBE)	524.2	µg/L	1	0.6J	-	-
TETRACHLOROETHENE	524.2	µg/L	0.5	< 0.5	-	< 0.5
TRICHLOROETHENE	524.2	µg/L	0.5	< 0.5	-	< 0.5

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

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result MW-24-3 02-05742-4	MW-24-4 02-05742-5	TB-24 02-05742-6
112TRICHLORO-122TRIFLUOROETHANE	524.2	µg/L	0.5	<0.5	-	<0.5

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level D Data Package Deliverables

General Information

Project: 00HW019 JPL

APCL Service ID: 02-5742

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: 02-5742

1. Sample Identification

The sample identifications are listed in the following table:

SOTA Environmental Sample ID	APCL Sample ID
TB-24	02-05742-6
ER-24	02-05742-1
MW-24-4	02-05742-5
MW-24-3	02-05742-4
MW-24-2	02-05742-3
MW-24-1	02-05742-2

2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds),
7196 (Chromium (VI)),
314.0 (Perchlorate, low level),

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,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory

APCL

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

Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA Env. 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, CA APCL Quotation #

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

Field Sample ID No.	Sample Description	Date Collected	Time Collected	Sample Matrix	Preservation	# of Containers	VOCs (524.2)	Tot Cr (200.8)	Cr III (7196)	Perchlorate (314.0)	Remarks
TB-24	Trip Blank	10-28-02	1015	Water	HCl	2	X				EPA Level
ER-24	Equip. Rinsate		1125		HCl	3	X				IV
					HNO3	1		X			QA/QC
					—	1			X	X	
~~TB-MW-24-4~~	MW-24-4		1018		HNO3	1		X			
MW-24-4	MW-24-4		1018		—	1			X		
MW-24-3	MW-24-3		1047		HCl	3	X				
					HNO3	1		X			
					—	1			X	X	
MW-24-2	MW-24-2		1120		HCl	3	X				
					HNO3	1		X			
					—	1			X	X	
MW-24-1	MW-24-1		1204		HCl	3	X				
					HNO3	1		X			
					—	1			X	X	

Analysis Items

White – With report
Yellow – Lab copy
Pink – Originator

5742

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 10/29/02 1506 Received by [signature] Date/Time 10/29/02 1506

Relinquished by [signature] Date/Time 10/29/02 1610 Received by [signature] Date/Time 10/29/02 1610

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: 5742 **Client Name/Project:** Sota Environmental

1. Sample Arrival

Date/Time Received 10/29/02 1610 Date/Time Opened 10/29/02 1610 By (name): Kenny Chan

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

2. Chain-of-Custody (CoC)

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☑ Signed, dated? By: Kenny 10/29/02

☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold _____ # Received 6

☑ 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 3.8 _____ _____ _____ _____ _____

(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: _____ Date: 29 Oct 2002 Time: 8:52 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.

017192

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

Sample Login: Check List

02-05742 (1288_ 408) (4858100_ 408)

10/30/02

Part 1: General Information

☐ Company Information	Name:	*SOTA Environmental*
	Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
☐ Project Information	Project Description:	*JPL*
	Project #:	*00HW019*
☐ Billing Information	P.O. #:	
	Bill Address:	*16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127*
	Lab Project ID:	*2002_0002*
	Client Database #:	*01*
☐ Receiving Information	Who Received Sample?	*Kenny Chan*
	Receiving Date/Time:	*10/29/02 1610*
	COC No.	
☐ Shipping Information	Shipping Company	*APCL pick up*
	Packing Information:	*Cooler/Ice Chester*
	Cooler Temperature:	*3.8 °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*

017403

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-24	VOC	02-05742-6	W	V	C	40	2	G	102902	N	0	7	☐
2	ER-24	VOC	02-05742-1-α	W	V	C	40	3	G	102902	N	0	7	☐
	ER-24	CRVI/Perch	02-05742-1-β	W	P		500	1	G	102902	N	0	7	☐
3	MW-24-4	CRVI	02-05742-5	W	P		500	1	G	102902	N	0	7	☐
4	MW-24-3	VOC	02-05742-4-α	W	V	C	40	3	G	102902	N	0	7	☐
	MW-24-3	CRVI/Perch	02-05742-4-β	W	P		500	1	G	102902	N	0	7	☐
5	MW-24-2	VOC	02-05742-3-α	W	V	C	40	3	G	102902	N	0	7	☐
	MW-24-2	CRVI/Perch	02-05742-3-β	W	P		500	1	G	102902	N	0	7	☐
6	MW-24-1	VOC	02-05742-2-α	W	V	C	40	3	G	102902	N	0	7	☐
	MW-24-1	CRVI/Perch	02-05742-2-β	W	P		500	1	G	102902	N	0	7	☐

Part 3: Analysis Information

Test Items:

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

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	524.2	CHROMIUM	PERCHL	NA	K	CA	MG	FE	
1	TB-24	VOC	02-05742-6	W	X								☐

017404

APCL Project: JPL

ATL #: 060053-001A/032A

APCL #:5823-1/32

061

Table of Contents:

ATL #: 060053-001A/032A
APCL #: **5823-1/32**

Section	Pages
Case Narrative	003-005
Sample Receiving Items	006-010
EPA 200.8	011-158

Case Narrative

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 060063-001A/032A
Date Received: 11/22/02

Advanced Technology Laboratories received 32 water sample(s) for sample analysis. All receiving information is located on the Chain-of-Custody, which has been included in the data package.

Table's 1 describe in detail the individual sample information. Table 2 describes some important information associated with the sample batch.

Table 1: Sample Description

Lab Sample ID	Client Sample ID	Sample Description	Matrix
060053-001A	MW-22-2	5823-28	Water
060053-002A	MW-22-1	5823-27	Water
060053-003A	ER-22	5823-5	Water
060053-004A	MW-6	5823-8	Water
060053-005A	MW-13	5823-9	Water
060053-006A	MW-5	5823-7	Water
060053-007A	MW-3-4	5823-12	Water
060053-008A	MW-3-4D	5823-13	Water
060053-009A	MW-3-3	5823-11	Water
060053-010A	MW-3-2	5823-10	Water
060053-011A	ER-3	5823-1	Water
060053-012A	ER-24	5823-6	Water
060053-013A	MW-24-4	5823-32	Water
060053-014A	MW-24-3	5823-31	Water
060053-015A	MW-24-2	5823-30	Water
060053-016A	MW-24-1	5823-29	Water
060053-017A	ER-4	5823-2	Water
060053-018A	MW-4-5	5823-18	Water
060053-019A	MW-4-4	5823-17	Water
060053-020A	MW-4-3	5823-16	Water
060053-021A	MW-4-2	5823-15	Water
060053-022A	MW-4-2D	5823-19	Water
060053-023A	MW-4-1	5823-14	Water
060053-024A	ER-14	5823-3	Water
060053-025A	MW-14-4	5823-23	Water
060053-026A	MW-14-3	5823-22	Water
060053-027A	MW-14-2	5823-21	Water
060053-028A	MW-14-1	5823-20	Water
060053-029A	MW-17-4	5823-26	Water
060053-030A	MW-17-3	5823-25	Water
060053-031A	MW-17-2	5823-24	Water
060053-032A	ER-17	5823-4	Water

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Table 2: Sample Batch Information

Test Name	Analysis Method	QC Batch Number	Associated Samples	Analysis Date
ICP_MS Metals	EPA 200.8	R23001	060053-001A /020A	11/25/02
ICP_MS Metals	EPA 200.8	R23002	060053-021A-032A	11/25/02

ATL samples 059557-001A/021A did not require digestion. The Prep Date on the report is the analytical date of the turbidity check.

Table 3: QC Anomalies

Item	Cause/Reason
None	

The client requested a Level "D" data package requirement. The QC anomalies, which are listed in Table 3, appear to not have any significant impact on the analytical results. See cause and reasons for each anomaly that is listed in the table.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

004

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989 4040

Data Qualifiers

Data Qualifiers are used in conjunction with the results in order to explain certain anomalies which may have occurred during sample analysis. If a result data qualifier is reported, then an explanation of the occurrence and the effects it has on the results must accompany the report.
The following table describes each data qualifier:

Symbol	Definition
B	This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compounds.
D	Duplicate injection precision not met.
E	The reported value is estimated because of interference.
J	This indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	This flag indicated presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.
S	Spike sample recovery not within control limits.
SA	The reported value was determined by the Method of Standard Additions (MSA).
U	This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted accordingly.
W	Post Digestion Spike for Furnace AA analysis is out of control limits (85% - 115%), while sample absorbance is less than 50% of spike absorbance.
X	This flag is used for a pesticide/Aroclor target analyte when there is grater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with an X.
Y	This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag.
P	Samples analyzed by ICP
PM	Samples analyzed by ICP_MS
CV	Samples analyzed by Manual Cold Vapor AA
CA	Samples analyzed by Midi-Distillation Spectrophotometer
SP	Samples analyzed by Spectrophotometer
TR	Samples analyzed by Infrared (TRPH)
AA	Samples analyzed by Flame, Atomic Absorption
M	Method Qualifier: Indicates the method by which each analyte is analyzed.
Q	Data Qualifier: Indicates any anomalies occurred during the QC sample analysis.
C	Concentration Qualifier: Indicates any effect on the reported value.
DLR	The DLR takes into account the dilution or concentration of the sample and is numerically defined as the MDL times the dilution or concentration factor. The dilution and concentration factors vary according to aliquot normally taken by the individual laboratory.
NC	Not calculated; at or near detection limit.

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989 4040

Sample Receiving Items

APCL

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

Subcontract Chain of Custody

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TO: Advanced Technology Laboratories | Contact Puri Romualdo | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 3275 Walnut Avenue | City Signal Hill | State CA | Zip code 90807

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

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

Due date ☒regular ☐rush | Client signature Lab contact: Kenny Chan | Date 11/04/02

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
MW-4-4	10/30/02	1021	W	HNO3	N			5823-17
MW-4-3	10/30/02	1044					← MS/MSD	-16
MW-4-2	10/30/02	1131				Total Cr by 200.8		-15
MW-4-2D	10/30/02	1131						-19
MW-4-1	10/30/02	1214				with EDD Level 4		-14
ER-14	10/31/02	1215				Package		-3
MW-14-4	10/31/02	1001						-23
MW-14-3	10/31/02	1108						-22
MW-14-2	10/31/02	1141						-21
MW-14-1	10/31/02	1215						-20
MW-17-4	11/01/02	1124					← MS/MSD	-26
MW-17-3	11/01/02	1224						-25
MW-17-2	11/01/02	1251						-24
ER-17	11/01/02	1150						-4

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

Relinquished by		Date/Time 11/21/02 1530	Received by	Date/Time 11/21/02 8:30	
Relinquished by		Date/Time	Received by	Date/Time	
Relinquished by		Date/Time	Received by	Date/Time	
Relinquished by		Date/Time	Received by	Date/Time	

* APCL must be notified if unit price is incorrect.

007

APCL

Applied P & Ch Laboratory

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

Subcontract Chain of Custody

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Page 1 of 2 K.C

TO: Advanced Technology Laboratories | Contact Pat Romualdo | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 3275 Walnut Avenue | City Signal Hill | State CA | Zip code 90807

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

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

Due date ☒regular ☐rush | ~~Client signature~~ Lab Contact - Kenny Cran | Date 10/04/02

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
MW-22-2	10/23/02	1146	W	HNO3	N			5523-28
MW-22-1	10/23/02	1220						-27
ER-22	10/23/02	1210				Total Cr by 200.8		-5
MW-6	10/24/02	1137						-8
MW-13	10/24/02	1402				With EDD level 4		-9
MW-5	10/25/02					Package.		-7
MW-3-4	10/28/02	1128						-12
MW-3-4D	10/28/02	1128						-13
MW-3-3	10/28/02	1325				← MS/MSD		-11
MW-3-2	10/28/02	1415						-10
ER-3	10/28/02	1405						-1
ER-24	10/29/02	1125						-6
MW-24-4	10/29/02	1018						-32
MW-24-3	10/29/02	1047						-31
MW-24-2	10/29/02	1120						-30
MW-24-1	10/29/02	1204						-29
ER-4	10/30/02	0955						-2
MW-4-5	10/30/02	0957	↓	↓	↓			-18

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

Relinquished by		Date/Time 11/21/02 1520	Received by		Date/Time 11/22/02 8:40
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

* APCL must be notified if unit price is incorrect.

8011

APCL

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

Subcontract Chain of Custody

Please Print in pen

 KC

TO: Advanced Technology Laboratories | Contact Puri Romualdo | Tel: (562) 989-~~4045~~ 4045 | Fax: (562) 989-4040

Address 3275 Walnut Avenue | City Signal Hill | State CA | Zip code 90807

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

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

Due date ☒regular ☐rush | ~~Client signature~~ Lab Contact = Kenny Chan | Date 11/04/02

	Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
061053 -1	MW-22-2	10/23/02	1148	W	HNO3	N			5823-28
-2	MW-22-1	10/23/02	1220						-27
-3	ER-22	10/23/02	1210				Total Cr by 200.8		-5
-4	MW-6	10/24/02	1137						-8
-5	MW-13	10/24/02	1402				With EDD Level 4		-9
-6	MW-5	10/25/02					Package.		-7
-7	MW-3-4	10/28/02	1128						-12
-8	MW-3-4D	10/28/02	1128						-13
-9	MW-3-3	10/28/02	1325					← MS/MSD	-11
-10	MW-3-2	10/28/02	1415						-10
-11	ER-3	10/28/02	1405						-1
-12	ER-24	10/29/02	1125						-6
-13	MW-24-4	10/29/02	1018						-32
-14	MW-24-3	10/29/02	1047						-31
-15	MW-24-2	10/29/02	1120						-30
-16	MW-24-1	10/29/02	1204						-29
-17	ER-4	10/30/02	0955						-2
-18	MW-4-5	10/30/02	0957						-18

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

Relinquished by	Date/Time	Received by	Date/Time
[signature]	11/21/02 1500	[signature]	11/22/02 ✓ 8:30

* APCL must be notified if unit price is incorrect.

003

APCL

Applied P & Ch Laboratory

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

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Page 2 of 2

TO: Advanced Technology Laboratories | Contact Pat Romualdo | Tel: (562) 989-4045 | Fax: (562) 989-4040

Address 3275 Walnut Avenue | City Signal Hill | State CA | Zip code 90807

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

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

Due date ☒regular ☐rush | ~~Client signature~~ Lab Contact: Kenny Chan | Date 11/04/02

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
-13 MW-4-4	10/30/02	1021	W	HNO3	N			5823-17
-15 MW-4-3	10/30/02	1044					← MS/MSD	-16
-21 MW-4-2	10/30/02	1131				Total Cr by 200.8		-15
-22 MW-4-2D	10/30/02	1131						-19
-23 MW-4-1	10/30/02	1214				With EDD Level 4		-14
-24 ER-14	10/31/02	1215				Package		-3
-K MW-14-4	10/31/02	1001						-23
-16 MW-14-3	10/31/02	1108						-22
-17 MW-14-2	10/31/02	1141						-21
-18 MW-14-1	10/31/02	1215						-20
-34 MW-17-4	11/01/02	1124					← MS/MSD	-26
-35 MW-17-3	11/01/02	1224						-25
-36 MW-17-2	11/01/02	1251						-24
-37 ER-17	11/01/02	1150	↓	↓	↓			-4

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

Relinquished by		Date/Time 11/21/02 15:00	Received by		Date/Time 11/22/02 8:30
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

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010

INORGANICS COMPLETE INVENTORY SHEET

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

Laboratory Name: Advanced Technology Laboratories
Laboratory Address: 3275 Walnut Avenue, Signal Hill, CA 90807

ATL Number: 060053-001A/032A
Date Sampled: 10/23/02
Date Received: 11/22/02

Method 200.8 (Metals)

	Topic	Page(s)
Sample Data	Inorganic Data Result Sheet	012-043
Standards Data	Initial Calibration	044
	Initial Calibration Verification and Continuing Calibration Verification/External Reference Standard	045-046
	Tune File	047-049
	Internal Standard Table	050-051
Raw QC Data	Blank Report Sheet	052-053
	Spike Sample Recovery	054-055
	Laboratory Control Spike Report	056-057
	Duplicate Report Sheet	0058-061
	Holding Times Summary Sheet	062-063
Miscellaneous Items	Preparation Log	064-065
	Analysis Run Log	066-067
	Standards Log	068-075
	List of Method Detection Limits	076-158
Raw Data Package	Standards Data Sample Data QC Data	067-116

APCL Project: JPL

ATL #: 060054-001A/009A

APCL #:02-6052-1/9

001

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989 4040

Table of Contents:

ATL #: 060054-001A/009A
APCL #: **02-6052-1/9**

Section	Pages
Case Narrative	003-005
Sample Receiving Items	006-008
EPA 200.8	009-072

Case Narrative

Client: Applied P & Ch Laboratory
Attn: Kenny Chan
Client's Project: JPL

ATL Number: 060054-001A/009A
Date Received: 11/02/02

Advanced Technology Laboratories received 9 water sample(s) for sample analysis. All receiving information is located on the Chain-of-Custody, which has been included in the data package.

Table's 1 describe in detail the individual sample information. Table 2 describes some important information associated with the sample batch.

Table 1: Sample Description

Lab Sample ID	Client Sample ID	Sample Description	Matrix
060054-001A	ER-18	02-6052-1	Water
060054-002A	MW-18-4	02-6052-9	Water
060054-003A	MW-18-3	02-6052-8	Water
060054-004A	MW-18-2	02-6052-7	Water
060054-005A	MW-10	02-6052-4	Water
060054-006A	MW-16	02-6052-5	Water
060054-007A	MW-16D	02-6052-6	Water
060054-008A	MW-7	02-6052-2	Water
060054-009A	MW-8	02-6052-3	Water

Table 2: Sample Batch Information

Test Name	Analysis Method	QC Batch Number	Associated Samples	Analysis Date
ICP_MS Metals	EPA 200.8	R23003	060054-001A /009A	11/25/02

ATL samples 059557-001A/021A did not require digestion. The Prep Date on the report is the analytical date of the turbidity check.

Table 3: QC Anomalies

Item	Cause/Reason
None	

The client requested a Level "D" data package requirement. The QC anomalies, which are listed in Table 3, appear to not have any significant impact on the analytical results. See cause and reasons for each anomaly that is listed in the table.

003

Advanced Technology Laboratories
3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Data Qualifiers

Data Qualifiers are used in conjunction with the results in order to explain certain anomalies which may have occurred during sample analysis. If a result data qualifier is reported, then an explanation of the occurrence and the effects it has on the results must accompany the report.
The following table describes each data qualifier:

Symbol	Definition
B	This flag is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag shall be used for a tentatively identified compound as well as for a positively identified target compounds.
D	Duplicate injection precision not met.
E	The reported value is estimated because of interference.
J	This indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	This flag indicated presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N flag is not used.
S	Spike sample recovery not within control limits.
SA	The reported value was determined by the Method of Standard Additions (MSA).
U	This flag indicates the compound was analyzed for but not detected. The CRQL shall be adjusted accordingly.
W	Post Digestion Spike for Furnace AA analysis is out of control limits (85% - 115%), while sample absorbance is less than 50% of spike absorbance.
X	This flag is used for a pesticide/Aroclor target analyte when there is grater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with an X.
Y	This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag.
P	Samples analyzed by ICP
PM	Samples analyzed by ICP_MS
CV	Samples analyzed by Manual Cold Vapor AA
CA	Samples analyzed by Midi-Distillation Spectrophotometer
SP	Samples analyzed by Spectrophotometer
TR	Samples analyzed by Infrared (TRPH)
AA	Samples analyzed by Flame, Atomic Absorption
M	Method Qualifier: Indicates the method by which each analyte is analyzed.
Q	Data Qualifier: Indicates any anomalies occurred during the QC sample analysis.
C	Concentration Qualifier: Indicates any effect on the reported value.
DLR	The DLR takes into account the dilution or concentration of the sample and is numerically defined as the MDL times the dilution or concentration factor. The dilution and concentration factors vary according to aliquot normally taken by the individual laboratory.
NC	Not calculated; at or near detection limit.

Advanced Technology Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Sample Receiving Items

APCL

Applied P & Ch Laboratory
13760 E. Magnolia Ave., Chino CA 91710
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KC

TO: Advanced Technology Laboratories Contact Puri Romualdo Tel: (562) 989-4045 Fax: (562) 989-4040

Address 3275 Walnut Avenue City Signal Hill State CA Zip code 90807

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

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

Due date ☒regular ☐rush ~~Client signature~~ Lab contact Kenny Chan Date 11/21/02

Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
ER-18	11/4/02	1120	W	HNO3	N			02-6052-1
MW-18-4	11/4/02	1047				Total Cr by 2008		6052-9
MW-18-3	11/4/02	1037						6052-8
MW-18-2	11/4/02	1208				With EDD Level 4		6052-7
MW-10	11/5/02	1051				⇐ MS/MSD		6052-4
MW-16	11/5/02	1205				Package		6052-5
MW-16D	11/5/02	1205						6052-6
MW-7	11/6/02	1037						6052-2
MW-8	11/6/02	1014	↓	↓	↓			6052-3

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

Relinquished by		Date/Time 11/21/02 1500	Received by		Date/Time 11/21/02 8:30
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time
Relinquished by		Date/Time	Received by		Date/Time

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Address 3275 Walnut Avenue City Signal Hill State CA Zip code 90807

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

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

Due date ☒regular ☐rush ~~Client signature~~ Lab contact: Kenny Chan Date 11/21/02

060054 Sample Description	Date Collected	Time Collected	Matrix	Pres. Y/N	Filtered Y/N	Analysis items	Unit Price*	APCL Lab-ID
1 ER-18	11/4/02	1120	W	HNO3	N	Total Cr by 200.8		02-6052-1
2 MW-18-4	11/4/02	1047				With EDD Level 4		6052-9
3 MW-18-3	11/4/02	1037						6052-8
4 MW-18-2	11/4/02	1208						6052-7
5 MW-10	11/5/02	1051				← MS/MSD		6052-4
6 MW-16	11/5/02	1225				Package		6052-5
7 MW-16D	11/5/02	1205						6052-6
8 MW-7	11/6/02	1037						6052-2
9 MW-8	11/6/02	1014						6052-3

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

Relinquished by	Date/Time 11/21/02 1500	Received by	Date/Time 11/21/02 1500		
Relinquished by	Date/Time	Received by	Date/Time		
Relinquished by	Date/Time	Received by	Date/Time		
Relinquished by	Date/Time	Received by	Date/Time		

* APCL must be notified if unit price is incorrect.

800

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-010A

Client Sample ID: MW-3-2
Collection Date: 10/28/2002 2:15:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	1.3	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

021

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-3-3
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/28/2002 1:25:00 PM
Lab ID:	060053-009A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	1.3	1.0		µg/L	1	11/25/2002

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interferen
- H - Sample exceeded analytical holding time
- E - Value above quantitation range
- Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-007A

Client Sample ID: MW-3-4
Collection Date: 10/28/2002 11:28:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	1.5	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories 3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-3-4D
Lab Order: 060053
Project: JPL
Collection Date: 10/28/2002 11:28:00 AM
Lab ID: 060053-008A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	1.5	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-011A

Client Sample ID: ER-3
Collection Date: 10/28/2002 2:05:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

022

Advanced Technology Laboratories 3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-4-1
Lab Order: 060053
Project: JPL
Collection Date: 10/30/2002 12:14:00 PM
Lab ID: 060053-023A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	2.3	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

034

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-4-2
Lab Order: 060053
Project: JPL
Collection Date: 10/30/2002 11:31:00 AM
Lab ID: 060053-021A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	6.1	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

032

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-3
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/30/2002 10:44:00 AM
Lab ID:	060053-020A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	2.9	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

031

Advanced Technology Laboratories 3275 Walnut Ave Signal Hill CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-022A

Client Sample ID: MW-4-2D
Collection Date: 10/30/2002 11:31:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	5.5	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
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Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-4-4
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/30/2002 10:21:00 AM
Lab ID:	060053-019A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	3.4	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

030

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989 4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-018A

Client Sample ID: MW-4-5
Collection Date: 10/30/2002 9:57:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	2.9	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-017A

Client Sample ID: ER-4
Collection Date: 10/30/2002 9:55:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

028

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989 4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-5
Lab Order: 060053
Project: JPL
Collection Date: 10/25/2002
Lab ID: 060053-006A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	8.1	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-6
Lab Order: 060053
Project: JPL
Collection Date: 10/24/2002 11:37:00 AM
Lab ID: 060053-004A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	15	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-7
Lab Order:	060054		
Project:	JPL	**Collection Date:**	11/6/2002 10:37:00 AM
Lab ID:	060054-008A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	9.0	1.0		µg/L	1	11/25/2002

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interferen
- H - Sample exceeded analytical holding time
- E - Value above quantitation range
- Results are wet unless otherwise specified

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

G71

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-8
Lab Order: 060054
Project: JPL
Collection Date: 11/6/2002 10:14:00 AM
Lab ID: 060054-009A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	6.5	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories 3275 Walnut Ave Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

072

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060054
Project: JPL
Lab ID: 060054-005A

Client Sample ID: MW-10
Collection Date: 11/5/2002 10:51:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	5.4	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-005A

Client Sample ID: MW-13
Collection Date: 10/24/2002 2:02:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	57	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-14-I
Lab Order: 060053
Project: JPL
Collection Date: 10/31/2002 12:15:00 PM
Lab ID: 060053-028A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	3.3	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-027A

Client Sample ID: MW-14-2
Collection Date: 10/31/2002 11:41:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	3.3	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

038

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-14-3
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/31/2002 11:08:00 AM
Lab ID:	060053-026A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	2.0	1.0		µg/L	1	11/25/2002

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interferen
- H - Sample exceeded analytical holding time
- E - Value above quantitation range
- Results are wet unless otherwise specified

037

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-025A

Client Sample ID: MW-14-4
Collection Date: 10/31/2002 10:01:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	3.4	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

036

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989 4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: ER-14
Lab Order: 060053
Project: JPL
Collection Date: 10/31/2002 12:15:00 PM
Lab ID: 060053-024A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-16
Lab Order: 060054
Project: JPL
Collection Date: 11/5/2002 12:05:00 PM
Lab ID: 060054-006A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	11	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
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Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060054
Project: JPL
Lab ID: 060054-007A

Client Sample ID: MW-16D
Collection Date: 11/5/2002 12:05:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	8.8	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-17-2
Lab Order: 060053
Project: JPL
Collection Date: 11/1/2002 12:51:00 AM
Lab ID: 060053-031A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	1.1	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

C42

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-030A

Client Sample ID: MW-17-3
Collection Date: 11/1/2002 12:24:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	2.0	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

041

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989 4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-029A

Client Sample ID: MW-17-4
Collection Date: 11/1/2002 11:24:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	1.6	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

C40

Advanced Technology Laboratories 3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: ER-17
Lab Order: 060053
Project: JPL
Collection Date: 11/1/2002 11:50:00 AM
Lab ID: 060053-032A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125B	QC Batch: R23002					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- DO - Surrogate Diluted Out
- S - Spike/Surrogate outside of limits due to matrix interferen
- H - Sample exceeded analytical holding time
- E - Value above quantitation range
- Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060054
Project: JPL
Lab ID: 060054-004A

Client Sample ID: MW-18-2
Collection Date: 11/4/2002 12:08:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	2.0	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

C67

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989 4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-18-3
Lab Order:	060054		
Project:	JPL	**Collection Date:**	11/4/2002 10:37:00 AM
Lab ID:	060054-003A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	6.6	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

CGG

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060054
Project: JPL
Lab ID: 060054-002A

Client Sample ID: MW-18-4
Collection Date: 11/4/2002 10:47:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	3.1	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: ER-18
Lab Order: 060054
Project: JPL
Collection Date: 11/4/2002 11:20:00 AM
Lab ID: 060054-001A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125C	QC Batch: R23003					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-002A

Client Sample ID: MW-22-1
Collection Date: 10/23/2002 12:20:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	4.6	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

013

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	MW-22-2
Lab Order:	060053		
Project:	JPI.	**Collection Date:**	10/23/2002 11:48:00 AM
Lab ID:	060053-001A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	3.1	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

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Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	FR-22
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/23/2002 12:10:00 PM
Lab ID:	060053-003A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

014

Advanced Technology Laboratories 3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-016A

Client Sample ID: MW-24-1
Collection Date: 10/29/2002 12:04:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	4.9	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories 3275 Walnut Ave Signal Hill CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-015A

Client Sample ID: MW-24-2
Collection Date: 10/29/2002 11:20:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	2.2	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
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Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Lab Order: 060053
Project: JPL
Lab ID: 060053-014A

Client Sample ID: MW-24-3
Collection Date: 10/29/2002 10:47:00 AM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: NS
Chromium	2.5	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

025

Advanced Technology Laboratories 3275 Walnut Ave Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT: Applied P & Ch Laboratories
Client Sample ID: MW-24-4
Lab Order: 060053
Project: JPL
Collection Date: 10/29/2002 10:18:00 AM
Lab ID: 060053-013A
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories
3275 Walnut Ave, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Advanced Technology Laboratories

Date: *27-Nov-02*

CLIENT:	Applied P & Ch Laboratories	**Client Sample ID:**	ER-24
Lab Order:	060053		
Project:	JPL	**Collection Date:**	10/29/2002 11:25:00 AM
Lab ID:	060053-012A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP-MS METALS						
		EPA 200.8				
RunID: ICP4_021125A	QC Batch: R23001					Analyst: **NS**
Chromium	ND	1.0		µg/L	1	11/25/2002

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
DO - Surrogate Diluted Out
S - Spike/Surrogate outside of limits due to matrix interferen
H - Sample exceeded analytical holding time
E - Value above quantitation range
Results are wet unless otherwise specified

Advanced Technology Laboratories 3275 Walnut Ave Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040