APCL

Applied Physics & Chemistry Laboratory

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

May 1, 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 02-2567 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 #: 801-022567
Collected by: JNT/TAM
Collected on: 04/23/02

Received: 04/23/02
Extracted: N/A
Tested: 04/24-25/02
Reported: 04/29/02

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

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-23 02-02567-1 | MW-23-1 02-02567-2 | MW-23-2 02-02567-3 |
|---|---|---|---|---|---|---|
| Dilution Factor | | | | 1 | 1 | 1 |
| **PERCHLORATE** | E314 | µg/L | 4 | <4 | <4 | <4 |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-23-3 02-02567-4 | MW-23-4 02-02567-5 | MW-23-5 02-02567-6 |
|---|---|---|---|---|---|---|
| Dilution Factor | | | | 1 | 1 | 1 |
| **PERCHLORATE** | E314 | µg/L | 4 | <4 | <4 | <4 |

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-23 02-02567-1 | MW-23-1 02-02567-2 | MW-23-2 02-02567-3 |
|---|---|---|---|---|---|---|
| **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 | <0.5 | <0.5 |
| CHLOROFORM | 524.2 | µg/L | 0.5 | <0.5 | 0.6 | 0.6 |
| 1,1-DICHLOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | 0.4J | 0.3J |
| 1,2-DICHLOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| METHYLENE CHLORIDE | 524.2 | µg/L | 1 | 0.3J | 0.4J | 0.4J |
| TETRACHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | 1.1 | 0.7 |
| TRICHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | 0.8 | 0.7 |
| 112TRICHLORO-122TRIFLUOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-23-3 02-02567-4 | MW-23-4 02-02567-5 | TB-23 02-02567-7 |
|---|---|---|---|---|---|---|
| **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 |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-23-3 02-02567-4 | MW-23-4 02-02567-5 | TB-23 02-02567-7 |
|---|---|---|---|---|---|---|
| METHYLENE CHLORIDE | 524.2 | $\mu$g/L | 1 | 0.4J | - | 1 |
| TETRACHLOROETHENE | 524.2 | $\mu$g/L | 0.5 | <0.5 | - | <0.5 |
| TRICHLOROETHENE | 524.2 | $\mu$g/L | 0.5 | <0.5 | - | <0.5 |
| 112TRICHLORO-122TRIFLUOROETHANE | 524.2 | $\mu$g/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
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# Case Narrative

## Project: JPL/Pasadena, CA/00HW019

### For SOTA Environmental

**APCL Service No: 02-2567**

## 1. Sample Identification

The sample identifications are listed in the following table:

| SOTA Environmental Sample ID | APCL Sample ID |
|---|---|
| TB-23 | 02-02567-7 |
| MW-23-5 | 02-02567-6 |
| MW-23-4 | 02-02567-5 |
| MW-23-3 | 02-02567-4 |
| MW-23-2 | 02-02567-3 |
| MW-23-1 | 02-02567-2 |
| ER-23 | 02-02567-1 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds ),
7196 (Chromium (VI) ),
E314 (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.



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"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,

for

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



63691

# 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 ENVR. TECH INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812

Address: 16835 WEST BERNARDO DRIVE #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

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

White – With report
Yellow – Lab copy
Pink – Originator

| Field Sample ID No. | Sample Description | Date Collected | Time Collected | Sample Matrix | Preservation | # of Containers | VOC's (524.2) | TOT Cr (200.8) | Cr-VI (7196) | PERCHLORATE (314.0) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TB-23 | TRIP BLANK | 4/23/02 | 1002 | WATER | HCl | 2 | X | | | | |
| MW-23-5 | MW-23-5 | | 1045 | | — | 1 | | | | X | |
| MW-23-4 | MW-23-4 | | 1108 | | $HNO_3$ | 2 | | X | | | MS/MSD |
| MW-23-4 | MW-23-4 | | 1133 | | — | 2 | | | X | X | MS/MSD |
| MW-23-3 | MW-23-3 | | 1203 | | HCl | 3 | X | | | | |
| MW-23-3 | MW-23-3 | | 1203 | | $HNO_3$ | 1 | | X | | | |
| MW-23-3 | MW-23-3 | | 1203 | | — | 1 | | | X | X | LEVEL IV |
| MW-23-2 | MW-23-2 | | 1414 | | HCl | 3 | X | | | | DATA PACKAGE |
| MW-23-2 | MW-23-2 | | 1414 | | $HNO_3$ | 1 | | X | | | |
| MW-23-2 | MW-23-2 | | 1414 | | — | 1 | | | X | X | |
| MW-23-1 | MW-23-1 | | 1457 | | HCl | 3 | X | | | | |
| MW-23-1 | MW-23-1 | | 1457 | | $HNO_3$ | 1 | | X | | | |
| MW-23-1 | MW-23-1 | | 1457 | | — | 1 | | | X | X | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

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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 4/23/02 / 1549 Received by [signature] Date/Time 4-23-02 / 15:49

Relinquished by Reg Ogilvie Date/Time 4/23/02 / 1800 Received by [signature] Date/Time 4/24/02 / 0900

**APCL USE ONLY** Service # Note:

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

# Applied P & Ch Laboratory

APCL

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

# Chain of Custody

Please Print in pen Page 2 of 2

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

Address: 16835 WEST BERNARDO DRIVE #212 City: SAN DIEGO State: CA Zip code: 92127

Bill to: SOTA

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

Project Address PASADENA, CALIFORNIA APCL Quotation #

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

White – With report
Yellow – Lab copy
Pink – Originator

| Field Sample ID No. | Sample Description | Date Collected | Time Collected | Sample Matrix | Preservation | # of Containers | Analysis Items: VOC's (524.2) | TOT Cr (200.8) | CrVI (7196) | PERCHLORATE (314.0) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ER-23 | EQUIP. RINSATE | 4/23/02 | 1431 | WATER | HCl | 3 | X | | | | LEVEL IV |
| ER-23 | EQUIP. RINSATE | | 1431 | | $HNO_3$ | 1 | | X | | | DATA PACKAGE |
| ER-23 | EQUIP. RINSATE | | 1431 | | — | 1 | | | X | X | |

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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 4/23/02 / 1549 Received by [signature] Date/Time 4/23/02 / 15:49

Relinquished by [signature] Date/Time 4/23/02 / 18:00 Received by [signature] Date/Time 4/23/02 / 4:00

**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: 2567 Client Name/Project: Soda Environmental

**1. Sample Arrival**

Date/Time Received 4/23/02 1549 Date/Time Opened 4/24/02 0900 By (name): Paul
Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Rory

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

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

**3. Shipping Container/Cooler**

☐ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None
**Temp °C** 2.2
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).
Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

**4. Sample Preservation**

☐ **pH <2** ☐ pH >12
**If Not, pH =** Preserved by: ☐ Client ☐ APCL ☐ Third Party

**5. Holding-time Requirements**

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

**6. Sample Container Condition**

☑ Intact? ☐ Broken? ☐ Documented? Number:
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☐ Date/Time ☐ Preserved?

**7. Turn Around Time**

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

**8. Sample Matrix**

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

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

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name: )Date/Time:
Received/Checked by: Paul Date: 23 Apr 2002 Time: 8:07 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.

63602

Applied P & Ch Laboratory
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# Sample Login: Check List

## 02-02567 (1288_ 349) (4858100_ 349)

04/24/02

### Part 1: General Information

| | | |
|---|---|---|
| ☐ Company Information | Name: | *SOTA Environmental* |
| | Address: | *16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127* |
| ☐ Project Information | Project Description: | *JPL* |
| | Project #: | *00HW019* |
| ☐ Billing Information | P.O. #: | |
| | Bill Address: | *16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127* |
| | Lab Project ID: | *2002_0002* |
| | Client Database #: | *01* |
| ☐ Receiving Information | Who Received Sample? | *Paul* |
| | Receiving Date/Time: | *04/23/02 1549* |
| | COC No. | |
| ☐ Shipping Information | Shipping Company | *APCL pick up* |
| | Packing Information: | *Cooler/Ice Chester* |
| | Cooler Temperature: | *2.2 °C* |
| ☐ Container Information | Container Provider: | *Client* |
| ☐ Sampling Information | Sampling Person: | *JNT/TAM* |
| | Sampling Company: | *Client* |
| ☐ Turn-Around-Time Option: | | *Rush 5 working day(s)* |
| ☐ QC Option: | | *NEESA D* |
| ☐ Disposal Option: | | *Not specify* |



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## Part 2: Sample Information

| Seq. # | Sample ID (on COC) | Sample Sub-ID | APCL Sample ID | Matrix | Cont-tainer | Preser-vative | Vol, ml Am. g | # of Replica | Condition G, L, B | Collected mmddyy | Hold ? | Composite Group | TAT Days | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB-23 | 524.2 | 02-02567-7 | W | V | C | 40 | 2 | G | 042302 | N | 0 | 7 | ☐ |
| 2 | MW-23-5 | Perchl | 02-02567-6 | W | P | | 500 | 1 | G | 042302 | N | 0 | 7 | ☐ |
| 3 | MW-23-4 | CRVI/Perch | 02-02567-5 | W | P | | 500 | 2 | G | 042302 | N | 0 | 7 | ☐ |
| 4 | MW-23-3 | 524.2 | 02-02567-4-$\alpha$ | W | V | C | 40 | 3 | G | 042302 | N | 0 | 7 | ☐ |
| | MW-23-3 | CRVI/Perch | 02-02567-4-$\beta$ | W | P | | 500 | 1 | G | 042302 | N | 0 | 7 | ☐ |
| 5 | MW-23-2 | 524.2 | 02-02567-3-$\alpha$ | W | V | C | 40 | 3 | G | 042302 | N | 0 | 7 | ☐ |
| | MW-23-2 | CRVI/Perch | 02-02567-3-$\beta$ | W | P | | 500 | 1 | G | 042302 | N | 0 | 7 | ☐ |
| 6 | MW-23-1 | 524.2 | 02-02567-2-$\alpha$ | W | V | C | 40 | 3 | G | 042302 | N | 0 | 7 | ☐ |
| | MW-23-1 | CRVI/Perch | 02-02567-2-$\beta$ | W | P | | 500 | 1 | G | 042302 | N | 0 | 7 | ☐ |
| 7 | ER-23 | 524.2 | 02-02567-1-$\alpha$ | W | V | C | 40 | 3 | G | 042302 | N | 0 | 7 | ☐ |
| | ER-23 | CRVI/Perch | 02-02567-1-$\beta$ | W | P | | 500 | 1 | G | 042302 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | TB-23 | 524.2 | 02-02567-7 | W | X | | | ☐ |
| 2 | MW-23-5 | Perchl | 02-02567-6 | W | | | X | ☐ |
| 3 | MW-23-4 | CRVI/Perch | 02-02567-5 | W | | X | X | ☐ |
| 4 | MW-23-3 | 524.2 | 02-02567-4-$\alpha$ | W | X | | | ☐ |
| | MW-23-3 | CRVI/Perch | 02-02567-4-$\beta$ | W | | X | X | ☐ |
| 5 | MW-23-2 | 524.2 | 02-02567-3-$\alpha$ | W | X | | | ☐ |
| | MW-23-2 | CRVI/Perch | 02-02567-3-$\beta$ | W | | X | X | ☐ |
| 6 | MW-23-1 | 524.2 | 02-02567-2-$\alpha$ | W | X | | | ☐ |
| | MW-23-1 | CRVI/Perch | 02-02567-2-$\beta$ | W | | X | X | ☐ |
| 7 | ER-23 | 524.2 | 02-02567-1-$\alpha$ | W | X | | | ☐ |
| | ER-23 | CRVI/Perch | 02-02567-1-$\beta$ | W | | X | X | ☐ |

| Seq. # | Client"s Sample ID (as given on COC) | Sample Sub-ID | APCL Sample ID | Matrix | SO4 | NO3 | CL | CARBONATE | BICARBON | PH | TDS | AS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB-23 | 524.2 | 02-02567-7 | W | | | | | | | | | ☐ |
| 2 | MW-23-5 | Perchl | 02-02567-6 | W | | | | | | | | | ☐ |
| 3 | MW-23-4 | CRVI/Perch | 02-02567-5 | W | | | | | | | | | ☐ |
| 4 | MW-23-3 | 524.2 | 02-02567-4-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-23-3 | CRVI/Perch | 02-02567-4-$\beta$ | W | | | | | | | | | ☐ |
| 5 | MW-23-2 | 524.2 | 02-02567-3-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-23-2 | CRVI/Perch | 02-02567-3-$\beta$ | W | | | | | | | | | ☐ |
| 6 | MW-23-1 | 524.2 | 02-02567-2-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-23-1 | CRVI/Perch | 02-02567-2-$\beta$ | W | | | | | | | | | ☐ |
| 7 | ER-23 | 524.2 | 02-02567-1-$\alpha$ | W | | | | | | | | | ☐ |
| | ER-23 | CRVI/Perch | 02-02567-1-$\beta$ | W | | | | | | | | | ☐ |

| Seq. # | Client"s Sample ID (as given on COC) | Sample Sub-ID | APCL Sample ID | Matrix | ALKALIN | SIM | |
|---|---|---|---|---|---|---|---|
| 1 | TB-23 | 524.2 | 02-02567-7 | W | | | ☐ |
| 2 | MW-23-5 | Perchl | 02-02567-6 | W | | | ☐ |
| 3 | MW-23-4 | CRVI/Perch | 02-02567-5 | W | | | ☐ |
| 4 | MW-23-3 | 524.2 | 02-02567-4-$\alpha$ | W | | | ☐ |
| | MW-23-3 | CRVI/Perch | 02-02567-4-$\beta$ | W | | | ☐ |
| 5 | MW-23-2 | 524.2 | 02-02567-3-$\alpha$ | W | | | ☐ |
| | MW-23-2 | CRVI/Perch | 02-02567-3-$\beta$ | W | | | ☐ |
| 6 | MW-23-1 | 524.2 | 02-02567-2-$\alpha$ | W | | | ☐ |
| | MW-23-1 | CRVI/Perch | 02-02567-2-$\beta$ | W | | | ☐ |
| 7 | ER-23 | 524.2 | 02-02567-1-$\alpha$ | W | | | ☐ |
| | ER-23 | CRVI/Perch | 02-02567-1-$\beta$ | W | | | ☐ |

☐ Client"s Requirement: **PLEASE RUN MS/MSD ON SAMPLE #5**

☐ **IF ENOUGH SAMPLE**

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

Login By En-Yu Paul Kou

Check By



63656

APCL

Applied Physics & Chemistry Laboratory

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

May 1, 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 02-2534 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 #: 801-022534
Collected by: JNT/TAM
Collected on: 04/22/02

Received: 04/22/02
Extracted: N/A
Tested: 04/23-25/02
Reported: 04/29/02

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

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-24 02-02534-1 | MW-24-1 02-02534-2 | MW-24-2 02-02534-3 |
|---|---|---|---|---|---|---|
| **CHROMIUM (VI)** | 7196 | mg/L | 0.01 | <0.01 | <0.01 | <0.01 |
| Dilution Factor | | | | 1 | 25 | 10 |
| **PERCHLORATE** | E314 | µg/L | 4 | <4 | 1,280 | 249 |
| **VOLATILE ORGANIC COMPOUNDS** | | | | | | |
| Dilution Factor | | | | 1 | 1 | 1 |
| CARBON TETRACHLORIDE | 524.2 | µg/L | 0.5 | <0.5 | 26.0 | 10.8 |
| CHLOROFORM | 524.2 | µg/L | 0.5 | <0.5 | 9.3 | 4.3 |
| 1,1-DICHLOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-DICHLOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-DICHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | 0.8 | 0.6 |
| METHYLENE CHLORIDE | 524.2 | µg/L | 1 | 0.7J | 0.5J | 0.6J |
| TETRACHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | 1.6 | 0.5J |
| TRICHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | 6.8 | 1.6 |
| 112TRICHLORO-122TRIFLUOROETHANE | 524.2 | µg/L | 0.5 | <0.5 | <0.5 | <0.5 |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-24-3 02-02534-4 | MW-24-4 02-02534-5 | TB-24 02-02534-6 |
|---|---|---|---|---|---|---|
| **CHROMIUM (VI)** | 7196 | mg/L | 0.01 | <0.01 | <0.01 | - |
| Dilution Factor | | | | 1 | 1 | 1 |
| **PERCHLORATE** | E314 | µg/L | 4 | <4 | <4 | - |
| **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 |
| METHYLENE CHLORIDE | 524.2 | µg/L | 1 | 0.4J | - | 0.8J |
| TETRACHLOROETHENE | 524.2 | µg/L | 0.5 | <0.5 | - | <0.5 |
| TRICHLOROETHENE | 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 02-02534-4 | MW-24-4 02-02534-5 | TB-24 02-02534-6 |
|---|---|---|---|---|---|---|
| 112TRICHLORO-122TRIFLUOROETHANE | 524.2 | $\mu$g/L | 0.5 | <0.5 | - | <0.5 |

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

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

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# Case Narrative

## Project: JPL/Pasadena, CA/00HW019

### For SOTA Environmental

**APCL Service No: 02-2534**

## 1. Sample Identification

The sample identifications are listed in the following table:

| SOTA Environmental Sample ID | APCL Sample ID |
|---|---|
| TB-24 | 02-02534-6 |
| MW-24-4 | 02-02534-5 |
| MW-24-3 | 02-02534-4 |
| MW-24-2 | 02-02534-3 |
| MW-24-1 | 02-02534-2 |
| ER-24 | 02-02534-1 |

## 2. Analytical Methodology

Samples are analyzed by EPA methods

524.2 (Volatile Organic Compounds ),
7196 (Chromium (VI) ),
E314 (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.



163209

"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



63201

APCL
Applied P & Ch Laboratory
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# Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVR. TECH INC. Contact: MIKE SAYRE Tel #: 858-485-8100 Fax #: 858-485-0812
Address: 16835 WEST BERNARDO DRIVE #212 City: SAN DIEGO State: CA Zip code: 92127
Bill to: SOTA
Project Name/Code JPL Job #00HW019 P.O. #
Project Address PASADENA, CALIFORNIA APCL Quotation #
Due Date: ☒ regular ☐ rush: ___ days ___ hours Sampled by: JNT/TAM

White – With report
Yellow – Lab copy
Pink – Originator

| Field Sample ID No. | Sample Description | Date Collected | Time Collected | Sample Matrix | Preservation | # of Containers | VOC's (524.2) | TOT Cr (200.8) | Cr VI (7196) | PERCHLORATE (314.0) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TB-24 | TRIP BLANK | 4/22/02 | 0958 | WATER | HCl | 2 | X | | | | LEVEL IV |
| MW-24-4 | MW-24-4 | | 1042 | | $HNO_3$ | 1 | | X | | | DATA PACKAGE |
| MW-24-4 | MW-24-4 | | 1042 | | — | 1 | | | X | | |
| MW-24-3 | MW-24-3 | | 1120 | | HCl | 9 | X | | | | MS/MSD |
| MW-24-3 | MW-24-3 | | 1145 | | $HNO_3$ | 2 | | X | | | MS/MSD |
| MW-24-3 | MW-24-3 | | 1145 | | — | 2 | | | X | X | MS/MSD |
| MW-24-2 | MW-24-2 | | 1359 | | HCl | 3 | X | | | | |
| MW-24-2 | MW-24-2 | | 1359 | | $HNO_3$ | 1 | | X | | | |
| MW-24-2 | MW-24-2 | | 1359 | | — | 1 | | | X | X | |
| MW-24-1 | MW-24-1 | | 1429 | | HCl | 3 | X | | | | |
| MW-24-1 | MW-24-1 | | 1429 | | $HNO_3$ | 1 | | X | | | |
| MW-24-1 | MW-24-1 | | 1429 | | — | 1 | | | X | X | |
| ER-24 | EQUIP. RINSATE | | 1418 | | HCl | 3 | X | | | | |
| ER-24 | EQUIP. RINSATE | | 1418 | | $HNO_3$ | 1 | | X | | | |
| ER-24 | EQUIP. RINSATE | | 1418 | | — | 1 | | | X | X | |

2534

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~~ 4/22/02 / 1620 Received by [signature] Date/Time 4/22/02 / 1620
Relinquished by [signature] Date/Time / Received by [signature] Date/Time 4/23/02 / 0800

**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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# 2534 Sample Receiving Checklist

APCL ServiceID: _____ Client Name/Project: Soto Environmental

**1. Sample Arrival**

Date/Time Received 4/22/02 1620 Date/Time Opened 4/23/02 0800 By (name): Paul

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

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

☑ With Samples? ☐ Faxed? ☑ Client has Copy? ☐ Signed, dated? By: _____

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

☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: _ ☑ #Samples OK? _____

☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): _____

**3. Shipping Container/Cooler**

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

Temp °C 2.8 _____ _____ _____ _____ _____

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

**8. Sample Matrix**

☐ Drinking $H_2O$ ☑ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: _____

☐ Ground $H_2O$ ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

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

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

Received/Checked by: Paul Date: 22 Apr 2002 Time: 9:12 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.

063202

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# Sample Login: Check List

## 02-02534 (1288_ 348) (4858100_ 348)

### 04/23/02

## Part 1: General Information

| | | |
|---|---|---|
| ☐ Company Information | Name: | *SOTA Environmental* |
| | Address: | *16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127* |
| ☐ Project Information | Project Description: | *JPL* |
| | Project #: | *00HW019* |
| ☐ Billing Information | P.O. #: | |
| | Bill Address: | *16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127* |
| | Lab Project ID: | *2002_0002* |
| | Client Database #: | *01* |
| ☐ Receiving Information | Who Received Sample? | *Paul* |
| | Receiving Date/Time: | *04/22/02 1620* |
| | COC No. | |
| ☐ Shipping Information | Shipping Company | *APCL pick up* |
| | Packing Information: | *Cooler/Ice Chester* |
| | Cooler Temperature: | *2.8 °C* |
| ☐ Container Information | Container Provider: | *Client* |
| ☐ Sampling Information | Sampling Person: | *JNT/TAM* |
| | Sampling Company: | *Client* |
| ☐ Turn-Around-Time Option: | | *Rush 5 working day(s)* |
| ☐ QC Option: | | *NEESA D* |
| ☐ Disposal Option: | | *Not specify* |



63253

## Part 2: Sample Information

| Seq. # | Sample ID (on COC) | Sample Sub-ID | APCL Sample ID | Matrix | Container | Preservative | Vol, ml Am. g | # of Replica | Condition G, L, B | Collected mmddyy | Hold ? | Composite Group | TAT Days | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB-24 | 524.2 | 02-02534-6 | W | V | C | 40 | 2 | G | 042202 | N | 0 | 6 | ☐ |
| 2 | MW-24-4 | CRVI/Perch | 02-02534-5 | W | P | | 500 | 1 | G | 042202 | N | 0 | 6 | ☐ |
| 3 | MW-24-3 | 524.2 | 02-02534-4-$\alpha$ | W | V | | 40 | 9 | G | 042202 | N | 0 | 6 | ☐ |
| | MW-24-3 | CRVI/Perch | 02-02534-4-$\beta$ | W | P | | 500 | 2 | G | 042202 | N | 0 | 6 | ☐ |
| 4 | MW-24-2 | 524.2 | 02-02534-3-$\alpha$ | W | V | | 40 | 3 | G | 042202 | N | 0 | 6 | ☐ |
| | MW-24-2 | CRVI/Perch | 02-02534-3-$\beta$ | W | P | | 500 | 1 | G | 042202 | N | 0 | 6 | ☐ |
| 5 | MW-24-1 | 524.2 | 02-02534-2-$\alpha$ | W | V | | 40 | 3 | G | 042202 | N | 0 | 6 | ☐ |
| | MW-24-1 | CRVI/Perch | 02-02534-2-$\beta$ | W | P | | 500 | 1 | G | 042202 | N | 0 | 6 | ☐ |
| 6 | ER-24 | 524.2 | 02-02534-1-$\alpha$ | W | V | | 40 | 3 | G | 042202 | N | 0 | 6 | ☐ |
| | ER-24 | CRVI/Perch | 02-02534-1-$\beta$ | W | P | | 500 | 1 | G | 042202 | N | 0 | 6 | ☐ |

## Part 3: Analysis Information

Test Items:

| | |
|---|---|
| ☐ *524.2* | Volatile Organic Compounds |
| ☐ *7196* | Chromium (VI) |
| ☐ *300.0* | Perchlorate, low level |
| ☐ *200.7/6010* | Sodium, Na, by ICP |
| ☐ *200.7/6010* | Potassium, K, by ICP |
| ☐ *200.7/6010* | Calcium, Ca, by ICP |
| ☐ *200.7/6010* | Magnesium, Mg, by ICP |
| ☐ *200.7/6010* | Iron, Fe, by ICP |
| ☐ *300.0* | Sulfate ($SO_4^{--}$), by IC |
| ☐ *300.0/SM4500NO3C* | Nitrate ($NO_3^-$) as N by IC |
| ☐ *300.0* | Chloride $Cl^-$ by IC |
| ☐ *SM2320B* | Carbonate |
| ☐ *SM2320B* | Bicarbonate |
| ☐ *9040/150.1* | pH |
| ☐ *160.1* | Solids, Total Dissolved (TDS) |
| ☐ *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 | 524.2 | 02-02534-6 | W | X | | | | | | | | ☐ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 | MW-24-4 | CRVI/Perch | 02-02534-5 | W | | X ✓ | X ✓ | | ☐ |
| 3 | MW-24-3 | 524.2 | 02-02534-4-$\alpha$ | W | X ✓ | | | | ☐ |
| | MW-24-3 | CRVI/Perch | 02-02534-4-$\beta$ | W | | X | X | | ☐ |
| 4 | MW-24-2 | 524.2 | 02-02534-3-$\alpha$ | W | X | | | | ☐ |
| | MW-24-2 | CRVI/Perch | 02-02534-3-$\beta$ | W | | X | X | | ☐ |
| 5 | MW-24-1 | 524.2 | 02-02534-2-$\alpha$ | W | X | | | | ☐ |
| | MW-24-1 | CRVI/Perch | 02-02534-2-$\beta$ | W | | X | X | | ☐ |
| 6 | ER-24 | 524.2 | 02-02534-1-$\alpha$ | W | X | | | | ☐ |
| | ER-24 | CRVI/Perch | 02-02534-1-$\beta$ | W | | X | X | | ☐ |

| Seq. # | Client"s Sample ID (as given on COC) | Sample Sub-ID | APCL Sample ID | Matrix | SO4 | NO3 | CL | CARBONATE | BICARBON | PH | TDS | AS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB-24 | 524.2 | 02-02534-6 | W | | | | | | | | | ☐ |
| 2 | MW-24-4 | CRVI/Perch | 02-02534-5 | W | | | | | | | | | ☐ |
| 3 | MW-24-3 | 524.2 | 02-02534-4-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-24-3 | CRVI/Perch | 02-02534-4-$\beta$ | W | | | | | | | | | ☐ |
| 4 | MW-24-2 | 524.2 | 02-02534-3-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-24-2 | CRVI/Perch | 02-02534-3-$\beta$ | W | | | | | | | | | ☐ |
| 5 | MW-24-1 | 524.2 | 02-02534-2-$\alpha$ | W | | | | | | | | | ☐ |
| | MW-24-1 | CRVI/Perch | 02-02534-2-$\beta$ | W | | | | | | | | | ☐ |
| 6 | ER-24 | 524.2 | 02-02534-1-$\alpha$ | W | | | | | | | | | ☐ |
| | ER-24 | CRVI/Perch | 02-02534-1-$\beta$ | W | | | | | | | | | ☐ |

| Seq. # | Client"s Sample ID (as given on COC) | Sample Sub-ID | APCL Sample ID | Matrix | ALKALIN | SIM | |
|---|---|---|---|---|---|---|---|
| 1 | TB-24 | 524.2 | 02-02534-6 | W | | | ☐ |
| 2 | MW-24-4 | CRVI/Perch | 02-02534-5 | W | | | ☐ |
| 3 | MW-24-3 | 524.2 | 02-02534-4-$\alpha$ | W | | | ☐ |
| | MW-24-3 | CRVI/Perch | 02-02534-4-$\beta$ | W | | | ☐ |
| 4 | MW-24-2 | 524.2 | 02-02534-3-$\alpha$ | W | | | ☐ |
| | MW-24-2 | CRVI/Perch | 02-02534-3-$\beta$ | W | | | ☐ |
| 5 | MW-24-1 | 524.2 | 02-02534-2-$\alpha$ | W | | | ☐ |
| | MW-24-1 | CRVI/Perch | 02-02534-2-$\beta$ | W | | | ☐ |
| 6 | ER-24 | 524.2 | 02-02534-1-$\alpha$ | W | | | ☐ |
| | ER-24 | CRVI/Perch | 02-02534-1-$\beta$ | W | | | ☐ |

☐ Client"s Requirement: **PLEASE RUN MS/MSD ON SAMPLE (#4)** ✓

☐ **IF ENOUGH SAMPLE**

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

Login By En-Yu Paul Kou

Check By BY



6326

Applied P & Ch Laboratory
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# APCL Analytical Report

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

Service ID #: 801-022563
Collected by: JNT/TAM
Collected on: 04/18/02

Received: 04/18/02
Extracted: N/A
Tested: N/A
Reported: 05/28/02

Sample Description: Water
Project Description: 00HW019 JPL

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-11-3 02-02563-1 | MW-11-2 02-02563-2 | MW-11-1 02-02563-3 | MW-14-4 02-02563-4 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-14-4D 02-02563-5 | MW-14-3 02-02563-6 | MW-14-2 02-02563-7 | MW-14-1 02-02563-8 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-14 02-02563-9 | ER-3 02-02563-10 | ER-4 02-02563-11 | ER-11 02-02563-12 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-23 02-02563-13 | ER-24 02-02563-14 | MW-5 02-02563-15 | MW-6 02-02563-16 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-7 02-02563-17 | MW-8 02-02563-18 | MW-10 02-02563-19 | MW-13 02-02563-20 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-16 02-02563-21 | MW-3-2 02-02563-22 | MW-3-3 02-02563-23 | MW-3-4 02-02563-24 |
|---|---|---|---|---|---|---|---|
| CHROMIUM [a] | | | | | | | |

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-3-4D 02-02563-25 | MW-4-1 02-02563-26 | MW-4-2 02-02563-27 | MW-4-3 02-02563-28 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-4-4 02-02563-29 | MW-4-5 02-02563-30 | MW-16D 02-02563-31 | MW-23-1 02-02563-32 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-23-2 02-02563-33 | MW-23-3 02-02563-34 | MW-23-4 02-02563-35 | MW-24-1 02-02563-36 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-24-2 02-02563-37 | MW-24-3 02-02563-38 | MW-24-4 02-02563-39 |
|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | |

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

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

J: Reported between PQL and MDL.

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

[a] Subcontracted to BSK Analytical Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

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# APCL Analytical Report

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

Service ID #: 801-022447
Collected by: JNT/TAM
Collected on: 04/10-16/02

Received: 04/10/02
Extracted: N/A
Tested: N/A
Reported: 05/28/02

Sample Description: Water
Project Description: 00HW019 JPL

## Analysis of Water Samples

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-17 02-02447-1 | ER-12 02-02447-2 | ER-18 02-02447-3 | ER-20 02-02447-4 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result ER-22 02-02447-5 | MW-12-1 02-02447-6 | MW-12-2 02-02447-7 | MW-12-3 02-02447-8 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-12-3D 02-02447-9 | MW-17-2 02-02447-10 | MW-17-3 02-02447-11 | MW-17-4 02-02447-12 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-18-2 02-02447-13 | MW-18-3 02-02447-14 | MW-18-4 02-02447-15 | MW-20-1 02-02447-16 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-20-2 02-02447-17 | MW-20-3 02-02447-18 | MW-20-4 02-02447-19 | MW-20-5 02-02447-20 |
|---|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | | |

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# APCL Analytical Report

| Component Analyzed | Method | Unit | PQL | Analysis Result MW-20-4D 02-02447-21 | MW-22-1 02-02447-22 | MW-22-2 02-02447-23 |
|---|---|---|---|---|---|---|
| **CHROMIUM** [a] | | | | | | |

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

J: Reported between PQL and MDL.

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

[a] Subcontracted to BSK Analytical Laboratories Inc. See attached.

Respectfully submitted,

Dominic Lau
Laboratory Director
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