



A P C L

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710

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

March 6, 2002

SOTA Environmental

Attention: Yu Zeng

16835 W. Bernardo Dr. Suite 212

San Diego CA 92127

Dear Yu,

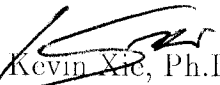
This package contains samples in our Service ID 02-1727 and your project is 00HW019 JPL.

Enclosed please find:

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

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

Respectfully submitted,

  
Kevin Xie, Ph.D.,

QA/QC Director

Applied P & Ch Laboratory

**Level D Data Package Deliverables**

# **General Information**

**Project: 010HW019 JPL**

**APCL Service ID: 02-1727**



**Applied P & Ch Laboratory**

**13760 Magnolia Ave. Chino, CA 91710**

**Telephone (909)590-1828**

**Fax (909)590-1496**

# Case Narrative

## Project: JPL/00HW019

For SOTA Environmental

APCL Service No: 02-1727

### 1. Sample Identification

The sample identifications are listed in the following table:

| SOTA Environmental Sample ID | APCL Sample ID |
|------------------------------|----------------|
| MW-7                         | 02-01727-1     |

### 2. Analytical Methodology

Samples are analyzed by EPA methods

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

### 3. Holding Time

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

### 4. Preservation

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

### 5. Tele-log

None.

### 6. Anomaly

None.

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

Respectfully submitted,



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



# Applied P & Ch Laboratory

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

# Chain of Custody

Please Print in pen Page 1 of 1

Client: SOTA ENVIR. TECH., INC. Contact: MIKE SAYRE Tel # 958-485-9100 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 # 00K0019 P.O. #  
Project Address: PASADENA, CALIFORNIA APCL Quotation #

Due Date:  regular  rush: \_\_\_ days \_\_\_ hours Sampled by: MES

| Field Sample ID No. | Sample Description | Date Collected | Sample Matrix | Preservation | # of Containers | Analysis Items  | White - With report<br>Yellow - Lab copy<br>Pink - Originator | Remarks |
|---------------------|--------------------|----------------|---------------|--------------|-----------------|---|---|---------|
| MW-7                | MW-7               | 2/22/02 1147   | WATER         | HCl          | 3               | VOCs (5243)<br>Mn, K, Ca, Mg, Fe<br>Total Cr & Pb<br>As (200.9)<br>Nitrate Sulfate<br>Chloride (30.0)<br>Carbonate Bicarb.<br>Alk. (30.1)<br>Residual (34.0)<br>Cd (719.6)<br>TDS (160.1)<br>PH (150.1)<br>14 DIORAN (82.0)<br>NDMA (1625C) |   |         |
|                     |                    |                |               | HNO3         | 2               |   |   |         |
|                     |                    |                |               | - P-26       | 2               |   |   |         |
| <b>1727</b>         |                    |                |               |              |                 |   |   |         |
|                     |                    |                |               |              |                 |   |   |         |

QC Requirement:  Regular;  QA/QC Report;  WIP;  Raw Data;  Extended Raw Data  CLP;  ACE  AFCEE  NEBSA \_\_\_ (E, C or D);  Other \_\_\_ (Please specify)

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

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

Relinquished by [Signature] Date/Time 2/22/02/1338 Received by [Signature] Date/Time 2/22/02/1338  
Relinquished by [Signature] Date/Time 2/22/02/1338 Received by [Signature] Date/Time 2/22/02/1338

APCL USE ONLY Service #

Note:

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

APCL Form 4-101, Ver. 4.0, Dec. 20, 1994. File: C:\CUST.DATA\LAB\CHAIN\_ROOT.TEX

# Sample Receiving Checklist

APCL ServiceID: **1727** Client Name/Project: Sota Environmental

### 1. Sample Arrival

Date/Time Received 2/02/02 1338 Date/Time Opened 2/02/02 1338 By (name): [Signature]  
Custody Transfer:  Client  Golden State  UPS  US Mail  FedEx  APCL Empl: \_\_\_\_\_

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

With Samples?  Faxed?  Client has Copy?  Signed, dated? By: \_\_\_\_\_  
 Project ID?  Analyses Clear?  Hold Samples? # on Hold \_\_\_\_\_ # Received 1  
 CoC/Docs Zip-Locked under lid?  Compos.#: \_\_\_\_\_  #Samples OK?  
 Discrepancies?  Client notified?  Response (attach docs): \_\_\_\_\_

### 3. Shipping Container/Cooler

Cooler Used? # of 1 Cooled by:  Ice  Blue Ice  Dry Ice  None  
Temp °C 4.1  
(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).  
Cooler Custody Seal?  Absent  Intact  Tampered?

### 4. Sample Preservation

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

### 5. Holding-time Requirements

pH 24hr  BACT 6/24hr  Cr<sup>VI</sup> 24hr  NO<sub>3</sub><sup>-</sup> 48hr  BOD 48hr  
 Cl<sub>2</sub> 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<sub>2</sub>O  Other Liq  Soil  Wipe  Polymer  Air  Other: \_\_\_\_\_  
 Ground H<sub>2</sub>O  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: [Signature] Date: 22 Feb 2002 Time: 8:53 a.m.

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

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

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# Sample Login: Check List

**02-01727 (1288\_ 322) (4858100\_ 322)**

02/22/02

## Part 1: General Information

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|   |                      |  |
|---|----------------------|--|
| <input type="checkbox"/> Company Information      | Name:                | <i>SOTA Environmental</i>                                  |
|   | Address:             | <i>16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127</i> |
| <input type="checkbox"/> Project Information      | Project Description: | <i>JPL</i>   |
|   | Project #:           | <i>00HW019</i>   |
| <input type="checkbox"/> Billing Information      | P.O. #:              |  |
|   | Bill Address:        | <i>16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127</i> |
|   | Lab Project ID:      | <i>2002_0002</i>   |
|   | Client Database #:   | <i>01</i>  |
| <input type="checkbox"/> Receiving Information    | Who Received Sample? | <i>Kenny</i>   |
|   | Receiving Date/Time: | <i>02/22/02 1338</i>                                       |
|   | COC No.              |  |
| <input type="checkbox"/> Shipping Information     | Shipping Company     | <i>by Client</i>   |
|   | Packing Information: | <i>Cooler/Ice Chester</i>                                  |
|   | Cooler Temperature:  | <i>4.1 °C</i>  |
| <input type="checkbox"/> Container Information    | Container Provider:  | <i>Client</i>  |
| <input type="checkbox"/> Sampling Information     | Sampling Person:     |  |
|   | Sampling Company:    | <i>Client</i>  |
| <input type="checkbox"/> Turn-Around-Time Option: |                      | <i>Rush 5 working day(s)</i>                               |
| <input type="checkbox"/> QC Option:               |                      | <i>NEESA D</i>   |
| <input type="checkbox"/> Disposal Option:         |                      | <i>Not specify</i>   |

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## 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 mmdyy | Hold ? | Composite Group | TAT Days                   |
|--------|--------------------|---------------|----------------|--------|-----------|--------------|---------------|--------------|-------------------|-----------------|--------|-----------------|----------------------------|
| 1      | MW-7 ✓             | 524.2         | 02-01727-1-α   | W      | V         | C            | 40            | 3            | G                 | 022202          | N      | 0               | 7 <input type="checkbox"/> |
|        | MW-7               | Metals        | 02-01727-1-β   | W      | P         | N            | 500           | 1            | G                 | 022202          | N      | 0               | 7 <input type="checkbox"/> |
|        | MW-7               | 8270          | 02-01727-1-γ   | W      | G         |              | 1000          | 2            | G                 | 022202          | N      | 0               | 7 <input type="checkbox"/> |
|        | MW-7               | Anion         | 02-01727-1-δ   | W      | P         |              | 500           | 1            | G                 | 022202          | N      | 0               | 7 <input type="checkbox"/> |

## Part 3: Analysis Information

|             |  |  |
|-------------|--|--|
| Test Items: | <input type="checkbox"/> <del>524.2</del>              | Volatile Organic Compounds                         |
|             | <input type="checkbox"/> <del>1196</del>               | Chromium (VI)                                      |
|             | <input type="checkbox"/> <del>300.0</del>              | Perchlorate, low level                             |
|             | <input type="checkbox"/> <del>200.7/6010</del>         | Sodium, Na, by ICP                                 |
|             | <input type="checkbox"/> <del>200.7/6010</del>         | Potassium, K, by ICP                               |
|             | <input type="checkbox"/> <del>200.7/6010</del>         | Calcium, Ca, by ICP                                |
|             | <input type="checkbox"/> <del>200.7/6010</del>         | Magnesium, Mg, by ICP                              |
|             | <input type="checkbox"/> <del>200.7/6010</del>         | Iron, Fe, by ICP                                   |
|             | <input type="checkbox"/> <del>300.0</del>              | Sulfate (SO <sub>4</sub> <sup>2-</sup> ), by IC    |
|             | <input type="checkbox"/> <del>300.0/SM4500NO3</del>    | Nitrate (NO <sub>3</sub> <sup>-</sup> ) as N by IC |
|             | <input type="checkbox"/> <del>300.0</del>              | Chloride Cl <sup>-</sup> by IC                     |
|             | <input type="checkbox"/> <del>SM2320B</del>            | Carbonate  |
|             | <input checked="" type="checkbox"/> <del>SM2320B</del> | Bicarbonate  |
|             | <input type="checkbox"/> <del>9040/150.1</del>         | pH   |
|             | <input type="checkbox"/> <del>160.1</del>              | Solids, Total Dissolved (TDS)                      |
|             | <input type="checkbox"/> <del>206.2/7060</del>         | Arsenic, As, by GFAA                               |
|             | <input checked="" type="checkbox"/> <del>310.1</del>   | Alkalinity   |
|             | <input type="checkbox"/> <del>PAH-SIM</del>            | 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      | MW-7                                 | 524.2         | 02-01727-1-α   | W      | X     |          |        |    |   |    |    | <input type="checkbox"/>   |
|        | MW-7                                 | Metals        | 02-01727-1-β   | W      |       |          |        | X  | X | X  | X  | X <input type="checkbox"/> |
|        | MW-7                                 | 8270          | 02-01727-1-γ   | W      |       |          |        |    |   |    |    | <input type="checkbox"/>   |
|        | MW-7                                 | Anion         | 02-01727-1-δ   | W      |       | X        | X      |    |   |    |    | <input type="checkbox"/>   |

| 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 | MW-7 | 524.2  | 02-01727-1- $\alpha$ | W |   |   |   |   |   |   |   | <input type="checkbox"/> |
|   | MW-7 | Metals | 02-01727-1- $\beta$  | W |   |   |   |   |   |   | X | <input type="checkbox"/> |
|   | MW-7 | 8270   | 02-01727-1- $\gamma$ | W |   |   |   |   |   |   |   | <input type="checkbox"/> |
|   | MW-7 | Anion  | 02-01727-1- $\delta$ | W | X | X | X | X | X | X | X | <input type="checkbox"/> |

| Seq.<br># | Client's Sample ID<br>(as given on COC) | Sample<br>Sub-ID | APCL<br>Sample ID    | Matrix | ALKALIN | SIM |                          |
|-----------|---|------------------|----------------------|--------|---------|-----|--------------------------|
| 1         | MW-7                                    | 524.2            | 02-01727-1- $\alpha$ | W      |         |     | <input type="checkbox"/> |
|           | MW-7                                    | Metals           | 02-01727-1- $\beta$  | W      |         |     | <input type="checkbox"/> |
|           | MW-7                                    | 8270             | 02-01727-1- $\gamma$ | W      |         | X   | <input type="checkbox"/> |
|           | MW-7                                    | Anion            | 02-01727-1- $\delta$ | W      | X       |     | <input type="checkbox"/> |

- Client's Requirement: **~~PLEASE RUN MS/MSD ON SAMPLE #~~**  
 **IF ENOUGH SAMPLE**  
 **FOR 8270SIM, PLEASE INCLUDE 1,4-DIOXANE**

Login By En-Yu Paul Kou

Check By *DY*

Level D Data Package Deliverables

# VOLATILE ORGANICS



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 #: 801-021727 Received: 02/22/02  
Collected by: MES Extracted: 02/25/02  
Collected on: 02/22/02 Tested: 02/22-27/02  
Reported: 03/05/02  
Sample Description: Water from Pasadena, CA  
Project Description: 00HW019 JPL

## Analysis of Water Samples

| Component Analyzed                        | Method  | Unit                    | PQL  | Analysis Result    |
|---|---------|-------------------------|------|--------------------|
|   |         |                         |      | MW-7<br>02-01727-1 |
| <b>ALKALINITY</b>                         | 310.1   | mg/L                    | 2    | 136                |
| <b>BICARBONATE</b> <sup>(a)</sup>         | SM2320B | mg/L                    | 2    | 136                |
| <b>CARBONATE</b> <sup>(a)</sup>           | SM2320B | mg-CaCO <sub>3</sub> /L | 2    | < 2                |
| <b>PH</b>                                 | 150.1   | pH unit                 | 0.01 | 7.32               |
| <b>SOLIDS, TOTAL DISSOLVED (TDS)</b>      | 160.1   | mg/L                    | 10   | 305                |
| <b>CHROMIUM (VI)</b>                      | 7196    | mg/L                    | 0.01 | < 0.01             |
| Dilution Factor                           |         |                         |      | 50                 |
| <b>PERCHLORATE</b>                        | E314    | µg/L                    | 4    | 4,090              |
| Dilution Factor                           |         |                         |      | 10                 |
| <b>CHLORIDE CL<sup>-</sup></b>            | 300.0   | mg/L                    | 0.2  | 70.3               |
| <b>NITRATE AS N</b>                       | 300.0   | mg/L                    | 0.04 | 21.9               |
| <b>SULFATE SO<sub>4</sub><sup>-</sup></b> | 300.0   | mg/L                    | 0.5  | 102                |
| Dilution Factor                           |         |                         |      | 1                  |
| <b>ARSENIC</b>                            | 200.9   | µg/L                    | 5    | 2.2J               |
| Dilution Factor                           |         |                         |      | 1                  |
| <b>CALCIUM</b>                            | 200.7   | µg/L                    | 200  | 55,700             |
| <b>IRON</b>                               | 200.7   | µg/L                    | 50   | 78.4               |
| <b>MAGNESIUM</b>                          | 200.7   | µg/L                    | 100  | 17,800             |
| <b>POTASSIUM</b>                          | 200.7   | µg/L                    | 400  | 2,620              |
| <b>SODIUM</b>                             | 200.7   | µg/L                    | 2000 | 19,100             |
| <b>VOLATILE ORGANIC COMPOUNDS</b>         |         |                         |      |                    |
| Dilution Factor                           |         |                         |      | 1                  |
| <b>CARBON TETRACHLORIDE</b>               | 524.2   | µg/L                    | 0.5  | 135 <sup>(b)</sup> |
| <b>CHLOROFORM</b>                         | 524.2   | µg/L                    | 0.5  | 13.3               |
| <b>1,1-DICHLOROETHANE</b>                 | 524.2   | µg/L                    | 0.5  | < 0.5              |
| <b>1,2-DICHLOROETHANE</b>                 | 524.2   | µg/L                    | 0.5  | < 0.5              |
| <b>1,1-DICHLOROETHENE</b>                 | 524.2   | µg/L                    | 0.5  | 6.0                |
| <b>TETRACHLOROETHENE</b>                  | 524.2   | µg/L                    | 0.5  | 17.1               |
| <b>TRICHLOROETHENE</b>                    | 524.2   | µg/L                    | 0.5  | 15.4               |
| <b>TRICHLOROFLUOROMETHANE</b>             | 524.2   | µg/L                    | 0.5  | 0.4J               |
| <b>112TRICHLORO-122TRIFLUOROETHANE</b>    | 524.2   | µg/L                    | 0.5  | 6.0                |

# APCL Analytical Report

| Component Analyzed | Method   | Unit            | PQL | Analysis Result    |
|--------------------|----------|-----------------|-----|--------------------|
|                    |          |                 |     | MW-7<br>02-01727-1 |
| Dilution Factor    |          |                 |     | 1                  |
| 1,4-DIOXANE        | 8270-SIM | $\mu\text{g/L}$ | 3   | 5                  |

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

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

J: Reported between PQL and MDL.

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

(a) Calculated from Alkalinity result by EPA 310.1.

(b) Analyzed with a dilution factor of 5.

Respectfully submitted,



Dominic Lau  
Laboratory Director  
Applied P & Ch Laboratory



A P C L

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710

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

February 27, 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 02-1514 and your project is 00HW019 JPL.  
Enclosed please find:

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

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

Respectfully submitted,



Kevin Xie, Ph.D.,

QA/QC Director

Applied P & Ch Laboratory

Applied P & Ch Laboratory

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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 #: 801-021514

Collected by: MES/JNT

Collected on: 02/06/02

Received: 02/06/02

Extracted: N/A

Tested: 02/07-14/02

Reported: 02/19/02

Sample Description: Water from Pasadena, CA

Project Description: 00HW019 JPL

## Analysis of Water Samples

| Component Analyzed                    | Method  | Unit                    | PQL  | Analysis Result    |
|---------------------------------------|---------|-------------------------|------|--------------------|
|                                       |         |                         |      | MW-8<br>02-01514-1 |
| ALKALINITY                            | 310.1   | mg/L                    | 2    | 151                |
| BICARBONATE <sup>(a)</sup>            | SM2320B | mg/L                    | 2    | 151                |
| CARBONATE <sup>(a)</sup>              | SM2320B | mg-CaCO <sub>3</sub> /L | 2    | <2                 |
| PH                                    | 150.1   | pH unit                 | 0.01 | 7.00               |
| SOLIDS, TOTAL DISSOLVED (TDS)         | 160.1   | mg/L                    | 10   | 263                |
| CHROMIUM (VI)                         | 7196    | mg/L                    | 0.01 | <0.01              |
| Dilution Factor                       |         |                         |      | 1                  |
| PERCHLORATE                           | E314    | µg/L                    | 4    | 20.1               |
| Dilution Factor                       |         |                         |      | 2.5                |
| CHLORIDE CL <sup>-</sup>              | 300.0   | mg/L                    | 0.2  | 17.2               |
| NITRATE AS N                          | 300.0   | mg/L                    | 0.04 | 3.2                |
| SULFATE SO <sub>4</sub> <sup>--</sup> | 300.0   | mg/L                    | 0.5  | 41.2               |
| Dilution Factor                       |         |                         |      | 1                  |
| ARSENIC                               | 200.9   | µg/L                    | 5    | <5                 |
| Dilution Factor                       |         |                         |      | 1                  |
| CALCIUM                               | 200.7   | µg/L                    | 200  | 49,500             |
| IRON                                  | 200.7   | µg/L                    | 50   | 271                |
| MAGNESIUM                             | 200.7   | µg/L                    | 100  | 16,700             |
| POTASSIUM                             | 200.7   | µg/L                    | 400  | 2,530              |
| SODIUM                                | 200.7   | µg/L                    | 2000 | 15,800             |

# APCL Analytical Report

| Component Analyzed                | Method | Unit | PQL | Analysis Result |            |
|-----------------------------------|--------|------|-----|-----------------|------------|
|                                   |        |      |     | MW-8            | TB-18      |
|                                   |        |      |     | 02-01514-1      | 02-01514-2 |
| <b>VOLATILE ORGANIC COMPOUNDS</b> |        |      |     |                 |            |
| Dilution Factor                   |        |      |     | 1               | 1          |
| CARBON TETRACHLORIDE              | 524.2  | µg/L | 0.5 | 2.2             | <0.5       |
| CHLOROFORM                        | 524.2  | µg/L | 0.5 | 0.8             | <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   | -               | 1          |
| TETRACHLOROETHENE                 | 524.2  | µg/L | 0.5 | <0.5            | <0.5       |
| TRICHLOROETHENE                   | 524.2  | µg/L | 0.5 | 1.8             | <0.5       |
| TRICHLOROFLUOROMETHANE            | 524.2  | µg/L | 0.5 | 0.4J            | -          |
| 112TRICHLORO-122TRIFLUOROETHANE   | 524.2  | µg/L | 0.5 | 0.6             | <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

<sup>(a)</sup> Calculated from alkalinity result by EPA 310.1

Respectfully submitted,



Dominic Lau

Laboratory Director

Applied P & Ch Laboratory

**Level D Data Package Deliverables**

# **General Information**

**Project: 010HW019 JPL**

**APCL Service ID: 02-1514**



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



# Case Narrative

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

For SOTA Environmental

APCL Service No: 02-1514

### 1. Sample Identification

The sample identifications are listed in the following table:

| SOTA Environmental Sample ID | APCL Sample ID |
|------------------------------|----------------|
| TB-18                        | 02-01514-2     |
| MW-8                         | 02-01514-1     |

### 2. Analytical Methodology

Samples are analyzed by EPA methods

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

### 3. Holding Time

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

### 4. Preservation

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

### 5. Tele-log


None.

### 6. Anomaly

None.

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

Respectfully submitted,

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



# Applied P & Ch Laboratory

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

# Chain of Custody

Please Print in pen Page 1 of 1

Client: **SOTA ENVIR. TECH., INC.** Contact: **MIKE SAYRE**  
Address: **16835 W. BERNARDO DR. #212** City: **SAN DIEGO** State: **CA** Zip code: **92127**

Tel #: **858-485-8100** Fax #: **858-485-0812**

Bill to: **SOTA**

Project Name/Code **JPL** Job # **00TWO19** P.O. #

Project Address **PASADENA, CALIFORNIA** APCL Quotation #

Due Date:  regular  rush: \_\_\_ days \_\_\_ hours Sampled by: **MES/JNT**

| Field Sample ID No. | Sample Description | Date Collected | Sample Matrix | Preservation | # of Containers | Analysis Items |             |              |            |              |              |                  |              |             |            | Remarks |   |   |   |   |   |   |                            |
|---------------------|--------------------|----------------|---------------|--------------|-----------------|----------------|-------------|--------------|------------|--------------|--------------|------------------|--------------|-------------|------------|---------|---|---|---|---|---|---|----------------------------|
|                     |                    |                |               |              |                 | VOCS (5242)    | BKCs (4512) | THMs (200.9) | As (200.9) | Cr VI (7196) | PERK (314.0) | CHLORIDE (300.0) | ZINC (310.1) | TDS (160.1) | PH (150.1) |         |   |   |   |   |   |   |                            |
| TB-18               | TRIP BLANK         | 2/6/02 11:44   | WATER         | HCl          | 2               | X              | X           | X            | X          | X            | X            | X                | X            | X           | X          | X       | X | X | X | X | X | X |                            |
| MW-8                | MW-8               |                |               | HCl          | 9               | X              | X           | X            | X          | X            | X            | X                | X            | X           | X          | X       | X | X | X | X | X | X | MS/MSD                     |
|                     |                    |                |               | HNO3         | 2               | X              | X           | X            | X          | X            | X            | X                | X            | X           | X          | X       | X | X | X | X | X | X | MS/MSD ON<br>200.8 & 200.9 |
|                     |                    |                |               | -            | 2               | X              | X           | X            | X          | X            | X            | X                | X            | X           | X          | X       | X | X | X | X | X | X | MS/MSD ON<br>7196 & 314.0  |
| <b>1514</b>         |                    |                |               |              |                 |                |             |              |            |              |              |                  |              |             |            |         |   |   |   |   |   |   |                            |

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

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

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

Relinquished by *[Signature]* Date/Time **2/6/02 16:42** Received by *[Signature]* Date/Time **2/6/02 14:41**

Relinquished by *[Signature]* Date/Time **2/6/02 16:51** Received by *[Signature]* Date/Time **2/7/02 6:33**

APCL USE ONLY Service #

Note:

Clients understand that all terms described in the proposals, quotations for this project, and/or the general terms provided in the current APCL price schedules will be followed. APCL reserves the right to terminate its service or withhold delivery of any reports, if in APCL's sole discretion the terms of the project have been broken.  
APCL Form 4-101, Ver. 4.0, Dec. 20, 1994. Root-File-CUST.DATA.LAB\CHAIN\_ROOT.TEX File-CUST.DATA.LAB\CHAIN4.TEX

# Sample Receiving Checklist

APCL ServiceID: **1514** Client Name/Project: Sota Environmental

### 1. Sample Arrival

Date/Time Received 2/6/02 1641 Date/Time Opened 2/7/02 0830 By (name): Paul  
Custody Transfer:  Client  Golden State  UPS  US Mail  FedEx  APCL Empl: Gregory

### 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<sup>VI</sup> 24hr  NO<sub>3</sub><sup>-</sup> 48hr  BOD 48hr  
 Cl<sub>2</sub> 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<sub>2</sub>O  Other Liq  Soil  Wipe  Polymer  Air  Other: \_\_\_\_\_  
 Ground H<sub>2</sub>O  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: 6 Feb 2002 Time: 9:05 a.m.

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

Applied P & Ch Laboratory

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

# Sample Login: Check List

02-01514 (1288\_ 319) (4858100\_ 319)

02/07/02

## Part 1: General Information

---

|   |                      |  |
|---|----------------------|--|
| <input type="checkbox"/> Company Information      | Name:                | <i>SOTA Environmental</i>                                  |
|   | Address:             | <i>16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127</i> |
| <input type="checkbox"/> Project Information      | Project Description: | <i>JPL</i>   |
|   | Project #:           | <i>00HW019</i>   |
| <input type="checkbox"/> Billing Information      | P.O. #:              |  |
|   | Bill Address:        | <i>16835 W. Bernardo Dr, Ste. 212 ,San Diego ,CA 92127</i> |
|   | Lab Project ID:      | <i>2002_0002</i>   |
|   | Client Database #:   | <i>01</i>  |
| <input type="checkbox"/> Receiving Information    | Who Received Sample? | <i>Paul</i>  |
|   | Receiving Date/Time: | <i>02/06/02 1641</i>                                       |
|   | COC No.              |  |
| <input type="checkbox"/> Shipping Information     | Shipping Company     | <i>APCL pick up</i>  |
|   | Packing Information: | <i>Cooler/Ice Chester</i>                                  |
|   | Cooler Temperature:  | <i>2.2 °C</i>  |
| <input type="checkbox"/> Container Information    | Container Provider:  | <i>Client</i>  |
| <input type="checkbox"/> Sampling Information     | Sampling Person:     |  |
|   | Sampling Company:    | <i>Client</i>  |
| <input type="checkbox"/> Turn-Around-Time Option: |                      | <i>Rush 5 working day(s)</i>                               |
| <input type="checkbox"/> QC Option:               |                      | <i>NEESA D</i>   |
| <input type="checkbox"/> Disposal Option:         |                      | <i>Not specify</i>   |

---

## Part 2: Sample Information

| Seq. # | Sample ID (on COC) | Sample Sub-ID | APCL Sample ID       | Cont- Matrix | Preser- tainer | Vol, ml Am. g | # of Replica | Condition G, L, B | Collected mmddyy | Hold ? | Composite Group | TAT Days                   |
|--------|--------------------|---------------|----------------------|--------------|----------------|---------------|--------------|-------------------|------------------|--------|-----------------|----------------------------|
| 1      | TB-18 /            | 524.2         | 02-01514-2           | W            | V              | C 40          | 2            | G                 | 020602           | N      | 0               | 7 <input type="checkbox"/> |
| 2      | MW-8 /             | 524.2         | 02-01514-1- $\alpha$ | W            | V              | C 40          | 9            | G                 | 020602           | N      | 0               | 7 <input type="checkbox"/> |
|        | MW-8               | Metals        | 02-01514-1- $\beta$  | W            | P              | N 1000        | 1            | G                 | 020602           | N      | 0               | 7 <input type="checkbox"/> |
|        | MW-8               | 300           | 02-01514-1- $\gamma$ | W            | P              | 500           | 2            | G                 | 020602           | N      | 0               | 7 <input type="checkbox"/> |

## Part 3: Analysis Information

|             |  |  |
|-------------|--|--|
| Test Items: | <input type="checkbox"/> <del>524.2</del>            | Volatile Organic Compounds                         |
|             | <input checked="" type="checkbox"/> 7196             | Chromium (VI)                                      |
|             | <input checked="" type="checkbox"/> 300.0            | Perchlorate, low level                             |
|             | <input checked="" type="checkbox"/> 200.7/6010       | Sodium, Na, by ICP                                 |
|             | <input checked="" type="checkbox"/> 200.7/6010       | Potassium, K, by ICP                               |
|             | <input checked="" type="checkbox"/> 200.7/6010       | Calcium, Ca, by ICP                                |
|             | <input checked="" type="checkbox"/> 200.7/6010       | Magnesium, Mg, by ICP                              |
|             | <input checked="" type="checkbox"/> 200.7/6010       | Iron, Fe, by ICP                                   |
|             | <input type="checkbox"/> 300.0                       | Sulfate (SO <sub>4</sub> <sup>-</sup> ), by IC     |
|             | <input checked="" type="checkbox"/> 300.0/SM4500NONM | Nitrate (NO <sub>3</sub> <sup>-</sup> ) as N by IC |
|             | <input checked="" type="checkbox"/> 300.0            | Chloride Cl <sup>-</sup> by IC                     |
|             | <input checked="" type="checkbox"/> SM2320B          | Carbonate  |
|             | <input checked="" type="checkbox"/> SM2320B          | Bicarbonate  |
|             | <input checked="" type="checkbox"/> 9040/150.1       | pH   |
|             | <input checked="" type="checkbox"/> 160.1            | Solids, Total Dissolved (TDS)                      |
|             | <input checked="" type="checkbox"/> 206.2/7060       | Arsenic, As, by GFAA                               |
|             | <input type="checkbox"/> 310.1                       | Alkalinity   |
|             | <input type="checkbox"/> 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-18                                | 524.2         | 02-01514-2           | W      | X ✓   |          |        |     |     |     |     | <input type="checkbox"/>     |
| 2      | MW-8                                 | 524.2         | 02-01514-1- $\alpha$ | W      | X ✓   |          |        |     |     |     |     | <input type="checkbox"/>     |
|        | MW-8                                 | Metals        | 02-01514-1- $\beta$  | W      |       |          |        | X ✓ | X ✓ | X ✓ | X ✓ | X ✓ <input type="checkbox"/> |
|        | MW-8                                 | 300           | 02-01514-1- $\gamma$ | W      |       | X ✓      | X ✓    |     |     |     |     | <input type="checkbox"/>     |

| 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-18 | 524.2  | 02-01514-2           | W |   |   |   |   |   |   |   |   |   |   |   |   |   | <input type="checkbox"/>   |
| 2 | MW-8  | 524.2  | 02-01514-1- $\alpha$ | W |   |   |   |   |   |   |   |   |   |   |   |   |   | <input type="checkbox"/>   |
|   | MW-8  | Metals | 02-01514-1- $\beta$  | W |   |   |   |   |   |   |   |   |   |   |   |   |   | X <input type="checkbox"/> |
|   | MW-8  | 300    | 02-01514-1- $\gamma$ | W | X | X | X | X | X | X | X | X | X | X | X | X | X | <input type="checkbox"/>   |

| Seq. # | Client's Sample ID (as given on COC) | Sample Sub-ID | APCL Sample ID       | Matrix | ALKALIN | SIM |                          |
|--------|--------------------------------------|---------------|----------------------|--------|---------|-----|--------------------------|
| 1      | TB-18                                | 524.2         | 02-01514-2           | W      |         |     | <input type="checkbox"/> |
| 2      | MW-8                                 | 524.2         | 02-01514-1- $\alpha$ | W      |         |     | <input type="checkbox"/> |
|        | MW-8                                 | Metals        | 02-01514-1- $\beta$  | W      |         |     | <input type="checkbox"/> |
|        | MW-8                                 | 300           | 02-01514-1- $\gamma$ | W      | X       |     | <input type="checkbox"/> |

- Client's Requirement: **PLEASE RUN MS/MSD ON SAMPLE (#1) IF ENOUGH SAMPLE FOR 8270SIM, PLEASE INCLUDE 1,4-DIOXANE**
- 
- 

Login By En-Yu Paul Kou

Check By *PK*

**058105**



A P C L

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710

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

February 13, 2002

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

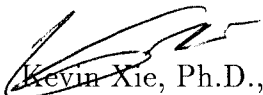
Dear Yu,

This package contains samples in our Service ID 02-1355 and your project is 00HW019 JPL.  
Enclosed please find:

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

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

Respectfully submitted,



Kevin Xie, Ph.D.,

QA/QC Director  
Applied P & Ch Laboratory



Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

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

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

# APCL Analytical Report

Service ID #: 801-021355 Received: 01/25/02  
 Collected by: MES/JNT Extracted: N/A  
 Collected on: 01/25/02 Tested: 01/25-31/02  
 Reported: 02/06/02  
 Sample Description: Water from Pasadena, CA  
 Project Description: 00HW019 JPL

## Analysis of Water Samples

| Component Analyzed                   | Method  | Unit                    | PQL  | Analysis Result       |                       |
|--------------------------------------|---------|-------------------------|------|-----------------------|-----------------------|
|                                      |         |                         |      | MW-11-1<br>02-01355-2 | MW-11-2<br>02-01355-3 |
| ALKALINITY                           | 310.1   | mg/L                    | 2    | 205                   | 166                   |
| BICARBONATE <sup>(a)</sup>           | SM2320B | mg/L                    | 2    | 205                   | 166                   |
| CARBONATE <sup>(a)</sup>             | SM2320B | mg-CaCO <sub>3</sub> /L | 2    | <2                    | <2                    |
| PH                                   | 150.1   | pH unit                 | 0.01 | 7.83                  | 8.09                  |
| SOLIDS, TOTAL DISSOLVED (TDS)        | 160.1   | mg/L                    | 10   | 329                   | 253                   |
| Dilution Factor                      |         |                         |      | 4                     | 2                     |
| CHLORIDE CL <sup>-</sup>             | 300.0   | mg/L                    | 0.2  | 22.7                  | 15.8                  |
| NITRATE AS N                         | 300.0   | mg/L                    | 0.04 | 1.1                   | 0.16                  |
| SULFATE SO <sub>4</sub> <sup>-</sup> | 300.0   | mg/L                    | 0.5  | 48.4                  | 35.8                  |
| Dilution Factor                      |         |                         |      | 1                     | 1                     |
| CALCIUM                              | 200.7   | μg/L                    | 200  | 59,800                | 43,300                |
| IRON                                 | 200.7   | μg/L                    | 50   | 12.4J                 | 53.6                  |
| MAGNESIUM                            | 200.7   | μg/L                    | 100  | 19,100                | 16,800                |
| POTASSIUM                            | 200.7   | μg/L                    | 400  | 3,320                 | 2,940                 |
| SODIUM                               | 200.7   | μg/L                    | 2000 | 25,900                | 22,900                |

| Component Analyzed                   | Method  | Unit                    | PQL  | Analysis Result       |                       |                       |
|--------------------------------------|---------|-------------------------|------|-----------------------|-----------------------|-----------------------|
|                                      |         |                         |      | MW-11-3<br>02-01355-4 | MW-11-4<br>02-01355-5 | MW-11-5<br>02-01355-6 |
| ALKALINITY                           | 310.1   | mg/L                    | 2    | 162                   | 124                   | 128                   |
| BICARBONATE <sup>(a)</sup>           | SM2320B | mg/L                    | 2    | 162                   | 107                   | 128                   |
| CARBONATE <sup>(a)</sup>             | SM2320B | mg-CaCO <sub>3</sub> /L | 2    | <2                    | 17.0                  | <2                    |
| PH                                   | 150.1   | pH unit                 | 0.01 | 8.13                  | 8.59                  | 8.32                  |
| SOLIDS, TOTAL DISSOLVED (TDS)        | 160.1   | mg/L                    | 10   | 234                   | 166                   | 195                   |
| Dilution Factor                      |         |                         |      | 2                     | 2                     | 2                     |
| CHLORIDE CL <sup>-</sup>             | 300.0   | mg/L                    | 0.2  | 13.3                  | 11.8                  | 13.8                  |
| NITRATE AS N                         | 300.0   | mg/L                    | 0.04 | 0.12                  | 0.12                  | 0.12                  |
| SULFATE SO <sub>4</sub> <sup>-</sup> | 300.0   | mg/L                    | 0.5  | 25.3                  | 7.6                   | 19.8                  |
| Dilution Factor                      |         |                         |      | 1                     | 1                     | 1                     |
| CALCIUM                              | 200.7   | μg/L                    | 200  | 41,700                | 18,500                | 21,800                |
| IRON                                 | 200.7   | μg/L                    | 50   | 486                   | 59.2                  | 165                   |
| MAGNESIUM                            | 200.7   | μg/L                    | 100  | 13,000                | 12,000                | 2,030                 |
| POTASSIUM                            | 200.7   | μg/L                    | 400  | 2,040                 | 2,180                 | 1,180                 |
| SODIUM                               | 200.7   | μg/L                    | 2000 | 23,700                | 25,000                | 47,700                |

# APCL Analytical Report

| Component Analyzed                | Method | Unit | PQL  | Analysis Result     |                       |                       |
|-----------------------------------|--------|------|------|---------------------|-----------------------|-----------------------|
|                                   |        |      |      | ER-11<br>02-01355-1 | MW-11-1<br>02-01355-2 | MW-11-2<br>02-01355-3 |
| <b>ARSENIC</b>                    | 200.9  | µg/L | 5    | 1.6J                | <5                    | 1.6J                  |
| <b>CHROMIUM (VI)</b>              | 7196   | mg/L | 0.01 | <0.01               | <0.01                 | <0.01                 |
| Dilution Factor                   |        |      |      | 1                   | 1                     | 1                     |
| <b>PERCHLORATE</b>                | E314   | µg/L | 4    | <4                  | <4                    | <4                    |
| <b>VOLATILE ORGANIC COMPOUNDS</b> |        |      |      |                     |                       |                       |
| Dilution Factor                   |        |      |      | 1                   | 1                     | 1                     |
| CARBON TETRACHLORIDE              | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |
| CHLOROFORM                        | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | 0.9                   |
| 1,1-DICHLOROETHANE                | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |
| 1,2-DICHLOROETHANE                | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |
| 1,1-DICHLOROETHENE                | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |
| METHYLENE CHLORIDE                | 524.2  | µg/L | 1    | 2                   | -                     | -                     |
| TETRACHLOROETHENE                 | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |
| TRICHLOROETHENE                   | 524.2  | µg/L | 0.5  | <0.5                | 0.4J                  | 0.5                   |
| 112TRICHLORO-122TRIFLUOROETHANE   | 524.2  | µg/L | 0.5  | <0.5                | <0.5                  | <0.5                  |

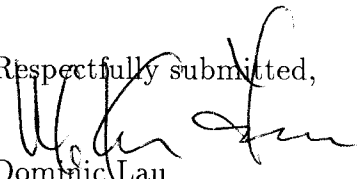
| Component Analyzed   | Method | Unit | PQL  | Analysis Result       |                       |                       |                     |
|----------------------|--------|------|------|-----------------------|-----------------------|-----------------------|---------------------|
|                      |        |      |      | MW-11-3<br>02-01355-4 | MW-11-4<br>02-01355-5 | MW-11-5<br>02-01355-6 | TB-11<br>02-01355-7 |
| <b>ARSENIC</b>       | 200.9  | µg/L | 5    | 2.5J                  | <5                    | 5.0                   | -                   |
| <b>CHROMIUM (VI)</b> | 7196   | mg/L | 0.01 | <0.01                 | <0.01                 | <0.01                 | -                   |
| Dilution Factor      |        |      |      | 1                     | 1                     | 1                     | 1                   |
| <b>PERCHLORATE</b>   | E314   | µg/L | 4    | <4                    | <4                    | <4                    | -                   |

| Component Analyzed                | Method | Unit | PQL | Analysis Result       |                       |                       |                     |
|-----------------------------------|--------|------|-----|-----------------------|-----------------------|-----------------------|---------------------|
|                                   |        |      |     | MW-11-3<br>02-01355-4 | MW-11-4<br>02-01355-5 | MW-11-5<br>02-01355-6 | TB-11<br>02-01355-7 |
| <b>VOLATILE ORGANIC COMPOUNDS</b> |        |      |     |                       |                       |                       |                     |
| Dilution Factor                   |        |      |     | 1                     | 1                     | 1                     | 1                   |
| CARBON TETRACHLORIDE              | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |
| CHLOROFORM                        | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |
| 1,1-DICHLOROETHANE                | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |
| 1,2-DICHLOROETHANE                | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |
| 1,1-DICHLOROETHENE                | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |

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| Component Analyzed              | Method | Unit | PQL | Analysis Result       |                       |                       |                     |
|---------------------------------|--------|------|-----|-----------------------|-----------------------|-----------------------|---------------------|
|                                 |        |      |     | MW-11-3<br>02-01355-4 | MW-11-4<br>02-01355-5 | MW-11-5<br>02-01355-6 | TB-11<br>02-01355-7 |
| METHYLENE CHLORIDE              | 524.2  | µg/L | 1   | -                     | 0.8J                  | -                     | 1J                  |
| TETRACHLOROETHENE               | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |
| TRICHLOROETHENE                 | 524.2  | µg/L | 0.5 | 0.7                   | 0.5J                  | 0.5J                  | <0.5                |
| 112TRICHLORO-122TRIFLUOROETHANE | 524.2  | µg/L | 0.5 | <0.5                  | <0.5                  | <0.5                  | <0.5                |

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit  
 N.D.: Not Detected or less than the practical quantitation limit. ".": Analysis is not required.  
 J: Reported between PQL and MDL.  
 Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0  
 (a) Calculated from alkalinity result by EPA 310.1

Respectfully submitted,  
  
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 Laboratory Director  
 Applied P & Ch Laboratory