

# SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR ARROW RENTALS LIVERMORE, CALIFORNIA

**APRIL 2000** 

Prepared for: Don-Sul Inc. 187 North L Street Livermore, California 94607

Date Prepared: July 31, 2000

By: Environmental Sampling Services and Aquifer Sciences, Inc.







Dear Eva

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Sencerely (Z+)

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June 30, 2000 971275



Rita Sullins Don-Sul, Inc. 187 North L Street Livermore, CA 94550

Subject: Semi-Annual Groundwater Monitoring, April 2000

187 North L Street, Livermore, California

Dear Ms. Sullins:

Groundwater monitoring was conducted in April 2000 at the Arrow Rentals site, located at 187 North L Street in Livermore, California. This report presents the groundwater measurement and sampling procedures, evaluation of hydrogeologic data, and the results of laboratory analyses.

## MEASUREMENT AND SAMPLING PROCEDURES

On April 5, 2000, groundwater monitoring was performed at the site by Environmental Sampling Services of Martinez, California. The locations of the groundwater monitoring wells are illustrated on Figure 1. Sampling procedures and measurements are described in the field activity report, included in Appendix A.

Prior to sampling, the depth of static groundwater was measured in all four wells (W-1s, W-3s, W-Bs, and W-Es) to the nearest 0.01 foot using an electrical water level recorder. The interface probe was washed using a Liqui-Nox® detergent solution, rinsed with potable water, and rinsed with distilled water. Groundwater elevation data for each well are listed in Table 1. The potentiometric surface corresponding to groundwater elevations measured on October 5, 1999, is shown on Figure 2.

Three of the wells (W-1s, W-3s, and W-Bs) were purged and sampled after the static water level measurements were recorded. At least three casing volumes of groundwater were removed from each well prior to sampling. Each well was purged using a submersible pump or disposable bailer. Purge water from the monitoring wells was stored in labeled 55-gallon drums, pending the analytical results.

Water quality parameters (pH, specific conductance, temperature, turbidity, color, and odor) were recorded at regular intervals during well purging. Water quality parameters for the three

wells were recorded in the sampling logs. Copies of the well sampling logs are included in Appendix A.

Groundwater samples were collected from each well using new disposable bailers. Groundwater samples were collected in clean bottles supplied by the analytical laboratory, labeled, stored on ice in a cooler, and transported under chain-of-custody protocol within 24 hours of collection to Columbia Analytical Services, a California-certified laboratory located in Santa Clara, California. A travel blank was prepared by the laboratory and accompanied the groundwater samples for quality assurance purposes.

The groundwater samples were analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-gasoline) by EPA Method 8015 Modified; total petroleum hydrocarbons quantified as diesel (TPH-diesel) by EPA Method 8015 Modified with a silica gel cleanup; benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA Method 8020; methyl tertiary butyl ether (MTBE) by EPA Method 8020 Modified; and for polynuclear aromatic hydrocarbons (PNAs) by EPA Method 8270. The travel blank was analyzed for gasoline by EPA Method 8015 Modified, BTEX by EPA Method 8020, and MTBE by EPA Method 8020 Modified.

#### HYDROGEOLOGIC DATA EVALUATION

Groundwater elevations in the four monitoring wells ranged from 448.04 feet in well W-Es to 453.77 feet in well W-Bs. The groundwater levels measured in April 2000 were approximately 7 feet higher than those measured in October 1999. Based upon measurements recorded on April 5, 2000, groundwater generally flows to the west-southwest under a hydraulic gradient of approximately 0.019 ft/ft (Figure 2).

## RESULTS OF LABORATORY ANALYSES

Results of laboratory analyses for groundwater samples collected from the wells in April 2000 are summarized in Table 2. The laboratory report and chain-of-custody documentation are included in Appendix B.

Gasoline was detected in the groundwater samples collected from all three wells (W-1s, W-3s, and W-Bs) at concentrations ranging from 810 to 47,000 µg/L. TPH-diesel was detected in the groundwater samples collected from all three wells at 320 to 15,000 µg/L. Benzene was detected in the samples collected from all three wells at concentrations ranging from 150 to 4,300 µg/L. These concentrations exceeded the Maximum Contaminant Level (MCL) of 1 µg/L, established for benzene in drinking water. Toluene (up to 2,300 µg/L), ethylbenzene (up to 1,500 µg/L), and xylenes (up to 6,100 µg/L) were detected in the samples collected from wells W-1s, W-3s, and W-Bs. The concentrations of toluene, ethylbenzene, and xylenes in wells W-1s and W-Bs exceeded their respective MCLs. MTBE was detected in the sample collected from well W-1s at

170  $\mu$ g/L. The MCL for MTBE is 5  $\mu$ g/L. MTBE was not detected in the sample collected from well W-3s. Although MTBE was not detected in the sample collected from W-Bs, the laboratory detection limit was elevated due to high concentrations of gasoline and BTEX. Benzene was detected at 1.8  $\mu$ g/L in the travel blank.

Well W-1s contained naphthalene at 330  $\mu$ g/L and 2-methylnaphthalene at 110  $\mu$ g/L. Well W-Bs contained naphthalene at 280  $\mu$ g/L and 2-methylnaphthalene at 68  $\mu$ g/L. MCLs have not been established for naphthalene and 2-methylnaphthalene. No other PNAs were detected in the samples collected from wells W-1s and W-Bs. No PNAs were detected in well W-3s.

#### SUMMARY AND CONCLUSIONS

Table 3 presents a summary of the results of laboratory analyses performed on groundwater samples collected from wells at the site since March 1996. High levels of gasoline, diesel, BTEX, and MTBE have been consistently detected in groundwater samples collected from wells W-1s and W-Bs. Low levels of gasoline, diesel, BTEX, and MTBE have also been detected in samples collected from wells W-3s and W-Es. Fluctuations in the concentrations of gasoline, diesel, and BTEX in groundwater samples collected from these wells may be related to seasonal variations in groundwater elevations and the groundwater flow direction. The direction of groundwater flow beneath the site has varied over time from southwest to west-northwest.

Please call us if you have any questions concerning this report.

Respectfully yours,

Thomas E. Neely, REA

Hydrogeologist

Attachments

Rebecca A. Sterbentz, RG, CHG, REA

President



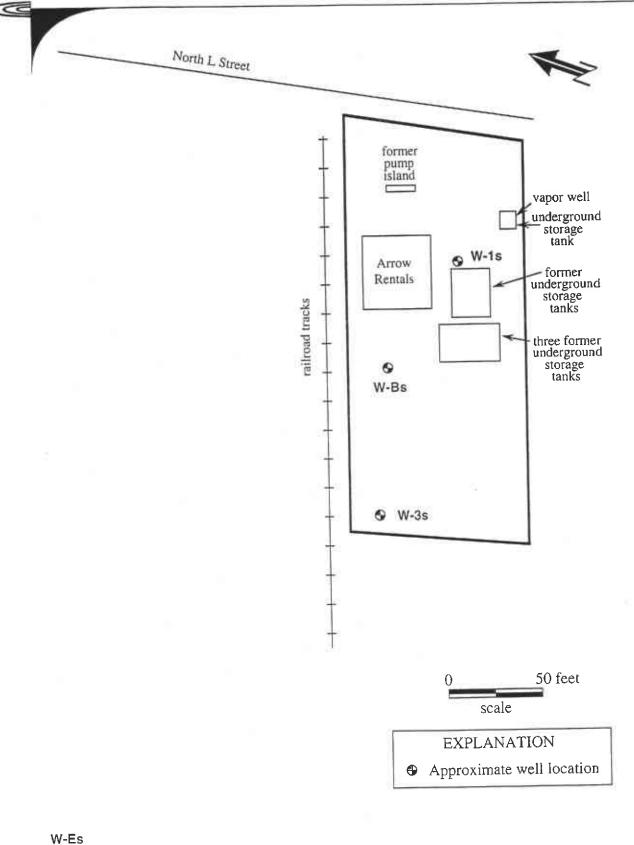


Figure 1. SITE MAP

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187 North L Street, Livermore, California

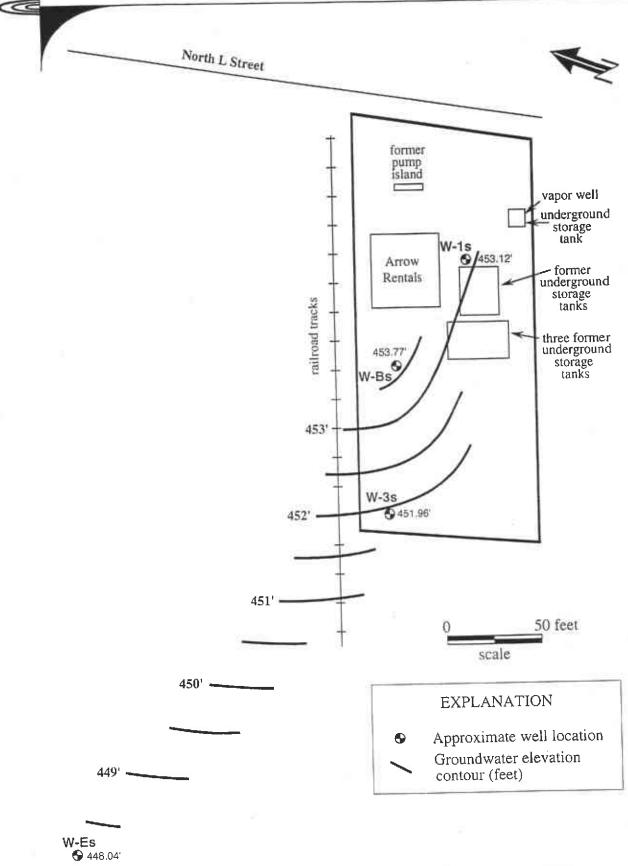


Figure 2. POTENTIOMETRIC SURFACE MAP (4/5/00) 187 North L Street, Livermore, California

Table 1. GROUNDWATER ELEVATION DATA 187 North L Street, Livermore, California April 5, 2000

| Well Number | Top of Casing Elevation (feet above MSL) | Depth to Water<br>(feet below TOC) | Water Elevation<br>(feet above MSL) |
|-------------|--|------------------------------------|-------------------------------------|
| W-1s        | 479.09                                   | 25.97                              | 453.12                              |
| W-3s        | 476.98                                   | 25.02                              | 451.96                              |
| W-Bs        | 478.82                                   | 25.05                              | 453.77                              |
| W-Es        | 474.66                                   | 26.62                              | 448.04                              |

MSL = mean sea level (elevations based on City of Livermore datum)

TOC = top of PVC casing

Table 2. GROUNDWATER ANALYTICAL RESULTS 187 North L Street, Livermore, California April 5, 2000

| Well<br>Number | TPH-<br>gasoline<br>(µg/L) | TPH-<br>diesel<br>(µg/L) | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethyl-<br>benzene<br>(µg/L) | Total<br>Xylenes<br>(µg/L) | MTBE<br>(μg/L) | Naphthalene<br>(µg/L) | 2-Methyl-<br>naphthalene<br>(µg/L) |
|----------------|----------------------------|--------------------------|-------------------|-------------------|-----------------------------|----------------------------|----------------|-----------------------|------------------------------------|
| W-1s           | 47,000                     | 15,000*                  | 4,300             | 2,300             | 1,500                       | 6,100                      | 170            | 330                   | 110                                |
| W-3s           | 810                        | 320*                     | 150               | 3.0               | 9.0                         | 5.7                        | ND             | ND                    | ND                                 |
| W-Bs           | 34,000                     | 9,600*                   | 3,500             | 1,200             | 1,400                       | 4,700                      | <150           | 280                   | 68                                 |
| W-Es           | NS                         | NS                       | NS                | NS                | NS                          | NS                         | NS             | NS                    | NS                                 |
| Travel Blank   | ND                         | NA                       | 1.8               | ND                | ND                          | ND                         | ND             | NA                    | NA                                 |
| MDL            | 50-5,000                   | 50-5,000                 | 0.5-50            | 0.5-50            | 0.5-50                      | 1,0-100                    | 3-300          | 50                    | 50                                 |
| MCL            | NE                         | NE                       | 1                 | 150               | 700                         | 1,750                      | 5              | NE                    | NE                                 |

μg/L = micrograms per liter [parts per billion (ppb)]

NA = not analyzed

NE = none established

TPH-gasoline = total petroleum hydrocarbons quantified as gasoline

TPH-diesel = total petroleum hydrocarbons quantified as diesel

MTBE = methyl tertiary butyl ether

MDL = method detection limit

MCL = Maximum Contaminant Level, January 1999

\* The sample contained a lower boiling point mixture of hydrocarbons quantitated as diesel.

† The MRL was elevated due to high analyte concentration requiring sample dilution.

Table 3. SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER 187 North L Street, Livermore, California

| Well<br>Number | Date<br>Sampled | TPH-<br>gasoline<br>(µg/L) | TPH-<br>diesel<br>(µg/L) | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethyl-<br>benzene<br>(µg/L) | Total<br>Xylenes<br>(µg/L) | MTBE<br>(μg/L) | Lead<br>(µg/L) | Naphthalene<br>(µg/L) | 2-Methyl-<br>naphthalene<br>(µg/L) |
|----------------|-----------------|----------------------------|--------------------------|-------------------|-------------------|-----------------------------|----------------------------|----------------|----------------|-----------------------|------------------------------------|
|                |                 |                            |                          | 580               | 470               | 85                          | 1,100                      | < 500          | NA-            | NA                    | NA                                 |
| W-1s           | 3/22/96         | 6,400                      | NA                       | 13,000            | 18,000            | 3,500                       | 18,000                     | < 10,000       | NA             | NA                    | NA                                 |
| W-1s           | 11/22/96        | 170,000                    | NA                       | 12,000            | 12,000            | 2,600                       | 16,000                     | < 800          | NA             | NA                    | NA                                 |
| W-1s           | 7/15/97         | 140,000                    | 38,000*†                 | •                 | 19,000            | 7,800                       | 35,000                     | < 3,000        | NA             | NA                    | NA                                 |
| W-1s           | 10/29/97        | 650,000                    | 180,000‡                 | 14,000            | 250               | 7,000                       | 870                        | < 30           | < 5            | NA                    | NA                                 |
| W-1s           | 4/27/98         | 6,700                      | 2,200§                   | 410               | 9,400             | 1,800                       | 11,000                     | < 600          | NA             | NA                    | NA                                 |
| W-1s           | 10/23/98        | 99,000                     | 18,000§                  | 9,800             | 7,000             | 1,800                       | 8,900                      | 360            | NA             | 330                   | ND                                 |
| W-1s           | 4/9/99          | 70,000                     | 24,000                   | 6,500             | 4,500             | 2,500                       | 14,000                     | < 300          | NA             | 510                   | 280                                |
| W-1s           | 10/5/99         | 82,000                     | 60,000***                | 5,500             |                   | 1,500                       | 6,100                      | 170            | NA             | 330                   | 110                                |
| W-1s           | 4/5/00          | 47,000                     | 15,000***                | 4,300             | 2,300             | 1,500                       | 0,100                      | -,-            | _              |                       |                                    |
|                |                 |                            |                          | 10                | 6.9               | 5.3                         | 14                         | < 5            | NA             | NA                    | NA                                 |
| W-3s           | 3/22/96         | 100                        | NA                       | 13                |                   | 63.0                        | 100                        | < 100          | NA             | NA                    | NA                                 |
| W-3s           | 11/22/96        | 3,200                      | NA                       | 270               | 29.0              | 33                          | 51                         | < 20           | NA             | NA                    | NA                                 |
| W-3s           | 7/15/97         | 2,100                      | 340**†                   | 230               | 7                 | 71                          | 69                         | < 30           | NA             | NA                    | NA                                 |
| W-3s           | 10/29/97        | 2,800                      | 750††                    | 630               | 31                |                             | < 0.5                      | < 3            | NA             | NA                    | NA                                 |
| W-3s           | 4/27/98         | < 50                       | < 50                     | < 0.5             | < 0.5             | < 0.5<br>90                 | 37                         | 35             | NA             | NA                    | NA                                 |
| W-3s           | 10/23/98        | 3,800                      | 1,000§                   | 500               | 28                | 90<br>37                    | 3                          | < 12           | NA             | NA                    | NA ·                               |
| W-3s           | 4/9/99          | 980                        | 430                      | 240               | 4                 | 53                          | 9.8                        | < 6            | NA             | NA                    | NA                                 |
| W-3s           | 10/5/99         | 1,500                      | 1,000*** †††             | 290               | 9.5               |                             | 5.7                        | ND             | NA             | ND                    | ND                                 |
| W-3s           | 4/5/00          | 810                        | 320***                   | 150               | 3.0               | 9.0                         | 5.1                        | עאָו           | WA             |                       |                                    |
|                |                 |                            |                          | 0.000             | 8,000             | 2,200                       | 11,000                     | < 5,000        | NA             | NA                    | NA                                 |
| W-Bs           | 3/22/96         | 61,000                     | NA                       | 9,800             | -                 | 1,400                       | 7,800                      | < 2,500        | NA             | NA                    | NA                                 |
| W-Bs           | 11/22/96        | 47,000                     | NA                       | 5,100             | 3,100             |                             | 10,000                     | < 600          | NA             | NA                    | NA                                 |
| W-Bs           | 7/15/97         | 66,000                     | 17,000‡‡†                | 7,800             | 4,900             | 1,500                       | 6,400                      | 380            | NA             | NA                    | NA                                 |
| W-Bs           | 10/29/97        | 44,000                     | 27,000§§                 | 6,000             | 500               | •                           | 9,100                      | < 600          | NA             | NA                    | NA                                 |
| W-Bs           | 4/27/98         | 63,000                     | 17,000§                  | 6,100             | 5,400             | 1,900                       | 6,200                      | < 300          | NA             | NA                    | NA                                 |
| W-Bs           | 10/23/98        | 48,000                     | 9,600§                   | 6,700             |                   |                             | -                          | < 300          | NA             | NA                    | NA                                 |
| W-Bs           | 4/9/99          | 39,000                     | 12,000                   |                   | _                 |                             | 5,600                      |                | NA             | NA.                   | NA                                 |
| W-Bs           | 10/5/99         | 38,000                     | 7,300***                 |                   |                   |                             | 5,900                      |                | NA<br>NA       | 280                   | 68                                 |
| W-Bs           | 4/5/00          | 34,000                     |                          | 3,500             | 1,200             | 1,400                       | 4,700                      | <130           | 1147           | 200                   |                                    |

# Table 3 (continued). SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER 187 North L Street, Livermore, California

| Well<br>Number | Date<br>Sampled | TPH-<br>gasoline<br>(µg/L) | TPH-<br>diesel<br>(µg/L) | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethyl-<br>benzene<br>(µg/L) | Total<br>Xylenes<br>(µg/L) | MTBE<br>(μg/L) | Lead<br>(µg/L) | Naphthalene<br>(µg/L) | 2-Methyl-<br>naphthalene<br>(µg/L) |
|----------------|-----------------|----------------------------|--------------------------|-------------------|-------------------|-----------------------------|----------------------------|----------------|----------------|-----------------------|------------------------------------|
|                |                 |                            |                          | 0.5               | .0.5              | -05                         | < 0.5                      | < 5            | NA             | NA                    | NA                                 |
| W-Es           | 3/22/96         | < 50                       | NA                       | < 0.5             | < 0.5             | < 0.5                       |                            | < 5            |                | NA<br>NA              | NA                                 |
| W-Es           | 11/22/96        | 280                        | NA                       | 24                | 0.6               | 1.8                         | 2.2                        |                | NA             |                       | NA<br>NA                           |
| W-Es           | 10/23/98        | 82                         | 69§                      | < 0.5             | 0.8               | < 0.5                       | 0.8                        | 4              | NA             | NA                    |                                    |
| W-Es           | 4/5/00          | NS                         | NS                       | NS                | NS                | NS                          | NS                         | NS             | NS             | NS                    | NS                                 |
| W-Es           | 10/5/99         | 68                         | 88***                    | < 0.5             | < 0.5             | < 0.5                       | < 1.0                      | 4              | NA             | NA                    | NA                                 |
| Travel Blank   | 7/15/97         | < 50                       | NA.                      | < 0.5             | < 0.5             | < 0.5                       | < 0.5                      | <3             | NA             | NA                    | NA                                 |
| Travel Blank   | 10/29/97        | < 50                       | NA NA                    | < 0.5             | < 0.5             | < 0.5                       | < 0.5                      | < 3            | NA             | NA .                  | NA                                 |
|                | 4/27/98         | < 50                       | NA                       | < 0.5             | < 0.5             | < 0.5                       | < 0.5                      | < 3            | NA             | NA                    | NA                                 |
| Travel Blank   | • -             |                            |                          | < 0.5             | < 0.5             | < 0.5                       | < 0.5                      | < 3            | NA             | NA                    | NA                                 |
| Travel Blank   | 10/23/98        | < 50                       | NA                       | < 0.5             | < 0.5             | < 0.5                       | < 0.5                      | < 3            | NA             | NA                    | NA                                 |
| Travel Blank   | 4/9/99          | < 50                       | NA                       |                   | < 0.5             | < 0.5                       | < 1.0                      | < 3            | NA             | NA                    | NA                                 |
| Travel Blank   | 10/5/99         | < 50                       | NA                       | < 0.5             |                   |                             | ND                         | ND             | NA             | NA                    | NA                                 |
| Travel Blank   | 4/5/00          | ND                         | NA                       | 1.8               | ND                | ND                          | ND                         | ND             | М              | 1111                  |                                    |
| MCL            |                 | NE                         | NE                       | 1                 | 150               | 700                         | 1,750                      | 5              | 50             | NE                    | NE                                 |
| AL             |                 | NE                         | NE                       | NE                | NE                | NE                          | NE                         | 35             | 15             | NE                    | NE                                 |

ng/L = micrograms per liter [parts per billion (ppb)]

NA = not analyzed

NE = none established

TPH-gasoline = total petroleum hydrocarbons quantified as gasoline

TPH-diesel = total petroleum hydrocarbons quantified as diesel

MTBE = methyl tertiary butyl ether

MCL = Maximum Contaminant Level, January 1999

AL = Action Level, January 1999

\* Sample contained heavy oil at 3,000 µg/L

† The method blank contained heavy oil at 120 µg/L

- ‡ Sample contained heavy oil at 1,600 µg/L
- § The chromatogram does not match the typical diesel pattern
- \*\* Sample contained heavy oil at 740 µg/L
- †† Sample contained heavy oil at 88 µg/L
- ‡‡ Sample contained heavy oil at 490 μg/L
- §§ Sample contained heavy oil at 4,000 µg/L
- \*\*\* The sample contained a lower boiling point mixture of hydrocarbons quantitated as diesel.
- ††† The sample contained a higher boiling point hydrocarbon mixture quantitated as diesel.

  The chromatogram does not match the typical diesel fingerprint.



# FIELD ACTIVITY REPORT FOR SEMI-ANNUAL GROUNDWATER MONITORING EVENT ARROW RENTALS, LIVERMORE, CALIFORNIA

ESS Personnel: Jacki Lee and Steve Penman Duration of Activities: April 5, 2000

#### **Decontamination Procedures**

All downhole equipment was cleaned with a solution of Liqui-Nox® laboratory-grade detergent and potable water, rinsed with potable water, followed by a final rinse with distilled water.

#### Water Level Measurements

A total of four (4) monitoring wells were measured for static water level. All readings were performed with Solinst® electrical water level indicator (Table 1). Water level measurements were referenced to the surveyor's mark (a black mark on the top of well casing).

#### Field Equipment Calibration

All field measurements were performed in accordance with the instruments' calibration and operating procedures. Field measurements included: pH, specific conductance, turbidity, and temperature.

#### Field Activities

Friday, April 5, 2000: Well evacuation and monitoring of groundwater quality parameters for three (3) monitoring wells were performed. A minimum removal of three casing volumes and stabilization of water quality parameters were required prior to sampling. All wells were sampled for the following analyses: EPA Method 8015M (TPH (Gasoline)/BTEX, and MTBE), TPH (Diesel), and PNAs.

All wells were sampled with disposable bailers. Columbia Analytical Laboratories supplied all sample containers and packing material and performed all required analyses. All samples were properly preserved according to analysis.

#### QA/QC

Trip blanks for EPA Method 8015M were supplied and remained in the cooler containing all sample containers. No other QA/QC samples were required nor requested.



All work was performed under satisfactory workmanship and according to the Alameda County Health and Care Services' directive, dated October 8, 1997, March 15, 1999, and January 10, 2000.

Jacqueline Lee

President

Attachment Table 1 Water Sample Log Sheets

Chain of Custody



#### TABLE 1: SUMMARY OF WATER LEVEL MEASUREMENTS ARROW RENTAL LIVERMORE, CALIFORNIA

| WELL IDENTIFICATION | DEPTH TO<br>GROUNDWATER (ft., TOC)<br>(Measured April 5, 2000) | WELL<br>DEPTH<br>(ft., TOC) |  |
|---------------------|--|-----------------------------|--|
| W-1s                | 25.97  | 44.64                       |  |
| W-Bs                | 25.05  | 44.47                       |  |
| W-3s                | 25.02  | 44.76                       |  |
| W-Es                | 26.62  | 44.32                       |  |

TOC = Top of well casing



| WATER QUALITY SAMPLE LOG SHEET WELL IDENTIFICATION: W-1s DATE: 4/5/2000  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
|--|------------------|-------------------------|---|-----------|-----------------|----------------|-------------|------------------|-----------------------|--|--|--|
| Proje  | ect Na           | ame: <u>Arr</u>         | ow Rentals - Li   | vermore   | , CA            | Project Task:  | Semi-Ann    | ual Ground       | water Monitoring      |  |  |  |
| Weather Conditions: 5.mm ~65°4; H. ciros   |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
|  |                  |                         | 75" 2" 3" 4   |           |                 |                |             |                  | Other:                |  |  |  |
|  |                  |                         | No Bolt 8   | Size      | 5/16"           | Type of lock / | Lock num    | nber: <u>Mas</u> |                       |  |  |  |
| Observations / Comments:   |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| Purge Method: Teflon / PVC Disposable Bailer Peristaltic Pump GrundFos Redi-flow Other:  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| Pump Lines: NA New / Cleaned / Dedicated Bailer Line: NA New / Cleaned / Dedicated   |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| Method of Cleaning Pump: NA Alconox Liqui-Nox Tap Water DI Rinse Other:  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| Method of Cleaning Bailer: NA Alconox Liqui-Nox Tap Water DI Rinse Other: well water Rinse.  Sampling Method: Disp. Teflon Bailer Disp. PVC Baile GrundFos Redi-flow Pump Other: |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| 1  |                  |                         | ا المامان الم |           | ·               | <del></del>    |             |                  |                       |  |  |  |
| Dota   | /leter           | Seriai No<br>o Colibrot | ).: 21/254 /<br>ed: <b>4/2/24 = 2</b>   | (4 7 10   | ) @ 25°C        | Spec Cond. M   | ieter Calib | ration: Set      | f Test Other:         |  |  |  |
| Meth   | a cimi<br>nad ta | e Calibrat<br>Measure   | e Water Level   | Solinst   | Serial No.      | : Ow Interface | P.I.D. R    | eading: N        | IA ppm @ Well Head    |  |  |  |
| 1  |                  |                         | rt (DTW):25   |           |                 | •              |             |                  |                       |  |  |  |
|  |                  |                         |   |           |                 |                |             |                  | = <u>81.7</u> (Gals.) |  |  |  |
|  | "k" = .          | .023(.75" v             | vell) "K"= 0.16   | 3(2" well | ) "K" = 0.      | 653(4" well) " | K" = 1.02(5 | 5" well)         | " = 1.46(6" well)     |  |  |  |
|  |                  |                         |   | FIELD V   | VATER Q         | UALITY PARA    | METERS      |                  |                       |  |  |  |
| FIELD WATER QUALITY PARAMETERS  Specific  Date Time Discharge pH Temp. Conductance Turbidity Color Comments  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| "  | ate              | Time                    | Discharge<br>(Gallons)  | pН        | Temp.<br>(°C)   | mS (uS)        | Turbluity   | 000              | Continonts            |  |  |  |
| 4/5  | 5/00             | 12:38                   | 10  | 6.95      | 20.5            | 658            | 5.0         | clear            | ·                     |  |  |  |
|  | \                | 15:40                   | 20  | 691       | 20.4            | 682            | 4.17        | High of<br>gray  |                       |  |  |  |
|  |                  | 12:44                   | 30  | 6.89      | 20.6            | 687            | 4.17        | ee (             |                       |  |  |  |
|  |                  | 12:47                   | 40  | 6.89      | 20.5            | 679            | 4.28        | £1               |                       |  |  |  |
|  |                  | 2:50                    | 50  | 6.88      | 20.6            | 686            | 13.7        | ų                | Octing recover        |  |  |  |
|  | <u> </u>         | 12:57                   | 60  |           |                 |                | 27.1        | et tan<br>clouby | 2                     |  |  |  |
|  |                  |                         |   | 6.89      | 20.9            | 660            |             | clear but        |                       |  |  |  |
|  |                  | 13:05                   | 70  | 6.94      | 21.2            | 670            | 10.0        | slig, cldy.      |                       |  |  |  |
| H  |                  | 13:13                   |   | 6.92      | · ·             | 645            | 6.5         | 14               | <u> </u>              |  |  |  |
| -  | <u>/</u>         |                         | After Sampling  |           | 21.0            | 691            | 12.5        | 3                | ۲۸ ۲۸                 |  |  |  |
|  |                  |                         | <u> </u>  |           | EE Callon       | Casing Volum   |             |                  | stem Other:           |  |  |  |
|  |                  | -                       |   |           |                 |                |             |                  | BTEX, MTBE (3-40ml-   |  |  |  |
|  |                  |                         | Hd (2, 1 Liter G  |           |                 |                |             |                  |                       |  |  |  |
|  |                  |                         | @   |           |                 |                |             |                  |                       |  |  |  |
| Comments:  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
|  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
|  |                  |                         |   |           |                 |                |             |                  |                       |  |  |  |
| Sar  | npled            | By: <u>Jac</u>          | <u>ki Lee / Stephe</u>  | n Penm    | <u>an</u> Signa | ture(s):       | LXD         |                  | <u> </u>              |  |  |  |



| WA <sup>-</sup>  | TER   | QUALIT                     | Y SAMPLE L                | OG SHI          |                 |                  |                 |                          | s DATE: 4/5/2000       |  |  |  |  |
|--|---|----------------------------|---------------------------|-----------------|-----------------|------------------|-----------------|--------------------------|------------------------|--|--|--|--|
| Project Name: Arrow Rentals - Livermore, CA Project Task: Semi-Annual Groundwater Monitoring   |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| Weather Conditions: Sunny ~65°F; Hi Cirws  |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| Well   | Desc  | cription: .                | .75" 2" 3" 4              | " 5" 6          |                 | Well Type:       |                 |                          |                        |  |  |  |  |
| ls W   | ell Se  | ecured? 🍾                  | es/ No Bolt s             | Size <u>I</u> S | 160             | Type of lock /   | Lock num        | iber: 🖊 🖊                | <u>Na ster</u>         |  |  |  |  |
| l  |   |                            | nments:                   |                 |                 |                  |                 |                          | <del> </del>           |  |  |  |  |
| Purg   | Purge Method: Teflon / PVC Disposable Bailer Peristaltic Pump GrundFos Redi-flow Other: |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
|  | Pump Lines: NA New / Cleaned (Dedicated) Bailer Line: NA (New / Cleaned / Dedicated     |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| Method of Cleaning Pump: NA Alconox Liqui-Nox Tap Water DI Rinse Other:<br>Method of Cleaning Bailer: NA Alconox Liqui-Nox Tap Water DI Rinse Other: <u>Well Water Rinse</u> |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
|  |   |                            | -                         |                 |                 |                  |                 |                          |                        |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          | Other:                 |  |  |  |  |
| рН М   | ∕leter  | Serial No                  | o.: 217254 /              | 330089          | )               | Spec. Cond. N    | fleter Seria    | al No.: <b>9</b> 6H      | 0203AB / AE            |  |  |  |  |
| Date   | /Tim  | e Calibrat                 | ted: <u>/5/60/* 91:35</u> | 7 10            | @ 25°C)         | Spec.Cond. M     | eter Calib      | ration: <u>Sel</u>       | f Test) Other:         |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          | IA_ppm @ Well Head     |  |  |  |  |
| Wat  | er Le   | vel at Sta                 | irt (DTW):2               | 5.0521          | <b>0:여</b> Wate | er Level Prior T | Γο Sampliı<br>- | ng:2 <u></u> _           | 63                     |  |  |  |  |
| TD =   | 44.4  | 7 -25.05                   | (DTW) = 19.42             | (ft.of wa       | ter) x "K" =    | 28.3 (Gals./C    | V) x <u>3</u>   | (No. of CV)              | = <u>85.05</u> (Gals.) |  |  |  |  |
|  | "k" = .   | .023(.75" v                |                           |                 |                 |                  | ~               |                          | " = 1.46(6" well)      |  |  |  |  |
| L_   |   |                            |                           | FIELD V         | VAIERQ          | UALITY PARA      | MEIEKS          |                          |                        |  |  |  |  |
| Date Time Discharge pH Temp. Conductance Turbidity Color Comments (Gallons) (°C) mS (uS)   |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| 4/5  | 5/00  | 11:34                      | 15                        | 7.06            | 20.             | 559              | 6.08            | clear                    | Act. oder              |  |  |  |  |
|  |   | 11:43                      | 30                        | 7.00            | 20.2            | 554              | 5.04            | <i>H</i>                 | ., *                   |  |  |  |  |
|  |   | ~11:97<br><del>11:52</del> | યડ                        | 6.97            | 19.9            | 555              | 8.05            | clear                    |                        |  |  |  |  |
|  |   | 11:52                      | 60                        | 6.95            | 20              | 556              | 14.2            | clear but<br>slightly ch | ude " "                |  |  |  |  |
|  |   | 11:55                      | 75                        | 6.95            | 19.9            | 545              | 19.6            | **                       |                        |  |  |  |  |
|  | 1   | 11:56                      | 86                        | 6.98            | 20.2            | 556              | 73.5            | и                        | a 4                    |  |  |  |  |
| $\vdash$   | -   | 11.36                      |                           | 0.10            | KD-W            | 756              | 7 3. 5          |                          |                        |  |  |  |  |
| -  | <del>-</del>  |                            |                           |                 | =               |                  |                 |                          |                        |  |  |  |  |
|  | 1   | 12000                      | After Ornerise            | c 90            | 20.4            | 558              | 24.6            | 4.                       | os #1                  |  |  |  |  |
| <u> </u>   | <b>Ψ</b>  |                            | After Sampling            |                 | 20.7            | Casing Volum     | <del></del>     | rod: 3                   | N3                     |  |  |  |  |
|  |   |                            | ga                        |                 | 45 Gallon       |                  |                 |                          | stem Other:            |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          | BTEX, MTBE (3-40ml-    |  |  |  |  |
|  |   | •                          | Hd (2, 1 Liter G          |                 |                 |                  | _               |                          |                        |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| QA/QC: None @ —— as an Equipment Blank Blind Duplicate MS/MSD Field Blank Comments: as an Equipment Blank  |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
|  |   |                            |                           |                 |                 |                  |                 |                          |                        |  |  |  |  |
| Sar  | npled   | By: Jac                    | ki Lee / Stephe           | n Penm          | an Signa        | ture(s).         | C A             | <del>1122/</del>         | <u> </u>               |  |  |  |  |



| WA   | WATER QUALITY SAMPLE LOG SHEET WELL IDENTIFICATION: W-3s DATE: 4/5/2000 |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|--|---|-----------------|--------------------------------|----------------------|--------------|-----------------|---------------------------------|--------------------|-----------------------|--|--|--|
| Proje  | ect Na  | ame: <u>Arr</u> | ow Rentals - Li                | vermore              | <u>, CA</u>  | Project Task:   | Semi-Ann                        | ual Ground         | lwater Monitoring     |  |  |  |
| Weather Conditions:<br>Well Description: .75" 2" 3" (4") 5" 6" Well Type: (PV) Stainless Steel Other:  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|  |   |                 | es/No Bolt                     |                      | 4            |                 | Lock num                        | iber: <u>vio l</u> | ock                   |  |  |  |
| Observations / Comments: Well Cop is broken  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
| Purge Method: Teflon / PVC Disposable Bailed Peristaltic Pump GrundFos Redi-flow Other:  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
| Pump Lines: NA New / Cleaned / Dedicated Bailer Line: NA New / Cleaned / Dedicated   |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
| Method of Cleaning Pump: NA Alconox Liqui-Nox Tap Water DI Rinse Other:<br>Method of Cleaning Bailer: NA Alconox Liqui-Nox Tap Water DI Rinse Other: |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
| Sam  | pling   | Method:         | Disp. Teflon E                 | Bailer <b>Q</b>      | isp. PVC E   | Bailer GrundF   | os Redi-fl                      | ow Pump            | Other:                |  |  |  |
| рН М   | /leter  | Serial No       | o.: 217254 /                   | (330089              |              | Spec. Cond. N   | /leter Seria                    | al No.: ধ          | 10203AB/ AE           |  |  |  |
| Date   | /Tim  | e Calibrat      | ted: <del>4/5/00 2 9: 33</del> | 7 10                 | @ 25°C       | Spec.Cond. M    | leter Calib                     | ration: Sel        | f Test Other:         |  |  |  |
|  |   |                 |                                |                      |              |                 |                                 |                    | IA ppm @ Well Head    |  |  |  |
| Wat  | er Le   | vel at Sta      | ırt (DTW):                     | 5.02                 | Wate         | er Level Prior  | To Sampli                       | ng: <u>25,</u>     | 20                    |  |  |  |
| TD =   | 44.7  | <u> </u>        | (WTQ) = <b>17.74</b>           | (ft.of wa            | ter) x "K" = | /2.9 (Gals./C   | V) x <b>320</b>                 | (No. of CV)        | = <u>38.7</u> (Gals.) |  |  |  |
|  | "K" = .   | 023(.75" v      | vell) "K"= 0.16                |                      |              |                 |                                 |                    | " = 1.46(6" well)     |  |  |  |
|  |   |                 |                                | FIELD V              | WATER Q      | UALITY PARA     | METERS                          |                    | l'                    |  |  |  |
| Date Time Discharge pH Temp. Conductance Turbidity Color Comments  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|  |   |                 | (Gallons)                      |                      | (°C)         | mS (uS)         |                                 |                    |                       |  |  |  |
| 4/5  | 6/00  | 10:22           | 4.0                            | <del>7</del> .31     | 19.3         | 47.7            | B 350                           | BRN                |                       |  |  |  |
|  |   | 10:26           | 8.0                            | 7.24                 | 19.4         | 605             | 613                             | 4+                 |                       |  |  |  |
|  |   | (0:33           | 12.0                           | 7.22                 | (9.1         | 637             | 432                             | 4                  |                       |  |  |  |
|  |   | 10:43           | 20.0                           | 7.20                 | 19.4         | 599             | 370                             | 4                  |                       |  |  |  |
|  |   | 10:51           | 28.0                           | 7.24                 | 19.6         | 572             | 249                             | Lt bm              |                       |  |  |  |
| -  |   | "               |                                |                      |              |                 |                                 | ut tan             |                       |  |  |  |
| <u> </u>   |   | 11:00           | 37.0                           | 7.21                 | 19.6         | 584             | 101                             | <u>ы</u>           |                       |  |  |  |
| -  |   | 11:07           | 30.0                           | 7.31                 | 19.3         | 549             | 160                             |                    |                       |  |  |  |
|  |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
|  | <u>r</u>  | 11:15           | After Sampling                 | 7.26                 | 19.3         | 597             | 140                             | Lt tan             | _                     |  |  |  |
|  |   | charge: _       |                                |                      |              | Casing Volum    |                                 |                    |                       |  |  |  |
|  |   |                 | of discharged                  |                      |              |                 |                                 |                    |                       |  |  |  |
|  |   |                 |                                |                      |              |                 |                                 |                    | BTEX, MTBE (3-40ml-   |  |  |  |
|  |   |                 | Hd (2, 1 Liter C               | ass An               | Ders, Non-   | -Preserved); P  | NAS ( <u>2 -</u><br>1 Dunlicate | MS/MS              | nicers ''/P )         |  |  |  |
| QA/QC: None @ as an Equipment Blank Blind Duplicate MS/MSD Field Blank Comments:   |   |                 |                                |                      |              |                 |                                 |                    |                       |  |  |  |
| 1001   | 1111161   |                 | <del></del>                    |                      |              |                 |                                 | <del></del> -      |                       |  |  |  |
|  |   |                 |                                |                      |              | ···- <u>-</u> - |                                 |                    |                       |  |  |  |
| 207  | nnled   | I By: lec       | ki Lee / Stephe                | n Penm               | an Signe     | ture(s).        | 1/- 3                           | tus-               | ¥                     |  |  |  |
| Uai  | uhion   | y. <u>uau</u>   | LOU / OLOPITE                  | <u>, i i Ollilli</u> | wil Digita   |                 | <del></del>                     |                    |                       |  |  |  |



| WATER      | QUALIT   | Y SAMPLE L                                   | OG SH    | EET              | WELL IDENTIFICATION: W-Es DATE: 4/5/2000 |                  |                                       |                     |  |  |  |  |  |
|------------|--|--|----------|------------------|--|------------------|---------------------------------------|---------------------|--|--|--|--|--|
| Project Na | ame: <u>Arr</u>  | ow Rentals - Li                              | vermore  | e, CA            | Project Task:                            | Semi-Ann         | ual Ground                            | lwater Monitoring   |  |  |  |  |  |
|            |  | s:   |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       | Other:              |  |  |  |  |  |
|            |  |  |          |                  | Type of lock /                           | Lock num         | nber:                                 |                     |  |  |  |  |  |
| Observati  | ons / Cor  | mments:                                      |          |                  |  |                  |                                       |                     |  |  |  |  |  |
| U          |  | flon / PVC Dis <sub>l</sub><br>New / Cleaned |          |                  | •  |                  |                                       | Other:<br>edicated  |  |  |  |  |  |
| -          |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          | -                |  |                  |                                       |                     |  |  |  |  |  |
| Sampling   | Method:  | Disp. Teflon E                               | Bailer D | Disp. PVC I      | Bailer GrundF                            | os Redi-fl       | ow Pump                               | Other:              |  |  |  |  |  |
| pH Meter   | Serial No  | o.: <b>217254</b> /                          | 330089   | 9                | Spec. Cond. N                            | Aeter Seria      | al No.: 96H                           | 10203AB / AE        |  |  |  |  |  |
| Date/Tim   | e Calibra  | ted:   | _471     | 0 @ 25°C         | Spec.Cond. M                             | leter Calib      | ration: Self                          | f Test Other:       |  |  |  |  |  |
| Method to  | Measur   | e Water Level:                               | Solinst  | Serial No.       |  | _ P.I.D. R       | eading: <u>N</u>                      | IA_ppm @ Well Head  |  |  |  |  |  |
| Water Le   | vel at Sta   | art (DTW): _ <del></del>                     | 300      | Wat              | er Level Prior 1                         | Γο Sampli        | ng:                                   |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       | =(Gals.)            |  |  |  |  |  |
| "k" = .    | 023(.75" v   | well) "K"= 0.16                              |          |                  |  |                  |                                       | " = 1.46(6" well)   |  |  |  |  |  |
|            |  |  | FIELD '  | WATER Q          | UALITY PARA                              | METERS           |                                       |                     |  |  |  |  |  |
| Date       | Date Time Discharge pH Temp. Conductance Turbidity Color Comments (Gallons) (°C) mS uS |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
| 4/5/00     |  | NS   | THIS     | EVENT.           |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  | · · · · · · · · · · · · · · · · · · · |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
| <u> </u>   |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
| ļ <u>.</u> | <u> </u>   |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  | <u> </u>                                 |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  | After Sampling                               |          |                  |  |                  |                                       |                     |  |  |  |  |  |
| Total Dis  | charge:  | ga   |          |                  | Casing Volum                             | nes Remo         | ved:                                  |                     |  |  |  |  |  |
| Method o   | of disposa   | al of discharged                             | d water: |                  |  |                  |                                       | stem Other:         |  |  |  |  |  |
|            |  |  |          |                  |  | : <u>EPA 801</u> | 5M-TPHg/                              | BTEX, MTBE (3-40ml- |  |  |  |  |  |
|            |  | Hd (2, 1 Liter C                             |          |                  |  |                  |                                       | · _ ·               |  |  |  |  |  |
| 1          |  | @  |          |                  |  | d Duplicate      | e MS/MSE                              | ) Field Blank       |  |  |  |  |  |
| Commer     | nts:   |  |          | <del> </del>     |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  |  |                  |                                       |                     |  |  |  |  |  |
|            |  |  |          |                  | /-> a1 Å-                                | A                | 1//                                   | MEDITION            |  |  |  |  |  |
| Sampled    | By: <u>Jac</u>   | <u>ki Lee / Stephe</u>                       | n Penm   | <u>ian</u> Signa | ture(s): <u> </u> V#                     | AU               | Ψ                                     | sade 1              |  |  |  |  |  |



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

| 3334 Victor Court • Santa Cla    | c<br>ara CA 9505   | i4. • (408) 437  | -2400 • FAX (40B)  | 437-9356   |   | SÉR\                | /IČÉ F  | EQŲ                                     | ≛sf N          | lő. <u></u>                              | Server of the se |                                       | A PROPERTY COL      |                         | P.                        | Ô.#_             | ***                             |               |           |                         | _PA            | GE                          | OF  |
|----------------------------------|--|--|--|--|---|---------------------|---|---|----------------|--|--|---------------------------------------|---------------------|-------------------------|---------------------------|------------------|---------------------------------|---------------|-----------|-------------------------|----------------|-----------------------------|---|
| PROJECT NAME Arro                | [19] A.  | TOWN SHOW ST   |  |  | 1 2 4 4   | o de la composición |   | 2 / 1 / E                               |                | 4 14 14 14 14 14 14 14 14 14 14 14 14 14 | -1<br>10-000   | e e e e e e e e e e e e e e e e e e e |                     |                         |                           |                  | UEŜ                             |               |           | Litaa                   | 7              |                             |   |
|                                  |  |  | /taevista  |  |   | PRESE               | RVATIVE   | / HCL /                                 | / HCI          | / HCI /                                  | NP /   | NP /                                  | NP /                | HGL.                    | HCI /                     | HNU3             | NP/                             | H2SU4         | H25U4     | H2SU4                   | Mau H          | NP/                         |   |
| PROJECT MGR. Ster                |  | 나는 사람이 얼마를 살아가게  | <b>全国的发生的企业和企业的企业的企业</b>   |  | _   SE  |                     | ./  | 1                                       | 8 /            | <b>∟</b> /                               |  | 1                                     | 4                   | 1                       | H                         | * 15             | ح/ '                            | 1             | 1         | 1                       |                | 1                           | 11/   |
| COMPANY_ Envir                   | \$ 1. \$4.30 PM \$ 18  | (1) (1) (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4 | 👫 Nebu 🍓 e André Ville Litte 🕹   | To broke distant   | CONTAINERS  |                     | 1   | رَيْزُ الْحَ                            | ./ É           |  | 18   | 1                                     | I                   | '/g                     | //®                       | P                | J.E                             | 1:            | 1         | 1                       | 1              | 4                           | 1-13-   |
| ADDRESS PMB 1                    |  |  | <b>亚科尼亚亚科尼尔</b> 亚克特亚克莱普  | Carlo Ca   | _   5   |                     | / 🗟   |   | 18]            | <i>[</i> €]                              |  | /。                                    |                     | /ser                    | 8                         | 4 g              |                                 | ğ             |           | / /                     | /              | 1 1                         |   |
| Martinez, CA 9                   | <u>4553- I</u>   | 610 <b>5</b>   | PHONE <u>935</u><br>FAX 925 3  |  |   |                     |   | * 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 |                | \$ /                                     | 188 g  | ర్డ్ /                                | £ /                 | 9<br>2<br>2             | $\frac{\delta}{\delta} k$ | 30Y              | 1 0 /<br>2 0 /                  | ္တံ /         | s /       |                         |                | :/                          |   |
| SAMPLER'S SIGNATURE              | ي/لمحذ   | للمراجل من   | W1833  | TK INTU  |   | -/s                 | $\S \begin{center} \S \b$ | <u>}</u> /:                             |                |  | $\{\emptyset\}_{\hat{\mathfrak{G}}}$   | s/ :                                  | » / ږ               |                         | 3/8                       | ్ట్రైస్ట్        | ۼٞڒٷ                            | 1/,           | §/.       | , /                     | 4              | 1                           |   |
| SAMPLE                           |  | STO, AND SECTION   | LAB  | ŚAMPLE   |   |                     | \$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \  |   |                |  |  | \$\\ \tilde{x}                        |                     | le le le                |                           | 180              | ) # X                           |               |           | 1                       | 3              | 1                           | REMARKS   |
| J.D.                             | DATE   | TIME   | i I.D  | MATRIX   | on a secondary  | 1-7.6               | 1/38  | /₽ŏ                                     | /58            | 190                                      | /9.vj  | <i>[.</i> ]                           | /.o.                | <i> ≥3</i>              | /S₹                       | /≲≷              |                                 | / <i>I</i>    | /, G'     | 14677<br>2304           | 7              | serter                      | alla de la  |
| TRIP BLANK                       | 4/5/00   | OE!PO  | and the second second  | Wnk_   | <u> 2.</u>  | 12.                 |   | X.                                      | **********     | A Park                                   | 4  |                                       | Landing S           |                         |                           | A Y              | 4.90                            | e de Servicio | 136 14    | ****                    | 1.3445<br>2000 |                             | <u> </u>  |
| W-35                             | 4/5/00   | 11:16  | Service of the servic | . With   | 4   | n de la constant    |   | <b>X</b>                                | . 1            | a Special                                | 15.22  | de la company                         | postanski Ky        |                         | ,                         | 18 (1)<br>18 (4) | Ni Onjari<br>Ngabayi<br>Saranda | arran des     |           | <b>y</b>                |                |                             | - <b> </b>  |
| W-B5                             | 4/5/00   | IRLOO  | 4.5  | wm€  | 1   |                     | rag sage  | ×                                       | אַ             | newho a                                  |  |                                       | And the second      |                         | 30 P 30<br>30 P 4         |                  |                                 |               | 33        | X                       |                |                             |   |
| W-18                             | 4/5/00   | 13:20  | and the second s | WHE  | 4   |                     | اد دود<br>پیماند  | ×                                       | X.             | 46.44                                    | . 1441   | 10<br>2421.2                          | 411<br>1 44 4       |                         |                           | A WOY<br>Daniel  |                                 |               |           | ×                       | 1 1 Pt         |                             | <u> </u>  |
|                                  |  |  |  | 44   | The Color   |                     | - <u>- 1</u> 11-44-<br>21-44-   |   |                | <b>.</b>                                 |  | etakiri kin                           | The section         | Service Contract        |                           | <i>j</i>         | 33 34 A                         | The second    | Landon.   | 3 ( And )               | 10 X 11 A      | 2.5                         | the same of the same  |
|                                  |  |  |  |  |   |                     | 1   |   | \$35 W         | 2.00                                     |  |                                       |                     | 1                       | /                         |                  | il.<br>Mari C                   |               |           | Superin (A)             | /_             | Section 1                   | 11/1  |
|                                  |  |  | a L  | 1  |   | ~                   |   |   |                | 300 D                                    | in and   | 12 m                                  | A Con               | 1                       |                           |                  |                                 |               |           | 1                       | 184            |                             |   |
|                                  |  | Arr  |  |  |   |                     | 42.2  | *                                       |                |  | 4  | (e.                                   | Ø                   | A.V                     | 3                         |                  |                                 |               | g         |                         | 1              |                             | $\mathcal{F}$   |
|                                  |  |  | 1  | 7  |   | 2.12                | i i i   | 4. 76                                   |                | NA.                                      | 3.6%   | 7                                     | 10                  | Si Gi                   |                           |                  |                                 | 7             |           | 1/4.76<br>180           |                |                             |   |
|                                  |  |  | There is a   |  | Karaman Karaman<br>Karaman Karaman<br>Karaman Karaman | 2300                | Contract of   | 378000                                  |                | F Ta                                     |  |                                       |                     | il .                    |                           | SIA.             |                                 | 7             | A n       | ¥6.                     |                |                             | 100000000   |
| RELINQUISHED I                   | ]<br>3Y:   | ř  | RÉCEIVED BY:   | Marie Por Strapage   | ŘĚLI  | NOUL                | SHED  | BY:                                     | 300            |  | ŘĒ   | ČĖIV                                  | EĎ B                | i i i                   |                           | TUR              | NAROU                           | NÔ RE         | GUIRE     | MENTS                   |                | RÉPOR                       | REQUIREMENTS.   |
| 320                              |  | 1  | facultur   | 2a 📑   |   |                     |   |   |                |  | A CAR  | No                                    |                     | Telegraphic<br>Notation |                           |                  | 1 day                           | 2 d           | ay        | 3 day                   |                | 1.7                         | rtine Report  |
| Signature                        |  | Signature  | Brance   | W 4 3 123  | gnature   |                     |   |   | 25.00<br>27.74 | Signa                                    |  |                                       |                     | i te                    |                           | 30 A             | 5 day _                         |               |           |                         |                | T MS                        | oort (includes MS.<br>D, as required, may be  |
| Printed Name<br>Env. Sampl. 5405 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | Printed N  | ame'   | Pr   | inted Na  | me                  | eville (es  |   | sute.<br>Say   | Printe                                   | d Nar  | ne                                    | 14.4                |                         |                           | ×                | Standar                         | d (10 w       | orking da | vs)                     |                | III. Da                     | arged as samples)<br>ha Validation Report   |
| Firm - 0 4/5/00:                 | 14:45  | Firm   | ][i] [g  | , Fi   | m   |                     |   |   |                | Firm                                     |  | 41.74<br>4.42                         |                     |                         | n water in the            | Results          | 有"沙"。                           |               | 100 A     | 的。<br>群 <sub>8</sub> 医片 |                |                             | cludes All Raw Data)<br>/PQLs/Trace #   |
| Date/Time                        |  | Date/Time  | and the same of th | Approvale a broad has a first verse  | ite/Time  |                     |   |   | 3.0            | Datë/                                    | Time   | A Property                            |                     | 12                      | en de la compa            | 為1分<br><b>L.</b> |                                 |               | n de      |                         |                | 21. O. A. A. A. A. Y. Y. Y. | onič Dala Deliverables  |
| RELINQUISHED I                   | 3Y: *** **   | F  | lĒČĒIVĒĎ BY:   |  | MPLE F  |                     |   |   |                |  |  |                                       | والمتراث والمتراثين | Ĝuŝto                   | A-62.                     |                  | ega ya di                       | 4.5           |           | 344                     | <u>.</u>       | il.                         |   |
|                                  |  | 77.77  |  |  |   |                     |   |   |                |  | <b>Fill</b>  | ļ <b>i</b> ns                         | silia               | h 6e                    | l Člě                     | ah Ü             | ř Pi                            | 67            | lo av     | ialys                   | is ėj          | teh                         | d samples   |
| Signature                        |  | Signature  |  | 允许的"Carlot Table" 网络   | rcie Whit   |                     |   |   |                |  |  |                                       |                     | 8                       | Eá                        | مارا ا           | Mi                              |               | ,         | li K                    | 115            | ¶Na                         | Š'n V Žn  |
| Printed Name                     |  | Printed N  | ame 1)   | Me   | tals:   | Ai,∖<br>As∂         | Šb i<br>Pb  | Se D                                    | Ťi i           | , ∪u<br>∃g                               | , va   | . UI                                  | ىرى                 | <br>                    | 1                         | . NIA            | ເສ <b>ູເ™</b> ເບ                |               |           |                         | 3              |                             |   |
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| Shipped Via/Tracking #           | 14 and 15 and  | Sept Wes   |  |  |   |                     |   | n was                                   | rage out.      | -  | A  | - Hard Tolk                           | Anton Ma            | -                       | Service Con               |                  | -                               | de colores    | 4         | in riselant             | or live        | a de maria e                | A A ST A STATE OF THE STATE OF |



April 18, 2000

Service Request No.: S2001140

Ms. Jacki Lee Environmental Sampling Services 6680 Alhambra Avenue, #102 Martinez, CA 94553

RE:

**Arrow Rentals** 

Dear Ms. Lee:

Enclosed are the results of the sample(s) submitted to our laboratory on April 5, 2000. All analyses were performed in accordance with our laboratory's quality assurance program. Results are intended to be considered in their entirety and apply to the sample(s) analyzed. Columbia Analytical Services is not responsible for use of less than the complete report. Signature of this CAS Analytical Report confirms that pages 2 through 19, following, have been thoroughly reviewed and approved for release.

Columbia Analytical Services is certified for environmental analyses by the California Department of Health Services (certificate number: 2352, expiration: January 31, 2001).

If you have any questions, please call me at (408) 748-9700.

ernadette Troncala

Respectfully submitted,

Columbia Analytical Services, Inc.

Bernadette Troncales

Project Chemist

#### Acronyms

A2LA American Association for Laboratory Accreditation
ASTM American Society for Testing and Materials

BOD Biochemical Oxygen Demand

BTEX Benzene, Toluene, Ethylbenzene, Xylenes

CAM California Assessment Metals
CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit
COD Chemical Oxygen Demand

DEC Department of Environmental Conservation
DEQ Department of Environmental Quality
DHS Department of Health Services
DLCS Duplicate Laboratory Control Sample

DMS Duplicate Matrix Spike
DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

IC Ion Chromatography

ICB Initial Calibration Blank sample

ICP Inductively Coupled Plasma atomic emission spectrometry

ICV Initial Calibration Verification sample

J Estimated concentration. The value is less than the MRL, but greater than or equal to

the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.

LUST Laboratory Control Sample
Lust Leaking Underground Fuel Tank

M Modified

MBAS Methylene Blue Active Substances

MCL Maximum Contaminant Level. The highest permissible concentration of a

substance allowed in drinking water as established by the U. S. EPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

MS Matrix Spike

MTBE Methyl tert-Butyl Ether

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI
National Council of the paper industry for Air and Stream Improvement
ND
Not Detected at or above the method reporting/detection limit (MRL/MDL)

NIOSH National Institute for Occupational Safety and Health

NTU Nephelometric Turbidity Units

ppb Parts Per Billion ppm Parts Per Million

PQL Practical Quantitation Limit
QA/QC Quality Assurance/Quality Control

RCRA Resource Conservation and Recovery Act

RPD Relative Percent Difference SIM Selected Ion Monitoring

SM Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992

STLC Solubility Threshold Limit Concentration

SW Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846,

3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.

TCLP Toxicity Characteristic Leaching Procedure

TDS Total Dissolved Solids

TPH Total Petroleum Hydrocarbons

tr Trace level. The concentration of an analyte that is less than the PQL but greater than or equal

to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.

TRPH Total Recoverable Petroleum Hydrocarbons

TSS Total Suspended Solids

TTLC Total Threshold Limit Concentration

VOA Volatile Organic Analyte(s)
Page 2

ACRONLST.DOC 7/14/95

Analytical Report

Client: Project: **Environmental Sampling Services** 

Arrow Rentals

Sample Matrix:

Water

Service Request: \$2001140

Date Collected: 04/05/00 Date Received: 04/05/00

Polynuclear Aromatic Hydrocarbons

Sample Name:

Lab Code: Test Notes: W-3S

S2001140-002

Units: ug/L (ppb)

Basis: NA

| Analyte  | Prep<br>Method  | Analysis<br>Method  | MRL                                       | Dilution<br>Factor                          | Date<br>Extracted  | Date<br>Analyzed   | Result                                   | Result<br>Notes |
|--|---|---|---|---|--|--|--|-----------------|
| Analyte  Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene               |   | •   | MRL 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | Factor  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00 | 04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00 | ND N | Notes           |
| Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene 2-Methylnaphthalene | EPA 3510C<br>EPA 3510C<br>EPA 3510C<br>EPA 3510C<br>EPA 3510C<br>EPA 3510C<br>EPA 3510C | 8270C<br>8270C<br>8270C<br>8270C<br>8270C<br>8270C<br>8270C | 5<br>5<br>5<br>5<br>5<br>5                | 1<br>1<br>1<br>1<br>1<br>1                  | 04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00<br>04/11/00                                     | 04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00<br>04/13/00   | ND<br>ND<br>ND<br>ND<br>ND<br>ND         |                 |

1S2p/020597p

#### Analytical Report

Client: Project: Sample Matrix: **Environmental Sampling Services** 

Arrow Rentals

Water

**Service Request:** S2001140 **Date Collected:** 04/05/00

Date Received: 04/05/00

Polynuclear Aromatic Hydrocarbons

Sample Name: Lab Code: Test Notes:

W-BS

Units: ug/L (ppb)

S2001140-003

Basis: NA

Cl

| Analyte                                     | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|---|----------------|--------------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| Naphthalene                                 | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | 280    |                 |
| Acenaphthylene                              | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Acenaphthene                                | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Fluorene                                    | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | < 50   |                 |
| Phenanthrene                                | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Anthracene                                  | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Fluoranthene                                | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | < 50   |                 |
|   | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Pyrene<br>Benz(a)anthracene                 | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
|   | EPA 3510C      | 8270C              | 5   | - 10               | 04/11/00          | 04/13/00         | <50    |                 |
| Chrysene Benzo(b)fluoranthene               | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Benzo(b)fluoranthene                        | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | < 50   |                 |
|   | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Benzo(a)pyrene                              | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | < 50   |                 |
| Indeno(1,2,3-cd)pyrene                      | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Dibenz(a,h)anthracene                       | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | <50    |                 |
| Benzo(g,h,i)perylene<br>2-Methylnaphthalene | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00          | 04/13/00         | 68     |                 |

The MRL was elevated due to high analyte concentration requiring sample dilution. C1Approved By: 1S2p/020597p

Analytical Report

Client: Project: Environmental Sampling Services

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140 Date Collected: 04/05/00

Date Received: 04/05/00

Polynuclear Aromatic Hydrocarbons

Sample Name:

W-1S

Units: ug/L (ppb)

Lab Code:

S2001140-004

Basis: NA

Test Notes:

C1

| Analyte                | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor |          | Date<br>Analyzed | Result | Result<br>Notes |
|------------------------|----------------|--------------------|-----|--------------------|----------|------------------|--------|-----------------|
| Naphthalene            | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | 330    |                 |
| Acenaphthylene         | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Acenaphthene           | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | < 50   |                 |
| Fluorene               | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Phenanthrene           | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Anthracene             | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Fluoranthene           | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Pyrene                 | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | < 50   |                 |
| Benz(a)anthracene      | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | < 50   |                 |
| Chrysene               | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Benzo(b)fluoranthene   | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | < 50   |                 |
| Benzo(k)fluoranthene   | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | < 50   |                 |
| Benzo(a)pyrene         | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Indeno(1,2,3-cd)pyrene | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Dibenz(a,h)anthracene  | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| Benzo(g,h,i)perylene   | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | <50    |                 |
| 2-Methylnaphthalene    | EPA 3510C      | 8270C              | 5   | 10                 | 04/11/00 | 04/13/00         | 110    |                 |

The MRL was elevated due to high analyte concentration requiring sample dilution. CI Approved By: 1\$2p/020597p

Analytical Report

Client: Project: Sample Matrix: **Environmental Sampling Services** 

Arrow Rentals

Water

Service Request: S2001140

Date Collected: NA

Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Lab Code: Test Notes:

Method Blank S200411-WB1 Units: ug/L (ppb) Basis: NA

| Analyte                | Prep<br>Method         | Analysis<br>Method | MRL           | Dilution<br>Factor |          | Date<br>Analyzed | Result   | Result<br>Notes |
|------------------------|------------------------|--------------------|---------------|--------------------|----------|------------------|----------|-----------------|
| Naphthalene            | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Acenaphthylene         | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Acenaphthene           | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Fluorene               | EPA 3510C              | 8270C              | Š             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Phenanthrene           | EPA 3510C              | 8270C              | 5             | ī                  | 04/11/00 | 04/13/00         | ND       |                 |
|                        | EPA 3510C              | 8270C              | š             | î                  | 04/11/00 | 04/13/00         | ND       |                 |
| Anthracene             | EPA 3510C              | 8270C              | 5             | i                  | 04/11/00 | 04/13/00         | ND       |                 |
| Fluoranthene           | EPA 3510C<br>EPA 3510C | 8270C<br>8270C     | 5             | î                  | 04/11/00 | 04/13/00         | ND       |                 |
| Pyrene                 | EPA 3510C<br>EPA 3510C | 8270C<br>8270C     | 5             | i                  | 04/11/00 | 04/13/00         | ND       |                 |
| Benz(a)anthracene      |                        | 8270C<br>8270C     | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Chrysene               | EPA 3510C              |                    | J<br><b>e</b> | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Benzo(b)fluoranthene   | EPA 3510C              | 8270C              | 2             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Benzo(k)fluoranthene   | EPA 3510C              | 8270C              | 2             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Benzo(a)pyrene         | EPA 3510C              | 8270C              | 2             | 1                  |          | 04/13/00         | ND<br>ND |                 |
| Indeno(1,2,3-cd)pyrene | EPA 3510C              | 8270C              | 5             | ļ                  | 04/11/00 |                  |          |                 |
| Dibenz(a,h)anthracene  | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| Benzo(g,h,i)perylene   | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |
| 2-Methylnaphthalene    | EPA 3510C              | 8270C              | 5             | 1                  | 04/11/00 | 04/13/00         | ND       |                 |

| Approved By: | M | Date: | 04/18/07 |
|--------------|---|-------|----------|
| Approved by: |   |       |          |

1S2p/020597p

QA/QC Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: NA Date Received: NA

Date Extracted: NA

Date Analyzed: NA

Surrogate Recovery Summary Polynuclear Aromatic Hydrocarbons

Prep Method:

EPA 3510C

Analysis Method: 8270C

Units: PERCENT

Basis: NA

| Sample Name        | Lab Code     | Test<br>Notes | 2FPHL | P e r<br>PHL | c e n t<br>NBZ | R e c<br>2FBPH | o v e r y<br>246TBPHL | ТРН |
|--------------------|--------------|---------------|-------|--------------|----------------|----------------|-----------------------|-----|
| W-3S               | S2001140-002 |               | NA    | NA           | 68             | 62             | NA                    | 58  |
| W-BS               | S2001140-003 |               | NA    | NA           | 67             | 66             | NA                    | 60  |
| W-1S               | S2001140-004 |               | NA    | NA           | 71             | 69             | NA                    | 56  |
| Lab Control Sample | S200411-LCS  |               | NA    | NA           | 82             | 70             | NA                    | 73  |
| Lab Control Sample | S200411-DLCS |               | NA    | NA           | 57             | 50             | NA                    | 63  |
| Method Blank       | S200411-WB1  |               | NA    | NA           | 75             | 62             | NA                    | 81  |

CAS Acceptance Limits:

21-100

10-94

35-114

43-116

10-123

33-141

2FPHL

PHL

Phenol-D6

2-Fluorophenol

NBZ

Nitrobenzene-D5

2FBPH

2-Fluorobiphenyl 2,4,6-Tribromophenol

246TBPHL TPH

Terphenyl-D14

Approved By:

SUR6/020597p

QA/QC Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

LCS Matrix:

Water

Service Request: S2001140

Date Collected: NA

Date Received: NA
Date Extracted: 04/11/00

Date Analyzed: 04/13/00

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary

Polynuclear Aromatic Hydrocarbons

Sample Name:

Lab Control Sample

1

Units: ug/L (ppb)

Lab Code: Test Notes: S200411-DLCS,

S200411-LCS

Basis: NA

Percent Recovery

|              |           | reitent Recovery |      |       |     |       |     |      |            |            |        |
|--------------|-----------|------------------|------|-------|-----|-------|-----|------|------------|------------|--------|
|              |           |                  |      |       |     |       |     |      | CAS        | Relative   |        |
|              | Prep      | Analysis         | True | Value | Re  | esult |     |      | Acceptance | Percent    | Result |
| Analyte      | Method    | Method           | LCS  | DLCS  | LCS | DLCS  | LCS | DLCS | Limits     | Difference | Notes  |
| Acenaphthene | EPA 3510C | 8270C            | 50   | 50    | 41  | 30    | 82  | 60   | 47-145     | 31         |        |
| Pyrene       | EPA 3510C | 8270C            | 50   | 50    | 43  | 34    | 86  | 68   | 52-115     | 23         |        |

DLCS/020597p

#### Analytical Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: 4/5/00

Date Received: 4/5/00

TPH as Diesel

Prep Method:

EPA 3510

Analysis Method: CA/LUFT

Units: ug/L (ppb)

Basis: NA

Test Notes:

| Sample Name  | Lab Code     | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|--------------|--------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| W-3S         | S2001140-002 | 50  | 1                  | 04/06/00          | 04/07/00         | 320    | D4              |
| W-BS         | S2001140-003 | 50  | 1                  | 04/06/00          | 04/07/00         | 9600   | D4              |
| W-1S         | S2001140-004 | 50  | 10                 | 04/06/00          | 04/11/00         | 15000  | D4              |
| Method Blank | S200406-WB1  | 50  | 1                  | 04/06/00          | 04/06/00         | ND     |                 |

D4

The sample contains a lower boiling point mixture of hydrocarbons and quantitated as diesel.

| Approved By: Bate. Up at the second s |              | WIT | Date: 04/8(10) |   |
|---|--------------|-----|----------------|---|
|   | Approved By: |     | Date. Officier | - |

1A/020597p

QA/QC Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: NA

Date Received: NA

Date Extracted: NA Date Analyzed: NA

Surrogate Recovery Summary

TPH as Diesel

Pтер Method:

EPA 3510

Analysis Method: CA/LUFT

Units: PERCENT

Basis: NA

|                    |              | Test  | Percent Recovery |
|--------------------|--------------|-------|------------------|
| Sample Name        | Lab Code     | Notes | p-Terphenyl      |
| W-3S               | S2001140-002 |       | 57               |
| W-BS               | S2001140-003 |       | 72               |
| W-1S               | S2001140-004 |       | 77               |
| Method Blank       | S200406-WB1  |       | 66               |
| Lab Control Sample | S200406-LCS  |       | 74               |
| Lab Control Sample | S200406-DLCS |       | 72               |

CAS Acceptance Limits:

41-140

| 1            | 17        | 04/18/10   |
|--------------|-----------|--|
| Approved By: | [/\ Date: | Contract of the contract of th |

SUR1/020597p

QA/QC Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

LCS Matrix:

Water

Service Request: S2001140

Date Collected: NA

Date Received: NA

Daté Extracted: 04/06/00 Date Analyzed: 04/07/00

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary

TPH as Diesel

Sample Name: Lab Control Sample

Lab Code:

S200406-LCS S200406-DLCS

Units: ug/L (ppb)

Basis: NA

Test Notes:

Percent Recovery

|               | Prep     | Analysis | True | Value | Re   | sult |     |      | CAS<br>Acceptance | Relative<br>Percent | Result |
|---------------|----------|----------|------|-------|------|------|-----|------|-------------------|---------------------|--------|
| Analyte       | Method   |          | LCS  | DLCS  | LCS  | DLCS | LCS | DLCS | Limits            | Difference          | Notes  |
| TPH as Diesel | EPA 3510 | CA/LUFT  | 2000 | 2000  | 1600 | 1600 | 80  | 80   | 50-138            | <1                  |        |

Approved By:

DLCS/020597p

Analytical Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: 04/05/00

Date Received: 04/05/00

BTEX, MTBE and TPH as Gasoline

Sample Name:

Trip Blank

Lab Code: Test Notes: S2001140-001

Units: ug/L (ppb)

Basis: NA

| Analyte                  | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|--------------------------|----------------|--------------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| TPH as Gasoline          | EPA 5030       | CA/LUFT            | 50  | 1                  | NA                | 04/15/00         | ND     |                 |
| Benzene                  | EPA 5030       | 8021B              | 0.5 | 1                  | NA                | 04/15/00         | 1.8    |                 |
| Toluene                  | EPA 5030       | 8021B              | 0.5 | 1                  | NA                | 04/15/00         | ND     |                 |
| Ethylbenzene             | EPA 5030       | 8021B              | 0.5 | 1                  | NA                | 04/15/00         | ND     |                 |
| Xylenes, Total           | EPA 5030       | 8021B              | 1   | 1                  | NA                | 04/15/00         | ND     |                 |
| Methyl tert -Butyl Ether | EPA 5030       | 8021B              | 3   | 1                  | NA                | 04/15/00         | ND     |                 |

|              | Λ()·                          |       | and the second second |
|--------------|-------------------------------|-------|-----------------------|
|              | 1                             |       | -1072HQ1755           |
|              | (1.4.8)                       | ъ.    | コイリメル ルーニ             |
| Approved By: | $\{\mathcal{M},\mathcal{I}\}$ | Date: | VISIO                 |
| Approved By: | 11 -                          |       |                       |

1\$22/020597p

#### Analytical Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: 04/05/00

Date Received: 04/05/00

BTEX, MTBE and TPH as Gasoline

Sample Name:

W-3S

Lab Code: Test Notes: S2001140-002

Units: ug/L (ppb)

Basis: NA

| Analyte   | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|---|----------------|--------------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| TPH as Gasoline                                   | EPA 5030       | CA/LUFT            | 50  | 1                  | NA                | 04/15/00         | 810    |                 |
| Benzene   | EPA 5030       | 8021B              | 0.5 | 1                  | NA                | 04/15/00         | 150    |                 |
| Toluene   | EPA 5030       | 8021B              | 0.5 | 1                  | NA                | 04/15/00         | 3.0    |                 |
| Ethylbenzene                                      | EPA 5030       | 8021B              | 0.5 | 1.                 | NA                | 04/15/00         | 9.0    |                 |
| _ · · · •   | EPA 5030       | 8021B              | 1   | 1                  | NA                | 04/15/00         | 5.7    |                 |
| Xylenes, Total<br>Methyl <i>tert</i> -Butyl Ether | EPA 5030       | 8021B              | 3   | 1                  | NA                | 04/15/00         | ND     |                 |

|              | MT. | Deter | 1)4/18lon |
|--------------|-----|-------|-----------|
| Approved By: | [U] | Date: | 0 1/100   |

1S22/020597p

#### Analytical Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: 04/05/00

Date Received: 04/05/00

BTEX, MTBE and TPH as Gasoline

Sample Name:

W-BS

Lab Code:

S2001140-003

Units: ug/L (ppb)

Basis: NA

Test Notes:

| Analyte                                    | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|--|----------------|--------------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| TPH as Gasoline                            | EPA 5030       | CA/LUFT            | 50  | 50                 | NA                | 04/15/00         | 34000  |                 |
|  | EPA 5030       | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 3500   |                 |
| Benzene                                    | EPA 5030       | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 1200   |                 |
| Toluene                                    | EPA 5030       | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 1400   |                 |
| Ethylbenzene                               | EPA 5030       | 8021B              | 1   | 50                 | NA                | 04/15/00         | 4700   |                 |
| Xylenes, Total<br>Methyl tert -Butyl Ether | EPA 5030       | 8021B              | 3   | 50                 | NA                | 04/15/00         | <150   | C1              |

C1

1S22/020597p

The MRL was elevated due to high analyte concentration requiring sample dilution.

| Approved By: | Pu | Date: | o4/18/00 |
|--------------|----|-------|----------|
|              |    |       |          |

#### Analytical Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

Sample Matrix:

Water

Service Request: S2001140

Date Collected: 04/05/00

Date Received: 04/05/00

BTEX, MTBE and TPH as Gasoline

Sample Name:

W-1S

Lab Code: Test Notes: S2001140-004

Units: ug/L (ppb)

Basis: NA

| Analyte                  | Prep<br>Method | Analysis<br>Method | MRL | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Result | Result<br>Notes |
|--------------------------|----------------|--------------------|-----|--------------------|-------------------|------------------|--------|-----------------|
| mpu Caralina             | EPA 5030       | CA/LUFT            | 50  | 50                 | NA                | 04/15/00         | 47000  |                 |
| TPH as Gasoline          | EPA 5030       | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 4300   |                 |
| Benzene                  |                | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 2300   |                 |
| Toluene                  | EPA 5030       |                    | 0.5 | 50                 | NA                | 04/15/00         | 1500   |                 |
| Ethylbenzene             | EPA 5030       | 8021B              | 0.5 | 50                 | NA                | 04/15/00         | 6100   |                 |
| Xylenes, Total           | EPA 5030       | 8021B              | 1   |                    |                   | 04/15/00         | 170    |                 |
| Methyl tert -Butyl Ether | EPA 5030       | 8021B              | 3   | 50                 | NA                | 04/13/00         | 170    |                 |

|              | MÁ          | ÷     | 114/18/1m |
|--------------|-------------|-------|-----------|
| Approved By: | <u> Irv</u> | Date: | 14/18/ND  |

1S22/020597p

### QA/QC Report

Client:

**Environmental Sampling Services** 

Project:

Arrow Rentals

LCS Matrix:

Water

Service Request: S2001140

Date Collected: NA

Date Received: NA

Date Extracted: NA

CAS

Date Analyzed: 04/14/00

Laboratory Control Sample Summary

BTEX and TPH as Gasoline

Sample Name:

Lab Control Sample

Lab Code:

S200414-LCS2

Test Notes:

Units: ug/L (ppb)

Basis: NA

| Analyte      | Prep<br>Method | Analysis<br>Method | True<br>Value | Result      | Percent<br>Recovery | Percent Recovery Acceptance Limits | Result<br>Notes |
|--------------|----------------|--------------------|---------------|-------------|---------------------|------------------------------------|-----------------|
| Benzene      | EPA 5030       | 8021B              | 25            | 26          | 104                 | 75-135                             |                 |
| Toluene      | EPA 5030       | 8021B              | 25            | 22          | 88                  | 73-136                             |                 |
| Ethylbenzene | EPA 5030       | 8021B              | 25            | 22          | 88                  | 69-142                             |                 |
| Gasoline     | EPA 5030       | CA/LUFT            | 500           | <b>44</b> 0 | 88                  | 75-135                             |                 |

|              | -0  | ) <sub>4</sub> -         |    |       | 14/18/10   |
|--------------|-----|--------------------------|----|-------|--|
| 1 D          | -1P | $\eta_{\tilde{\Lambda}}$ | `\ | Date: | $V \cap V = V \cap V = V \cap V \cap V \cap V \cap V \cap V \cap $ |
| Approved By: | -11 | _                        |    | -     |  |

LCS/020597p



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

| Analytical Services **   |               |  |          |                      | SERV   | ICE R                  | EQUE  | ST NO          | o. Ş                          | \$ 20                                   | 00         | U                 | u             | )P.  | O.#  |  |                   |                                |                                | _ PAC        | 3E           | OF  | <del></del>                                     |
|--|---------------|--|----------|----------------------|--|------------------------|---|----------------|-------------------------------|---|------------|-------------------|---------------|--|--|--|-------------------|--------------------------------|--------------------------------|--------------|--------------|---|---|
| 3334 Victor Court • Santa Clara, CA 9505   | 4 • (408) 437 | 08) 437-2400 • FAX (408) 437-9356 SERVICE REQUEST NO. 5 200 (1 |          |                      |  |                        |   | ALYS           | YSIS REQUESTED                |   |            |                   |               |  |  |  |                   |                                |                                |              |              |   |   |
| PROJECT NAME AFROM Revit   | als           | #  |          |                      | PRESER   |                        |   | HCI /          | HCI /                         | NP /                                    | NP /       | NP /              | HCI /         | HCI /  | HNO <sub>3</sub>                                 |  | H2SO4/            | H <sub>2</sub> SO <sub>4</sub> | H <sub>2</sub> SO <sub>4</sub> | NaOH/        | W/           | $-\!$ | <i> </i>  |
| PROJECT MGR. Stephen   | <u>Penman</u> | /Jacki le  | <u> </u> | န္                   |  |                        |   | , /,           | _/                            | Pesticides / P. Comics                  |            |                   |               | $/\!/$   | 100  | 3/.                                    |                   |                                |                                |              |              | //  |   |
| COMPANY Environment  |               |  |          | NUMBER OF CONTAINERS |  | 1.                     | Volati                                      |                | \$7                           | /8                                      |            |                   | / 2           |  | Pa   | Total O'Gentle)                        |                   |                                |                                |              |              | / /   | 1   |
| ADDRESS PMB 182, 46  | <u>80 All</u> | nambra A   | rence    | NTA                  |  |                        |   | ≥<br> ×        | \\Sigma_{\overline{\pi}{2}}\) | 'iganii                                 | /_ /       | /                 | Meth          | lossil.  | Sirge F  | 1 de 1                                 | Log <sub>ue</sub> | / ,                            | / /                            | / ,          | / /          | ′ /   |   |
| Martinez, CA 94553-C   | 61675         | PHONE 725  | 3728103  | 7   S                | /  | Halogenate (18240/826) | 2 4 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 |                | H/lag                         | 986                                     | g /        | -/                | Metals (total |  | 20/2<br>20/2                                     |  | g /               | <i>§</i> /                     |                                |              |              |   | ļ   |
| SAMPLER'S SIGNATURE  | -ditmo        | FAX 925 37   | K GFUS   | EB C                 |  |                        |   |                |                               |   | ş/ جَ      | ۶ <sup>۳</sup> /۶ |               | 3 6  | ્રં/ડે<br>જે/≥                                   | \&\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | Total P.          | £ / £                          | g /                            |              |              |   |   |
| SAMPLER'S SIGNATURE SAMPLE   | 77.0          | LAB  | SAMPLE   | <b>⊣</b> ∰           | /# S   |                        |   |                |                               | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |            |                   | letal.        |  |  | 780                                    |                   |                                | / d                            | 3]           | /            | REMA  | RKS   |
| I.D. DATE  | TIME          | I.D.   | MATRIX   | +                    | / <u>&gt;</u> &                                  | /±8<br>                | 150   | 150            | 140                           | 14 6                                    | <i>   </i> | /                 | / <u>= 3</u>  | 144  | <u>/&gt;                                    </u> |  |                   | / 0                            | -                              |              |              | <u> </u>  | 1   |
| TRIPBLANK HISTOR   | 04:30         |  | WK       | 1                    | <b> </b>   |                        | 1   |                |                               |   |            |                   |               |  |  |  |                   |                                |                                |              |              |   |   |
| W-36 Ws/10   | 11:10         | (2)  | STOR     | 7-                   | <del> </del> -                                   | -                      | ×   | <u> X</u>      |                               |   |            |                   | ļ             |  |  |  |                   |                                | <u>, *</u>                     |              |              | [   | -   |
| W-85 4/3/00  | 12:00         | (3)  | WIR      | Ĩ-                   | -  |                        | X   | X              |                               | -                                       |            |                   | <u> </u>      |  |  |  |                   |                                |                                |              |              |   |   |
| W-15 4/5/50  | 13:10         | (4)  | WIR      | 7-                   | ↓  |                        | X   | X              |                               | -                                       |            | -                 | <del> </del>  | <del>                                     </del> |  |  |                   |                                |                                |              | 7            |   |   |
| and the second s |               | 7  |          |                      |  |                        | _   | _              | 192                           |   |            |                   |               |  | <del> </del>                                     |  |                   |                                |                                | , V          | ļ            |   |   |
|  |               | /  |          | ٠,                   | <del>                                     </del> | 2                      | -   | <u> </u>       | _                             | -                                       |            |                   | 1             | June .   | <del> </del>                                     |  | ļ                 |                                | ×.                             | <del></del>  | ļ            |   |   |
|  | <u> </u>      | Sq. /-   |          |                      | 1  | ļ                      | <b>├</b> —                                  | <del> </del> — |                               |   |            |                   | -             |  | -  | -                                      | <b> </b>          | i.le                           | -                              |              |              | 1   |   |
|  |               | 1/   |          | 4                    | <del> </del>                                     | <del> </del>           | ļ   | <u> </u>       | <u> </u>                      | -                                       |            |                   | <del> </del>  |  | <del> </del>                                     | ╁                                      | _                 |                                | ╁                              | <del> </del> | <del> </del> | - Land Company of the Asia of the   |   |
|  | <u> </u>      |  |          | +                    | <del>                                     </del> | -                      |   |                | -                             |   |            | -                 | -             | ├  | <del>  -</del>                                   | $\vdash$                               | -                 |                                | <u> </u>                       | -            |              |   | A. S. W. C. |
| Annual desiration of the second secon |               |  |          |                      | INQUIS   | L                      | <u> </u>                                    | <u>l</u>       | من.                           | RF                                      | CEIV       | ED B              | V:            |  | TUE  | NAROL                                  | INID DE           | OUR PE                         | MENTS                          | 1            | PEPOR        | I REQUIRE   | MENTS   |
| RELINQUISHED BY:   | "             | RECEIVED BY:   | m, n     | HEL                  | NUUR   | SHED                   | D1;   |                |                               | ML                                      | .VLIV      |                   | ••            |  |  | 1 day                                  |                   |                                |                                |              | 📐 I. Ao      | outine Report   | ·   |
| Signature  | Signature     | France Pul   | ı əlur   | nature               |  |                        |   |                | Sign                          | ature                                   |            |                   |               |  | 1  | 5 day                                  |                   |                                | Juay                           | -            | MS           | eport (includes i<br>SD, as required  | i, may be                                       |
| Printed Name   | Printed N     |  | Prin     | ited Na              | me   |                        |   |                | Print                         | ed Nar                                  | ne         |                   |               |  | 1 .  | Standar                                |                   |                                | ivs)                           |              | III. Da      | narged as samp<br>ata Validation F  | Rapoit  |
| Firm Sample, Six5<br>Firm +15/uc; 14.45  | Firm          | CWS<br>415/00 14   | Firm     | n                    |  |                        |   |                | Firm                          |   |            |                   |               |  | Result   | s Due                                  | 41                | 19/                            | 00                             | ; <b> </b>   |              | ncludes All Rav<br>s/PQLs/Trace i   |   |
| Date/Time  | Date/Tim      |  |          | e/Time               |  |                        |   |                | Date                          | /Time                                   |            |                   |               |  | T NO DOM   | 0000                                   |                   |                                | District Co.                   |              |              | tronic Data Deii  |   |
| RELINQUISHED BY:   |               | RECEIVED BY:   | SAN      | VIPLE F              | RECEI  | T: C                   | onditio                                     | n              |                               |   |            |                   | Custo         | dy Se  | eals_  |  |                   |                                |                                |              |              | AND THE PERSON NAMED IN COLUMN  | a your  |
| inclination in a 1.  |               |  |          |                      |  |                        |   |                |                               | Perto                                   | /W) '      | Siliz             | a 60          | l Ch   | an t   | e p                                    | ic.n              | Tis ska                        | \$4. 11 ty 5                   | as of        | - 11°54      | d som   | (46.5)  |
| Signature  | Signature     |  |          | ele whic             |  | als are                | to be                                       | analy          | zed:                          | d C-                                    |            | , c,              | , C           | , F.   | . A.A.   | უ <u>გ</u> ∧ჩг                         | n Mi              | ń o                            | √li K                          | . Aa         | Na           | Sn V  | Zn  |
| Printed Name   | Printed N     | lame   | Met      | tals:                | Al<br>As   | SD<br>Pb               | ва в<br>Se                                  | e E            | ⊸ co<br>Hg                    | u Ca                                    | ı Çi       |                   | , ((          |  | , 141  | 9 1711                                 | ,,                |                                |                                |              | . )          | r   |   |
| Firm   | Firm          |  |          |                      |  |                        |   |                |                               |   |            |                   |               |  |  |  |                   |                                |                                | Í            | $\leq 0$     | $\sqrt{D3}$   | 1   |
| Date/Time  | Date/Tim      | ie   |          |                      |  |                        |   |                |                               |   |            |                   |               |  |  |  |                   |                                |                                | S            | torage       | R8/   | 1/2/  |
| 1 a  |               |  | ı        |                      |  |                        |   |                |                               |   |            |                   |               |  |  |  |                   |                                |                                |              |              |   |   |