

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Erwin Kawata  
City & County of Honolulu  
630 South Beretania Street  
Public Service Bldg. Room 310  
Honolulu, Hawaii 96843

Generated 11/29/2023 9:28:03 PM

## JOB DESCRIPTION

RED-HILL

## JOB NUMBER

380-62702-2

# Eurofins Eaton Analytical Pomona

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

## Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

## Authorization



Generated  
11/29/2023 9:28:03 PM

Authorized for release by  
Rachelle Arada, Project Manager  
[Rachelle.Arada@et.eurofinsus.com](mailto:Rachelle.Arada@et.eurofinsus.com)  
(626)386-1106



# Table of Contents

|                                  |     |
|----------------------------------|-----|
| Cover Page . . . . .             | 1   |
| Table of Contents . . . . .      | 3   |
| Definitions/Glossary . . . . .   | 4   |
| Case Narrative . . . . .         | 5   |
| Detection Summary . . . . .      | 6   |
| Client Sample Results . . . . .  | 7   |
| Surrogate Summary . . . . .      | 13  |
| QC Sample Results . . . . .      | 16  |
| QC Association Summary . . . . . | 21  |
| Lab Chronicle . . . . .          | 23  |
| Method Summary . . . . .         | 25  |
| Sample Summary . . . . .         | 26  |
| Subcontract Data . . . . .       | 27  |
| Chain of Custody . . . . .       | 108 |
| Receipt Checklists . . . . .     | 110 |

# Definitions/Glossary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Qualifiers

### Subcontract

| Qualifier | Qualifier Description          |
|-----------|--------------------------------|
| U         | This analyte was not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

# Case Narrative

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

---

## Job ID: 380-62702-2

---

### Laboratory: Eurofins Eaton Analytical Pomona

#### Narrative

---

#### Job Narrative 380-62702-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

#### Receipt

The samples were received on 9/13/2023 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.4°C, 2.5°C, 3.0°C, 3.1°C and 3.4°C

#### Receipt Exceptions

One or more containers for the following sample(s) was received broken or leaking, see details below.

One of four 8015 vials from site HALAWA WELLS UNITS 1 & 2 P1 arrived broken.

#### Subcontract Work

Methods 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

# Detection Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

**Client Sample ID: MOANALUA WELLS** **Lab Sample ID: 380-62702-1**

No Detections.

**Client Sample ID: AIEA GULCH WELLS PUMP 2** **Lab Sample ID: 380-62702-2**

No Detections.

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2** **Lab Sample ID: 380-62702-3**

No Detections.

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1** **Lab Sample ID: 380-62702-4**

No Detections.

**Client Sample ID: TB MOANALUA WELLS** **Lab Sample ID: 380-62702-5**

No Detections.

**Client Sample ID: TB AIEA GULCH WELLS PUMP 2** **Lab Sample ID: 380-62702-6**

No Detections.

**Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2** **Lab Sample ID: 380-62702-7**

No Detections.

**Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1** **Lab Sample ID: 380-62702-8**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona



# Client Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-62702-1**

Date Collected: 09/11/23 09:53

Matrix: Drinking Water

Date Received: 09/13/23 10:50

**Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i**

| Analyte                      | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| 1-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| 1-Methylphenanthrene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| 2,3,5-Trimethylnaphthalene   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| 2,6-Dimethylnaphthalene      | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| 2-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Acenaphthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Acenaphthylene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Anthracene                   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benz[a]anthracene            | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benzo[a]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benzo[b]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benzo[e]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benzo[g,h,i]perylene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Benzo[k]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Biphenyl                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Chrysene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Dibenz[a,h]anthracene        | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Dibenzo[a,l]pyrene           | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Dibenzothiophene             | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Disalicylidenepropanediamine | ND     |           | 0.1   | 0.05  | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Fluoranthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Fluorene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Indeno[1,2,3-cd]pyrene       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Naphthalene                  | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Perylene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Phenanthrene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| Pyrene                       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 17:05 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| (d10-Acenaphthene) | 71        |           | 27 - 133 | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| (d10-Phenanthrene) | 76        |           | 43 - 129 | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| (d12-Chrysene)     | 85        |           | 52 - 144 | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| (d12-Perylene)     | 86        |           | 36 - 161 | 09/18/23 00:00 | 10/15/23 17:05 | 1       |
| (d8-Naphthalene)   | 66        |           | 25 - 125 | 09/18/23 00:00 | 10/15/23 17:05 | 1       |

**Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics**

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 12:54 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 77        |           | 60 - 140 |          | 09/16/23 12:54 | 1       |

**Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO**

| Analyte   | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| DIESEL    | ND     | U         | 0.027 |     | mg/L |   |          | 09/25/23 16:12 | 1       |
| JP5       | ND     | U         | 0.053 |     | mg/L |   |          | 09/25/23 16:12 | 1       |
| JP8       | ND     | U         | 0.053 |     | mg/L |   |          | 09/25/23 16:12 | 1       |
| MOTOR OIL | ND     | U         | 0.053 |     | mg/L |   |          | 09/25/23 16:12 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOBENZENE | 78        |           | 60 - 130 |          | 09/25/23 16:12 | 1       |

Eurofins Eaton Analytical Pomona

# Client Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-62702-1

Date Collected: 09/11/23 09:53

Matrix: Drinking Water

Date Received: 09/13/23 10:50

### Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

| Surrogate  | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------|-----------|-----------|----------|----------|----------------|---------|
| HEXACOSANE | 76        |           | 60 - 130 |          | 09/25/23 16:12 | 1       |

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-62702-2

Date Collected: 09/11/23 11:06

Matrix: Drinking Water

Date Received: 09/13/23 10:50

### Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

| Analyte                      | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| 1-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| 1-Methylphenanthrene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| 2,3,5-Trimethylnaphthalene   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| 2,6-Dimethylnaphthalene      | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| 2-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Acenaphthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Acenaphthylene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Anthracene                   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benz[a]anthracene            | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benzo[a]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benzo[b]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benzo[e]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benzo[g,h,i]perylene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Benzo[k]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Biphenyl                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Chrysene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Dibenz[a,h]anthracene        | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Dibenzo[a,l]pyrene           | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Dibenzothiophene             | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| DisalicylidenePROPANEDIAMINE | ND     |           | 0.1   | 0.05  | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Fluoranthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Fluorene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Indeno[1,2,3-cd]pyrene       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Naphthalene                  | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Perylene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Phenanthrene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| Pyrene                       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 18:52 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| (d10-Acenaphthene) | 84        |           | 27 - 133 | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| (d10-Phenanthrene) | 91        |           | 43 - 129 | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| (d12-Chrysene)     | 93        |           | 52 - 144 | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| (d12-Perylene)     | 91        |           | 36 - 161 | 09/18/23 00:00 | 10/15/23 18:52 | 1       |
| (d8-Naphthalene)   | 79        |           | 25 - 125 | 09/18/23 00:00 | 10/15/23 18:52 | 1       |

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 14:45 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 72        |           | 60 - 140 |          | 09/16/23 14:45 | 1       |

Eurofins Eaton Analytical Pomona



# Client Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-62702-2

Date Collected: 09/11/23 11:06

Matrix: Drinking Water

Date Received: 09/13/23 10:50

### Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

| Analyte      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| DIESEL       | ND        | U         | 0.026    |     | mg/L |   |          | 09/25/23 16:31 | 1       |
| JP5          | ND        | U         | 0.052    |     | mg/L |   |          | 09/25/23 16:31 | 1       |
| JP8          | ND        | U         | 0.052    |     | mg/L |   |          | 09/25/23 16:31 | 1       |
| MOTOR OIL    | ND        | U         | 0.052    |     | mg/L |   |          | 09/25/23 16:31 | 1       |
| Surrogate    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| BROMOBENZENE | 74        |           | 60 - 130 |     |      |   |          | 09/25/23 16:31 | 1       |
| HEXACOSANE   | 78        |           | 60 - 130 |     |      |   |          | 09/25/23 16:31 | 1       |

## Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-62702-3

Date Collected: 09/11/23 11:34

Matrix: Drinking Water

Date Received: 09/13/23 10:50

### Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

| Analyte                      | Result    | Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|-------|------|---|----------------|----------------|---------|
| 1-Methylnaphthalene          | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| 1-Methylphenanthrene         | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| 2,3,5-Trimethylnaphthalene   | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| 2,6-Dimethylnaphthalene      | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| 2-Methylnaphthalene          | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Acenaphthene                 | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Acenaphthylene               | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Anthracene                   | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benz[a]anthracene            | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benzo[a]pyrene               | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benzo[b]fluoranthene         | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benzo[e]pyrene               | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benzo[g,h,i]perylene         | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Benzo[k]fluoranthene         | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Biphenyl                     | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Chrysene                     | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Dibenz[a,h]anthracene        | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Dibenzo[a,l]pyrene           | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Dibenzothiophene             | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Disalicylidenepropanediamine | ND        |           | 0.1      | 0.05  | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Fluoranthene                 | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Fluorene                     | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Indeno[1,2,3-cd]pyrene       | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Naphthalene                  | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Perylene                     | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Phenanthrene                 | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Pyrene                       | ND        |           | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| (d10-Acenaphthene)           | 75        |           | 27 - 133 |       |      |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| (d10-Phenanthrene)           | 82        |           | 43 - 129 |       |      |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| (d12-Chrysene)               | 86        |           | 52 - 144 |       |      |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| (d12-Perylene)               | 87        |           | 36 - 161 |       |      |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |
| (d8-Naphthalene)             | 68        |           | 25 - 125 |       |      |   | 09/18/23 00:00 | 10/15/23 20:38 | 1       |

Eurofins Eaton Analytical Pomona

# Client Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2**

**Lab Sample ID: 380-62702-3**

Date Collected: 09/11/23 11:34

Matrix: Drinking Water

Date Received: 09/13/23 10:50

**Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics**

| Analyte            | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| GASOLINE           | ND        | U         | 0.02     |     | mg/L |   |          | 09/16/23 15:23 | 1       |
| Surrogate          | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| BROMOFLUOROBENZENE | 85        |           | 60 - 140 |     |      |   |          | 09/16/23 15:23 | 1       |

**Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO**

| Analyte      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| DIESEL       | ND        | U         | 0.028    |     | mg/L |   |          | 09/25/23 16:49 | 1       |
| JP5          | ND        | U         | 0.056    |     | mg/L |   |          | 09/25/23 16:49 | 1       |
| JP8          | ND        | U         | 0.056    |     | mg/L |   |          | 09/25/23 16:49 | 1       |
| MOTOR OIL    | ND        | U         | 0.056    |     | mg/L |   |          | 09/25/23 16:49 | 1       |
| Surrogate    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| BROMOBENZENE | 72        |           | 60 - 130 |     |      |   |          | 09/25/23 16:49 | 1       |
| HEXACOSANE   | 87        |           | 60 - 130 |     |      |   |          | 09/25/23 16:49 | 1       |

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1**

**Lab Sample ID: 380-62702-4**

Date Collected: 09/11/23 10:31

Matrix: Drinking Water

Date Received: 09/13/23 10:50

**Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i**

| Analyte                      | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| 1-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| 1-Methylphenanthrene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| 2,3,5-Trimethylnaphthalene   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| 2,6-Dimethylnaphthalene      | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| 2-Methylnaphthalene          | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Acenaphthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Acenaphthylene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Anthracene                   | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benz[a]anthracene            | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benzo[a]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benzo[b]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benzo[e]pyrene               | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benzo[g,h,i]perylene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Benzo[k]fluoranthene         | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Biphenyl                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Chrysene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Dibenz[a,h]anthracene        | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Dibenzo[a,l]pyrene           | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Dibenzothiophene             | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Disalicylideneprapanediamine | ND     |           | 0.1   | 0.05  | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Fluoranthene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Fluorene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Indeno[1,2,3-cd]pyrene       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Naphthalene                  | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Perylene                     | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Phenanthrene                 | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| Pyrene                       | ND     |           | 0.005 | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 22:25 | 1       |

Eurofins Eaton Analytical Pomona

# Client Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

## Lab Sample ID: 380-62702-4

Date Collected: 09/11/23 10:31

Matrix: Drinking Water

Date Received: 09/13/23 10:50

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| (d10-Acenaphthene) | 74        |           | 27 - 133 | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| (d10-Phenanthrene) | 78        |           | 43 - 129 | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| (d12-Chrysene)     | 87        |           | 52 - 144 | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| (d12-Perylene)     | 91        |           | 36 - 161 | 09/18/23 00:00 | 10/15/23 22:25 | 1       |
| (d8-Naphthalene)   | 72        |           | 25 - 125 | 09/18/23 00:00 | 10/15/23 22:25 | 1       |

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 16:00 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 86        |           | 60 - 140 |          | 09/16/23 16:00 | 1       |

### Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

| Analyte   | Result | Qualifier | RL    | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| DIESEL    | ND     | U         | 0.025 |     | mg/L |   |          | 09/25/23 17:26 | 1       |
| JP5       | ND     | U         | 0.05  |     | mg/L |   |          | 09/25/23 17:26 | 1       |
| JP8       | ND     | U         | 0.05  |     | mg/L |   |          | 09/25/23 17:26 | 1       |
| MOTOR OIL | ND     | U         | 0.05  |     | mg/L |   |          | 09/25/23 17:26 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOBENZENE | 67        |           | 60 - 130 |          | 09/25/23 17:26 | 1       |
| HEXACOSANE   | 88        |           | 60 - 130 |          | 09/25/23 17:26 | 1       |

## Client Sample ID: TB MOANALUA WELLS

## Lab Sample ID: 380-62702-5

Date Collected: 09/11/23 09:53

Matrix: Water

Date Received: 09/13/23 10:50

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 16:37 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 84        |           | 60 - 140 |          | 09/16/23 16:37 | 1       |

## Client Sample ID: TB AIEA GULCH WELLS PUMP 2

## Lab Sample ID: 380-62702-6

Date Collected: 09/11/23 11:06

Matrix: Water

Date Received: 09/13/23 10:50

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 17:52 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 84        |           | 60 - 140 |          | 09/16/23 17:52 | 1       |

## Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

## Lab Sample ID: 380-62702-7

Date Collected: 09/11/23 11:34

Matrix: Water

Date Received: 09/13/23 10:50

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 18:29 | 1       |

Eurofins Eaton Analytical Pomona

# Client Sample Results

Client: City & County of Honolulu  
 Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

## Lab Sample ID: 380-62702-7

Date Collected: 09/11/23 11:34

Matrix: Water

Date Received: 09/13/23 10:50

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 85        |           | 60 - 140 |          | 09/16/23 18:29 | 1       |

## Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

## Lab Sample ID: 380-62702-8

Date Collected: 09/11/23 10:31

Matrix: Water

Date Received: 09/13/23 10:50

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

| Analyte  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 19:06 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------|----------------|---------|
| BROMOFLUOROBENZENE | 83        |           | 60 - 140 |          | 09/16/23 19:06 | 1       |

# Surrogate Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                      |                 |                 |                 |
|---------------|------------------------|--|----------------------|-----------------|-----------------|-----------------|
|               |                        | Acenaphtl<br>(27-133)                          | Phenanth<br>(43-129) | CRY<br>(52-144) | NPT<br>(25-125) | PRY<br>(36-161) |
| 111033-B1     | Method Blank           | 91   | 92                   | 94              | 94              | 99              |
| 111033-BS1    | Lab Control Sample     | 91   | 96                   | 96              | 86              | 91              |
| 111033-BS2    | Lab Control Sample Dup | 94   | 99                   | 96              | 88              | 97              |

### Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

## Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID                 | Percent Surrogate Recovery (Acceptance Limits) |                      |                 |                 |                 |
|---------------|----------------------------------|--|----------------------|-----------------|-----------------|-----------------|
|               |                                  | Acenaphtl<br>(27-133)                          | Phenanth<br>(43-129) | CRY<br>(52-144) | NPT<br>(25-125) | PRY<br>(36-161) |
| 380-62702-1   | MOANALUA WELLS                   | 71   | 76                   | 85              | 66              | 86              |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2          | 84   | 91                   | 93              | 79              | 91              |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260)<br>P2 | 75   | 82                   | 86              | 68              | 87              |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2<br>P1   | 74   | 78                   | 87              | 72              | 91              |

### Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Drinking Water

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID                 | Percent Surrogate Recovery (Acceptance Limits) |
|---------------|----------------------------------|--|
|               |                                  | BFB<br>(60-140)                                |
| 380-62702-1   | MOANALUA WELLS                   | 77   |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2          | 72   |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260)<br>P2 | 85   |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2<br>P1   | 86   |

### Surrogate Legend

BFB = BROMOFLUOROBENZENE

# Surrogate Summary

Client: City & County of Honolulu  
 Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID                    | BFB<br>(60-140) |
|---------------|-------------------------------------|-----------------|
| 380-62702-5   | TB MOANALUA WELLS                   | 84              |
| 380-62702-6   | TB AIEA GULCH WELLS PUMP<br>2       | 84              |
| 380-62702-7   | TB AIEA WELLS PUMPS 1&2<br>(260) P2 | 85              |
| 380-62702-8   | TB HALAWA WELLS UNITS 1 &<br>2 P1   | 83              |

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID       | BFB<br>(60-140) |
|---------------|------------------------|-----------------|
| 23I096-01M    | Matrix Spike           | 110             |
| 23I096-01S    | Matrix Spike Duplicate | 109             |

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | BFB |
|---------------|------------------|-----|
| 23VG39110B    | Method Blank     |     |

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID   | BFB<br>(70-130) |
|---------------|--------------------|-----------------|
| 23VG39110C    | LCD                | 112             |
| 23VG39110L    | Lab Control Sample | 109             |

**Surrogate Legend**

BFB = BROMOFLUOROBENZENE

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID        | BB<br>(60-130) | XACOSAI<br>(60-130) |
|---------------|-------------------------|----------------|---------------------|
| 380-62702-1   | MOANALUA WELLS          | 78             | 76                  |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2 | 74             | 78                  |

# Surrogate Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID               | BB       | XACOSAI  |
|---------------|--------------------------------|----------|----------|
|               |                                | (60-130) | (60-130) |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260)     | 72       | 87       |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2<br>P1 | 67       | 88       |

#### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | BB       | XACOSAI  |
|---------------|------------------|----------|----------|
|               |                  | (60-130) | (60-130) |
| 23DSI034WB    | Method Blank     |          |          |

#### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID   | BB       | XACOSAI  |
|---------------|--------------------|----------|----------|
|               |                    | (60-130) | (60-130) |
| 23DSI034WC    | LCD                | 78       | 82       |
| 23DSI034WL    | Lab Control Sample | 86       | 90       |
| 23J5I034WC    | LCD                | 86       | 87       |
| 23J5I034WL    | Lab Control Sample | 67       | 80       |
| 23J8I034WC    | LCD                | 96       | 77       |
| 23J8I034WL    | Lab Control Sample | 100      | 82       |

#### Surrogate Legend

BB = BROMOBENZENE  
HEXACOSANE = HEXACOSANE

# QC Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

**Lab Sample ID: 111033-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-42088**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-42088\_P**

| Analyte                      | Blank Result    | Blank Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------------|-----------------|----------|-------|------|---|----------------|----------------|---------|
| 1-Methylnaphthalene          | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| 1-Methylphenanthrene         | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| 2,3,5-Trimethylnaphthalene   | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| 2,6-Dimethylnaphthalene      | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| 2-Methylnaphthalene          | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Acenaphthene                 | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Acenaphthylene               | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Anthracene                   | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benz[a]anthracene            | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benzo[a]pyrene               | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benzo[b]fluoranthene         | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benzo[e]pyrene               | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benzo[g,h,i]perylene         | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Benzo[k]fluoranthene         | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Biphenyl                     | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Chrysene                     | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Dibenz[a,h]anthracene        | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Dibenzo[a,l]pyrene           | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Dibenzothiophene             | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Disalicylidenepropanediamine | ND              |                 | 0.1      | 0.05  | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Fluoranthene                 | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Fluorene                     | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Indeno[1,2,3-cd]pyrene       | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Naphthalene                  | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Perylene                     | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Phenanthrene                 | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Pyrene                       | ND              |                 | 0.005    | 0.001 | µg/L |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| Surrogate                    | Blank %Recovery | Blank Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| (d10-Acenaphthene)           | 91              |                 | 27 - 133 |       |      |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| (d10-Phenanthrene)           | 92              |                 | 43 - 129 |       |      |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| (d12-Chrysene)               | 94              |                 | 52 - 144 |       |      |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| (d12-Perylene)               | 99              |                 | 36 - 161 |       |      |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |
| (d8-Naphthalene)             | 94              |                 | 25 - 125 |       |      |   | 09/18/23 00:00 | 10/15/23 11:46 | 1       |

**Lab Sample ID: 111033-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-42088**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-42088\_P**

| Analyte                    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------------------------|-------------|------------|---------------|------|---|------|-------------|
| 1-Methylnaphthalene        | 0.5         | 0.407      |               | µg/L |   | 81   | 31 - 128    |
| 1-Methylphenanthrene       | 0.5         | 0.433      |               | µg/L |   | 87   | 66 - 127    |
| 2,3,5-Trimethylnaphthalene | 0.5         | 0.441      |               | µg/L |   | 88   | 55 - 122    |
| 2,6-Dimethylnaphthalene    | 0.5         | 0.433      |               | µg/L |   | 87   | 48 - 120    |
| 2-Methylnaphthalene        | 0.5         | 0.421      |               | µg/L |   | 84   | 47 - 130    |
| Acenaphthene               | 0.5         | 0.437      |               | µg/L |   | 87   | 53 - 131    |
| Acenaphthylene             | 0.5         | 0.454      |               | µg/L |   | 91   | 43 - 140    |
| Anthracene                 | 0.5         | 0.449      |               | µg/L |   | 90   | 58 - 135    |

Eurofins Eaton Analytical Pomona



# QC Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 111033-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-42088**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-42088\_P**

| Analyte                      | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------------------------|-------------|------------|---------------|------|---|------|-------------|
| Benz[a]anthracene            | 0.5         | 0.524      |               | µg/L |   | 105  | 55 - 145    |
| Benzo[a]pyrene               | 0.5         | 0.462      |               | µg/L |   | 92   | 51 - 143    |
| Benzo[b]fluoranthene         | 0.5         | 0.512      |               | µg/L |   | 102  | 46 - 165    |
| Benzo[e]pyrene               | 0.5         | 0.395      |               | µg/L |   | 79   | 42 - 152    |
| Benzo[g,h,i]perylene         | 0.5         | 0.479      |               | µg/L |   | 96   | 63 - 133    |
| Benzo[k]fluoranthene         | 0.5         | 0.447      |               | µg/L |   | 89   | 56 - 145    |
| Biphenyl                     | 0.5         | 0.456      |               | µg/L |   | 91   | 56 - 119    |
| Chrysene                     | 0.5         | 0.395      |               | µg/L |   | 79   | 56 - 141    |
| Dibenz[a,h]anthracene        | 0.5         | 0.516      |               | µg/L |   | 103  | 55 - 150    |
| Dibenzo[a,l]pyrene           | 0.5         | 0.26       |               | µg/L |   | 52   | 50 - 150    |
| Dibenzothiophene             | 0.5         | 0.452      |               | µg/L |   | 90   | 46 - 126    |
| Disalicylidenepropanediamine | 50          | 43.8       |               | µg/L |   | 88   | 50 - 150    |
| Fluoranthene                 | 0.5         | 0.433      |               | µg/L |   | 87   | 60 - 146    |
| Fluorene                     | 0.5         | 0.433      |               | µg/L |   | 87   | 58 - 131    |
| Indeno[1,2,3-cd]pyrene       | 0.5         | 0.484      |               | µg/L |   | 97   | 50 - 151    |
| Naphthalene                  | 0.5         | 0.427      |               | µg/L |   | 85   | 41 - 126    |
| Perylene                     | 0.5         | 0.483      |               | µg/L |   | 97   | 48 - 141    |
| Phenanthrene                 | 0.5         | 0.447      |               | µg/L |   | 89   | 67 - 127    |
| Pyrene                       | 0.5         | 0.426      |               | µg/L |   | 85   | 54 - 156    |

| Surrogate          | LCS %Recovery | LCS Qualifier | Limits   |
|--------------------|---------------|---------------|----------|
| (d10-Acenaphthene) | 91            |               | 27 - 133 |
| (d10-Phenanthrene) | 96            |               | 43 - 129 |
| (d12-Chrysene)     | 96            |               | 52 - 144 |
| (d12-Perylene)     | 91            |               | 36 - 161 |
| (d8-Naphthalene)   | 86            |               | 25 - 125 |

**Lab Sample ID: 111033-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-42088**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-42088\_P**

| Analyte                    | Spike Added | LCS DUP Result | LCS DUP Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------------------------|-------------|----------------|-------------------|------|---|------|-------------|-----|-----------|
| 1-Methylnaphthalene        | 0.5         | 0.444          |                   | µg/L |   | 89   | 31 - 128    | 9   | 30        |
| 1-Methylphenanthrene       | 0.5         | 0.445          |                   | µg/L |   | 89   | 66 - 127    | 2   | 30        |
| 2,3,5-Trimethylnaphthalene | 0.5         | 0.451          |                   | µg/L |   | 90   | 55 - 122    | 2   | 30        |
| 2,6-Dimethylnaphthalene    | 0.5         | 0.448          |                   | µg/L |   | 90   | 48 - 120    | 3   | 30        |
| 2-Methylnaphthalene        | 0.5         | 0.433          |                   | µg/L |   | 87   | 47 - 130    | 4   | 30        |
| Acenaphthene               | 0.5         | 0.449          |                   | µg/L |   | 90   | 53 - 131    | 3   | 30        |
| Acenaphthylene             | 0.5         | 0.467          |                   | µg/L |   | 93   | 43 - 140    | 2   | 30        |
| Anthracene                 | 0.5         | 0.468          |                   | µg/L |   | 94   | 58 - 135    | 4   | 30        |
| Benz[a]anthracene          | 0.5         | 0.527          |                   | µg/L |   | 105  | 55 - 145    | 0   | 30        |
| Benzo[a]pyrene             | 0.5         | 0.46           |                   | µg/L |   | 92   | 51 - 143    | 0   | 30        |
| Benzo[b]fluoranthene       | 0.5         | 0.512          |                   | µg/L |   | 102  | 46 - 165    | 0   | 30        |
| Benzo[e]pyrene             | 0.5         | 0.414          |                   | µg/L |   | 83   | 42 - 152    | 5   | 30        |
| Benzo[g,h,i]perylene       | 0.5         | 0.464          |                   | µg/L |   | 93   | 63 - 133    | 3   | 30        |
| Benzo[k]fluoranthene       | 0.5         | 0.452          |                   | µg/L |   | 90   | 56 - 145    | 1   | 30        |
| Biphenyl                   | 0.5         | 0.459          |                   | µg/L |   | 92   | 56 - 119    | 1   | 30        |
| Chrysene                   | 0.5         | 0.39           |                   | µg/L |   | 78   | 56 - 141    | 1   | 30        |

Eurofins Eaton Analytical Pomona

# QC Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 111033-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-42088**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-42088\_P**

| Analyte                      | Spike Added | LCS DUP Result | LCS DUP Qualifier | Unit | D | %Rec | %Rec     |     | RPD | Limit |
|------------------------------|-------------|----------------|-------------------|------|---|------|----------|-----|-----|-------|
|                              |             |                |                   |      |   |      | Limits   | RPD |     |       |
| Dibenz[a,h]anthracene        | 0.5         | 0.513          |                   | µg/L |   | 103  | 55 - 150 | 0   | 30  |       |
| Dibenzo[a,i]pyrene           | 0.5         | 0.256          |                   | µg/L |   | 51   | 50 - 150 | 2   | 30  |       |
| Dibenzothiophene             | 0.5         | 0.463          |                   | µg/L |   | 93   | 46 - 126 | 3   | 30  |       |
| Disalicylidenepropanediamine | 50          | 47.4           |                   | µg/L |   | 95   | 50 - 150 | 8   | 30  |       |
| Fluoranthene                 | 0.5         | 0.453          |                   | µg/L |   | 91   | 60 - 146 | 4   | 30  |       |
| Fluorene                     | 0.5         | 0.453          |                   | µg/L |   | 91   | 58 - 131 | 4   | 30  |       |
| Indeno[1,2,3-cd]pyrene       | 0.5         | 0.481          |                   | µg/L |   | 96   | 50 - 151 | 1   | 30  |       |
| Naphthalene                  | 0.5         | 0.429          |                   | µg/L |   | 86   | 41 - 126 | 1   | 30  |       |
| Perylene                     | 0.5         | 0.482          |                   | µg/L |   | 96   | 48 - 141 | 1   | 30  |       |
| Phenanthrene                 | 0.5         | 0.456          |                   | µg/L |   | 91   | 67 - 127 | 2   | 30  |       |
| Pyrene                       | 0.5         | 0.444          |                   | µg/L |   | 89   | 54 - 156 | 5   | 30  |       |

| Surrogate          | LCS DUP   |           | Limits   |
|--------------------|-----------|-----------|----------|
|                    | %Recovery | Qualifier |          |
| (d10-Acenaphthene) | 94        |           | 27 - 133 |
| (d10-Phenanthrene) | 99        |           | 43 - 129 |
| (d12-Chrysene)     | 96        |           | 52 - 144 |
| (d12-Perylene)     | 97        |           | 36 - 161 |
| (d8-Naphthalene)   | 88        |           | 25 - 125 |

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

**Lab Sample ID: 23VG3910B**  
**Matrix: WATER**  
**Analysis Batch: 23VG39110**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| Analyte  | MB MB  |           | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
|          | Result | Qualifier |      |     |      |   |          |                |         |
| GASOLINE | ND     | U         | 0.02 |     | mg/L |   |          | 09/16/23 11:02 | 1       |

| Surrogate          | MB MB     |           | Limits | Prepared | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|--------|----------|----------------|---------|
|                    | %Recovery | Qualifier |        |          |                |         |
| BROMOFLUOROBENZENE |           |           |        |          | 09/16/23 11:02 | 1       |

**Lab Sample ID: 23VG3910L**  
**Matrix: WATER**  
**Analysis Batch: 23VG39110**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec     |     |
|----------|-------------|------------|---------------|------|---|------|----------|-----|
|          |             |            |               |      |   |      | Limits   | RPD |
| GASOLINE | 0.5         | 0.457      |               | mg/L |   | 91   | 60 - 130 |     |

| Surrogate          | LCS LCS   |           | Limits   |
|--------------------|-----------|-----------|----------|
|                    | %Recovery | Qualifier |          |
| BROMOFLUOROBENZENE | 109       |           | 70 - 130 |

**Lab Sample ID: 23I096-01M**  
**Matrix: WATER**  
**Analysis Batch: 23VG39110**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec     |     |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|----------|-----|
|          |               |                  |             |           |              |      |   |      | Limits   | RPD |
| GASOLINE | ND            |                  | 0.5         | 0.46      |              | mg/L |   | 92   | 50 - 130 |     |

Eurofins Eaton Analytical Pomona

# QC Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics (Continued)

**Lab Sample ID: 23I096-01M**  
**Matrix: WATER**  
**Analysis Batch: 23VG39110**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

|                    | MS               | MS               |               |
|--------------------|------------------|------------------|---------------|
| <i>Surrogate</i>   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
| BROMOFLUOROBENZENE | 110              |                  | 60 - 140      |

**Lab Sample ID: 23I096-01S**  
**Matrix: WATER**  
**Analysis Batch: 23VG39110**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

| <i>Analyte</i> | <i>Sample Result</i> | <i>Sample Qualifier</i> | <i>Spike Added</i> | <i>MSD Result</i> | <i>MSD Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec Limits</i> | <i>RPD</i> | <i>RPD Limit</i> |
|----------------|----------------------|-------------------------|--------------------|-------------------|----------------------|-------------|----------|-------------|--------------------|------------|------------------|
|                |                      |                         |                    |                   |                      |             |          |             |                    |            |                  |
| GASOLINE       | ND                   |                         | 0.5                | 0.449             |                      | mg/L        |          | 90          | 50 - 130           | 2          | 30               |

|                    | MSD              | MSD              |               |
|--------------------|------------------|------------------|---------------|
| <i>Surrogate</i>   | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
| BROMOFLUOROBENZENE | 109              |                  | 60 - 140      |

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

**Lab Sample ID: 23DSI034WB**  
**Matrix: WATER**  
**Analysis Batch: 23DSI034W**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

| <i>Analyte</i> | <i>MB Result</i> | <i>MB Qualifier</i> | <i>RL</i> | <i>MDL</i> | <i>Unit</i> | <i>D</i> | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
|----------------|------------------|---------------------|-----------|------------|-------------|----------|-----------------|-----------------|----------------|
|                |                  |                     |           |            |             |          |                 |                 |                |
| DIESEL         | ND               | U                   | 0.025     |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |
| JP5            | ND               | U                   | 0.05      |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |
| JP8            | ND               | U                   | 0.05      |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |
| MOTOR OIL      | ND               | U                   | 0.05      |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |

| <i>Analyte</i> | <i>MB Result</i> | <i>MB Qualifier</i> | <i>RL</i> | <i>MDL</i> | <i>Unit</i> | <i>D</i> | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
|----------------|------------------|---------------------|-----------|------------|-------------|----------|-----------------|-----------------|----------------|
|                |                  |                     |           |            |             |          |                 |                 |                |
| DIESEL         | ND               | U                   | 0.025     |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |
| JP5            | ND               | U                   | 0.05      |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |
| MOTOR OIL      | ND               | U                   | 0.05      |            | mg/L        |          |                 | 09/25/23 14:01  | 1              |

|                  | MB               | MB               |               |                 |                 |
|------------------|------------------|------------------|---------------|-----------------|-----------------|
| <i>Surrogate</i> | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> | <i>Prepared</i> | <i>Analyzed</i> |
| BROMOBENZENE     |                  |                  |               |                 | 09/25/23 14:01  |
| HEXACOSANE       |                  |                  |               |                 | 09/25/23 14:01  |

**Lab Sample ID: 23DSI034WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSI034W**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| <i>Analyte</i> | <i>Spike Added</i> | <i>LCS Result</i> | <i>LCS Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec Limits</i> |
|----------------|--------------------|-------------------|----------------------|-------------|----------|-------------|--------------------|
|                |                    |                   |                      |             |          |             |                    |
| DIESEL         | 2.5                | 2.3               |                      | mg/L        |          | 92          | 50 - 130           |

| <i>Analyte</i> | <i>Spike Added</i> | <i>LCS Result</i> | <i>LCS Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec Limits</i> |
|----------------|--------------------|-------------------|----------------------|-------------|----------|-------------|--------------------|
|                |                    |                   |                      |             |          |             |                    |
| DIESEL         | 2.5                | 2.3               |                      | mg/L        |          | 92          | 50 - 130           |

|                  | LCS              | LCS              |               |
|------------------|------------------|------------------|---------------|
| <i>Surrogate</i> | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
| BROMOBENZENE     | 86               |                  | 60 - 130      |
| HEXACOSANE       | 90               |                  | 60 - 130      |

# QC Sample Results

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

**Lab Sample ID: 23J5I034WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSI034W**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|----------------|
| JP5     | 2.5            | 1.34          |                  | mg/L |   | 54   | 30 - 160       |

| Surrogate    | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|--------------|------------------|------------------|----------|
| BROMOBENZENE | 67               |                  | 60 - 130 |
| HEXACOSANE   | 80               |                  | 60 - 130 |

**Lab Sample ID: 23J8I034WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSI034W**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|----------------|
| JP8     | 2.5            | 2.09          |                  | mg/L |   | 84   | 30 - 160       |

| Surrogate    | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|--------------|------------------|------------------|----------|
| BROMOBENZENE | 100              |                  | 60 - 130 |
| HEXACOSANE   | 82               |                  | 60 - 130 |

# QC Association Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Subcontract

### Analysis Batch: O-42088

| Lab Sample ID | Client Sample ID              | Prep Type | Matrix         | Method                            | Prep Batch |
|---------------|-------------------------------|-----------|----------------|-----------------------------------|------------|
| 380-62702-1   | MOANALUA WELLS                | Total/NA  | Drinking Water | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2       | Total/NA  | Drinking Water | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260) P2 | Total/NA  | Drinking Water | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2 P1   | Total/NA  | Drinking Water | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 111033-B1     | Method Blank                  | Total/NA  | BlankMatrix    | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 111033-BS1    | Lab Control Sample            | Total/NA  | BlankMatrix    | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |
| 111033-BS2    | Lab Control Sample Dup        | Total/NA  | BlankMatrix    | 625 PAH Physis<br>LL (EAL) + TICs | O-42088_P  |

### Analysis Batch: 23DSI034W

| Lab Sample ID | Client Sample ID              | Prep Type | Matrix         | Method                         | Prep Batch |
|---------------|-------------------------------|-----------|----------------|--------------------------------|------------|
| 380-62702-1   | MOANALUA WELLS                | Total/NA  | Drinking Water | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2       | Total/NA  | Drinking Water | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260) P2 | Total/NA  | Drinking Water | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2 P1   | Total/NA  | Drinking Water | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 23DSI034WB    | Method Blank                  | Total/NA  | WATER          | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 23DSI034WL    | Lab Control Sample            | Total/NA  | WATER          | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 23J5I034WL    | Lab Control Sample            | Total/NA  | WATER          | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |
| 23J8I034WL    | Lab Control Sample            | Total/NA  | WATER          | 8015 LL<br>DRO/MRO/JP5/J<br>P8 |            |

### Analysis Batch: 23VG39110

| Lab Sample ID | Client Sample ID              | Prep Type | Matrix         | Method                              | Prep Batch |
|---------------|-------------------------------|-----------|----------------|-------------------------------------|------------|
| 380-62702-1   | MOANALUA WELLS                | Total/NA  | Drinking Water | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2       | Total/NA  | Drinking Water | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260) P2 | Total/NA  | Drinking Water | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2 P1   | Total/NA  | Drinking Water | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |

# QC Association Summary

Client: City & County of Honolulu  
 Project/Site: RED-HILL

Job ID: 380-62702-2

## Subcontract (Continued)

### Analysis Batch: 23VG39110 (Continued)

| Lab Sample ID | Client Sample ID                 | Prep Type | Matrix | Method                              | Prep Batch |
|---------------|----------------------------------|-----------|--------|-------------------------------------|------------|
| 380-62702-5   | TB MOANALUA WELLS                | Total/NA  | Water  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-6   | TB AIEA GULCH WELLS PUMP 2       | Total/NA  | Water  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-7   | TB AIEA WELLS PUMPS 1&2 (260) P2 | Total/NA  | Water  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 380-62702-8   | TB HALAWA WELLS UNITS 1 & 2 P1   | Total/NA  | Water  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 23VG39110B    | Method Blank                     | Total/NA  | WATER  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 23VG39110L    | Lab Control Sample               | Total/NA  | WATER  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 23I096-01M    | Matrix Spike                     | Total/NA  | WATER  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |
| 23I096-01S    | Matrix Spike Duplicate           | Total/NA  | WATER  | 8015 Gas<br>(Purgeable) LL<br>(EAL) |            |

### Prep Batch: O-42088\_P

| Lab Sample ID | Client Sample ID              | Prep Type | Matrix         | Method  | Prep Batch |
|---------------|-------------------------------|-----------|----------------|---------|------------|
| 380-62702-1   | MOANALUA WELLS                | Total/NA  | Drinking Water | EPA_625 |            |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2       | Total/NA  | Drinking Water | EPA_625 |            |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260) P2 | Total/NA  | Drinking Water | EPA_625 |            |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2 P1   | Total/NA  | Drinking Water | EPA_625 |            |
| 111033-B1     | Method Blank                  | Total/NA  | BlankMatrix    | EPA_625 |            |
| 111033-BS1    | Lab Control Sample            | Total/NA  | BlankMatrix    | EPA_625 |            |
| 111033-BS2    | Lab Control Sample Dup        | Total/NA  | BlankMatrix    | EPA_625 |            |

# Lab Chronicle

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-62702-1

Date Collected: 09/11/23 09:53

Matrix: Drinking Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                   | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|--------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Prep       | EPA_625                        |     | 1               | O-42088_P    |         |     | 09/18/23 00:00       |
| Total/NA  | Analysis   | 625 PAH Physis LL (EAL) + TICs |     | 1               | O-42088      | YC      |     | 10/15/23 17:05       |
| Total/NA  | Analysis   | 8015 Gas (Purgeable) LL (EAL)  |     | 1               | 23VG39110    | SCerva  |     | 09/16/23 12:54       |
| Total/NA  | Analysis   | 8015 LL DRO/MRO/JP5/JP8        |     | 1               | 23DSI034W    | SDees   |     | 09/25/23 16:12       |

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-62702-2

Date Collected: 09/11/23 11:06

Matrix: Drinking Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                   | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|--------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Prep       | EPA_625                        |     | 1               | O-42088_P    |         |     | 09/18/23 00:00       |
| Total/NA  | Analysis   | 625 PAH Physis LL (EAL) + TICs |     | 1               | O-42088      | YC      |     | 10/15/23 18:52       |
| Total/NA  | Analysis   | 8015 Gas (Purgeable) LL (EAL)  |     | 1               | 23VG39110    | SCerva  |     | 09/16/23 14:45       |
| Total/NA  | Analysis   | 8015 LL DRO/MRO/JP5/JP8        |     | 1               | 23DSI034W    | SDees   |     | 09/25/23 16:31       |

## Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-62702-3

Date Collected: 09/11/23 11:34

Matrix: Drinking Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                   | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|--------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Prep       | EPA_625                        |     | 1               | O-42088_P    |         |     | 09/18/23 00:00       |
| Total/NA  | Analysis   | 625 PAH Physis LL (EAL) + TICs |     | 1               | O-42088      | YC      |     | 10/15/23 20:38       |
| Total/NA  | Analysis   | 8015 Gas (Purgeable) LL (EAL)  |     | 1               | 23VG39110    | SCerva  |     | 09/16/23 15:23       |
| Total/NA  | Analysis   | 8015 LL DRO/MRO/JP5/JP8        |     | 1               | 23DSI034W    | SDees   |     | 09/25/23 16:49       |

## Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-62702-4

Date Collected: 09/11/23 10:31

Matrix: Drinking Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                   | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|--------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Prep       | EPA_625                        |     | 1               | O-42088_P    |         |     | 09/18/23 00:00       |
| Total/NA  | Analysis   | 625 PAH Physis LL (EAL) + TICs |     | 1               | O-42088      | YC      |     | 10/15/23 22:25       |
| Total/NA  | Analysis   | 8015 Gas (Purgeable) LL (EAL)  |     | 1               | 23VG39110    | SCerva  |     | 09/16/23 16:00       |
| Total/NA  | Analysis   | 8015 LL DRO/MRO/JP5/JP8        |     | 1               | 23DSI034W    | SDees   |     | 09/25/23 17:26       |

# Lab Chronicle

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

## Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-62702-5

Date Collected: 09/11/23 09:53

Matrix: Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                     | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|----------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Analysis   | 8015 Gas<br>(Purgeable) LL (EAL) |     | 1               | 23VG39I10    | SCerva  |     | 09/16/23 16:37       |

## Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-62702-6

Date Collected: 09/11/23 11:06

Matrix: Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                     | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|----------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Analysis   | 8015 Gas<br>(Purgeable) LL (EAL) |     | 1               | 23VG39I10    | SCerva  |     | 09/16/23 17:52       |

## Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-62702-7

Date Collected: 09/11/23 11:34

Matrix: Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                     | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|----------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Analysis   | 8015 Gas<br>(Purgeable) LL (EAL) |     | 1               | 23VG39I10    | SCerva  |     | 09/16/23 18:29       |

## Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-62702-8

Date Collected: 09/11/23 10:31

Matrix: Water

Date Received: 09/13/23 10:50

| Prep Type | Batch Type | Batch Method                     | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|-----------|------------|----------------------------------|-----|-----------------|--------------|---------|-----|----------------------|
| Total/NA  | Analysis   | 8015 Gas<br>(Purgeable) LL (EAL) |     | 1               | 23VG39I10    | SCerva  |     | 09/16/23 19:06       |

### Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806



# Method Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

| Method | Method Description                       | Protocol | Laboratory |
|--------|--|----------|------------|
| 625    | EPA 625 Base/Neutral and Acid Organics i | EPA      |            |
| 8015   | 8015 - TPH DRO/ORO                       | EPA      |            |
| 8015B  | SW846 8015B Gasoline Range Organics      | SW846    |            |

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806



# Sample Summary

Client: City & County of Honolulu  
Project/Site: RED-HILL

Job ID: 380-62702-2

| Lab Sample ID | Client Sample ID                 | Matrix         | Collected      | Received       |
|---------------|----------------------------------|----------------|----------------|----------------|
| 380-62702-1   | MOANALUA WELLS                   | Drinking Water | 09/11/23 09:53 | 09/13/23 10:50 |
| 380-62702-2   | AIEA GULCH WELLS PUMP 2          | Drinking Water | 09/11/23 11:06 | 09/13/23 10:50 |
| 380-62702-3   | AIEA WELLS PUMPS 1&2 (260) P2    | Drinking Water | 09/11/23 11:34 | 09/13/23 10:50 |
| 380-62702-4   | HALAWA WELLS UNITS 1 & 2 P1      | Drinking Water | 09/11/23 10:31 | 09/13/23 10:50 |
| 380-62702-5   | TB MOANALUA WELLS                | Water          | 09/11/23 09:53 | 09/13/23 10:50 |
| 380-62702-6   | TB AIEA GULCH WELLS PUMP 2       | Water          | 09/11/23 11:06 | 09/13/23 10:50 |
| 380-62702-7   | TB AIEA WELLS PUMPS 1&2 (260) P2 | Water          | 09/11/23 11:34 | 09/13/23 10:50 |
| 380-62702-8   | TB HALAWA WELLS UNITS 1 & 2 P1   | Water          | 09/11/23 10:31 | 09/13/23 10:50 |

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

October 20, 2023

Rachelle Arada  
 Eurofins Eaton Analytical  
 750 Royal Oaks Drive  
 Suite 100  
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-62702-1  
 Physis Project ID: 1407003-445

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/14/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

| Organics                                       |
|--|
| Polynuclear Aromatic Hydrocarbons by EPA 625.1 |
| Disalicylidenepropanediamine by EPA 625.1      |
| Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1      |

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Rachel Hansen  
 714 602-5320  
 Extension 203  
 rachelhansen@physislabs.com



## PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-445

RED-HILL Project # 38001111 Job # 380-62702-1

Total Samples: 4

| PHYSIS ID | Sample ID                     | Description | Date      | Time  | Matrix      | Sample Type   |
|-----------|-------------------------------|-------------|-----------|-------|-------------|---------------|
| 111034    | MOANALUA WELLS                | 380-62702-1 | 9/11/2023 | 9:53  | Samplewater | Not Specified |
| 111035    | AIEA GULCH WELLS PUMP 2       | 380-62702-2 | 9/11/2023 | 11:06 | Samplewater | Not Specified |
| 111036    | AIEA WELLS PUMPS 1&2 (260) P2 | 380-62702-3 | 9/11/2023 | 11:34 | Samplewater | Not Specified |
| 111037    | HALAWA WELLS UNITS 1 & 2 P1   | 380-62702-4 | 9/11/2023 | 10:31 | Samplewater | Not Specified |

## ABBREVIATIONS and ACRONYMS

|      |  |
|------|--|
| QM   | Quality Manual                         |
| QA   | Quality Assurance                      |
| QC   | Quality Control                        |
| MDL  | method detection limit                 |
| RL   | reporting limit                        |
| R1   | project sample                         |
| R2   | project sample replicate               |
| MS1  | matrix spike                           |
| MS2  | matrix spike replicate                 |
| B1   | procedural blank                       |
| B2   | procedural blank replicate             |
| BS1  | blank spike                            |
| BS2  | blank spike replicate                  |
| LCS1 | laboratory control spike               |
| LCS2 | laboratory control spike replicate     |
| LCM1 | laboratory control material            |
| LCM2 | laboratory control material replicate  |
| CRM1 | certified reference material           |
| CRM2 | certified reference material replicate |
| RPD  | relative percent difference            |
| LMW  | low molecular weight                   |
| HMW  | high molecular weight                  |

## QUALITY ASSURANCE SUMMARY

**LABORATORY BATCH:** Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

**PROCEDURAL BLANK:** Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

**ACCURACY:** Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

**PRECISION:** Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

**BLANK SPIKES:** BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

**MATRIX SPIKES:** MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

**CERTIFIED REFERENCE MATERIALS:** CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

**LABORATORY CONTROL MATERIAL:** LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

**LABORATORY CONTROL SPIKES:** LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

**SURROGATES:** A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

**HOLDING TIME:** Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

**SAMPLE STORAGE/RETENTION:** In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

**TOTAL/DISSOLVED FRACTION:** In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

## PHYSIS QUALIFIER CODES

| CODE | DEFINITION  |
|------|---|
| #    | see Case Narrative  |
| ND   | analyte not detected at or above the MDL  |
| B    | analyte was detected in the procedural blank greater than 10 times the MDL  |
| E    | analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated  |
| H    | sample received and/or analyzed past the recommended holding time   |
| J    | analyte was detected at a concentration below the RL and above the MDL, reported value is estimated   |
| N    | insufficient sample, analysis could not be performed  |
| M    | analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification  |
| SH   | analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply  |
| SL   | analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply  |
| NH   | project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply  |
| Q    | analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification  |
| R    | Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples |



---

## CASE NARRATIVE

### QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

#### **ND**

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

# BIOPHARMACEUTICALS REPOR T

TERRA AURA ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

## Base/Neutral Extractable Compounds

| ANALYTE   | Method    | Units | RESULT | DF | MDL  | RL  | Fraction | QA CODE | Batch ID | Date Processed | Date Analyzed |
|---|-----------|-------|--------|----|------|-----|----------|---------|----------|----------------|---------------|
| <b>Sample ID: 111034-R1 MOANALUA WELLS 380-62702-1 Matrix: Samplewater</b>          |           |       |        |    |      |     |          |         |          |                |               |
| Disalicylideneprapanediamine  | EPA 625.1 | µg/L  | ND     | 1  | 0.05 | 0.1 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| <b>Sample ID: 111035-R1 AIEA GULCH WELLS PUMP 2 380-6 Matrix: Samplewater</b>       |           |       |        |    |      |     |          |         |          |                |               |
| Disalicylideneprapanediamine  | EPA 625.1 | µg/L  | ND     | 1  | 0.05 | 0.1 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| <b>Sample ID: 111036-R1 AIEA WELLS PUMPS 1&amp;2 (260) P2 3 Matrix: Samplewater</b> |           |       |        |    |      |     |          |         |          |                |               |
| Disalicylideneprapanediamine  | EPA 625.1 | µg/L  | ND     | 1  | 0.05 | 0.1 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| <b>Sample ID: 111037-R1 HALAWA WELLS UNITS 1 &amp; 2 P1 38 Matrix: Samplewater</b>  |           |       |        |    |      |     |          |         |          |                |               |
| Disalicylideneprapanediamine  | EPA 625.1 | µg/L  | ND     | 1  | 0.05 | 0.1 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |

## Polynuclear Aromatic Hydrocarbons

| ANALYTE                     | Method                            | Units                      | RESULT | DF | MDL   | RL    | Fraction        | QA CODE          | Batch ID    | Date Processed   | Date Analyzed    |
|-----------------------------|-----------------------------------|----------------------------|--------|----|-------|-------|-----------------|------------------|-------------|------------------|------------------|
| <b>Sample ID: 111034-R1</b> | <b>MOANALUA WELLS 380-62702-1</b> | <b>Matrix: Samplewater</b> |        |    |       |       | <b>Sampled:</b> | <b>11-Sep-23</b> | <b>9:53</b> | <b>Received:</b> | <b>14-Sep-23</b> |
| (d10-Acenaphthene)          | EPA 625.1                         | % Recovery                 | 71     | 1  |       |       | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| (d10-Phenanthrene)          | EPA 625.1                         | % Recovery                 | 76     | 1  |       |       | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| (d12-Chrysene)              | EPA 625.1                         | % Recovery                 | 85     | 1  |       |       | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| (d12-Perylene)              | EPA 625.1                         | % Recovery                 | 86     | 1  |       |       | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| (d8-Naphthalene)            | EPA 625.1                         | % Recovery                 | 66     | 1  |       |       | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| 1-Methylnaphthalene         | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| 1-Methylphenanthrene        | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| 2,3,5-Trimethylnaphthalene  | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| 2,6-Dimethylnaphthalene     | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| 2-Methylnaphthalene         | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Acenaphthene                | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Acenaphthylene              | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Anthracene                  | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benz[a]anthracene           | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benzo[a]pyrene              | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benzo[b]fluoranthene        | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benzo[e]pyrene              | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benzo[g,h,i]perylene        | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Benzo[k]fluoranthene        | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Biphenyl                    | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Chrysene                    | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Dibenz[a,h]anthracene       | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Dibenzo[a,l]pyrene          | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |
| Dibenzothiophene            | EPA 625.1                         | µg/L                       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088     | 18-Sep-23        | 15-Oct-23        |



### Polynuclear Aromatic Hydrocarbons

| ANALYTE                | Method    | Units | RESULT | DF | MDL   | RL    | Fraction | QA CODE | Batch ID | Date Processed | Date Analyzed |
|------------------------|-----------|-------|--------|----|-------|-------|----------|---------|----------|----------------|---------------|
| Fluoranthene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Fluorene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Indeno[1,2,3-cd]pyrene | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Naphthalene            | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Perylene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Phenanthrene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Pyrene                 | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |



## Polynuclear Aromatic Hydrocarbons

| ANALYTE                     | Method    | Units      | RESULT   | DF | MDL   | RL    | Fraction                        | QA CODE | Batch ID                   | Date Processed | Date Analyzed |
|-----------------------------|-----------|------------|--|----|-------|-------|---------------------------------|---------|----------------------------|----------------|---------------|
| <b>Sample ID: 111035-R1</b> |           |            | <b>AIEA GULCH WELLS PUMP 2 380-6 Matrix: Samplewater</b> |    |       |       | <b>Sampled: 11-Sep-23 11:06</b> |         | <b>Received: 14-Sep-23</b> |                |               |
| (d10-Acenaphthene)          | EPA 625.1 | % Recovery | 84   | 1  |       |       | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| (d10-Phenanthrene)          | EPA 625.1 | % Recovery | 91   | 1  |       |       | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| (d12-Chrysene)              | EPA 625.1 | % Recovery | 93   | 1  |       |       | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| (d12-Perylene)              | EPA 625.1 | % Recovery | 91   | 1  |       |       | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| (d8-Naphthalene)            | EPA 625.1 | % Recovery | 79   | 1  |       |       | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| 1-Methylnaphthalene         | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| 1-Methylphenanthrene        | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| 2,3,5-Trimethylnaphthalene  | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| 2,6-Dimethylnaphthalene     | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| 2-Methylnaphthalene         | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Acenaphthene                | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Acenaphthylene              | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Anthracene                  | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benz[a]anthracene           | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benzo[a]pyrene              | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benzo[b]fluoranthene        | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benzo[e]pyrene              | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benzo[g,h,i]perylene        | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Benzo[k]fluoranthene        | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Biphenyl                    | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Chrysene                    | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Dibenz[a,h]anthracene       | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Dibenzo[a,l]pyrene          | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |
| Dibenzothiophene            | EPA 625.1 | µg/L       | ND   | 1  | 0.001 | 0.005 | Total                           |         | O-42088                    | 18-Sep-23      | 15-Oct-23     |



### Polynuclear Aromatic Hydrocarbons

| ANALYTE                | Method    | Units | RESULT | DF | MDL   | RL    | Fraction | QA CODE | Batch ID | Date Processed | Date Analyzed |
|------------------------|-----------|-------|--------|----|-------|-------|----------|---------|----------|----------------|---------------|
| Fluoranthene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Fluorene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Indeno[1,2,3-cd]pyrene | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Naphthalene            | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Perylene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Phenanthrene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Pyrene                 | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |



## Polynuclear Aromatic Hydrocarbons

| ANALYTE                     | Method   | Units      | RESULT | DF | MDL   | RL    | Fraction        | QA CODE          | Batch ID     | Date Processed   | Date Analyzed    |
|-----------------------------|--|------------|--------|----|-------|-------|-----------------|------------------|--------------|------------------|------------------|
| <b>Sample ID: 111036-R1</b> | <b>AIEA WELLS PUMPS 1&amp;2 (260) P2 3 Matrix: Samplewater</b> |            |        |    |       |       | <b>Sampled:</b> | <b>11-Sep-23</b> | <b>11:34</b> | <b>Received:</b> | <b>14-Sep-23</b> |
| (d10-Acenaphthene)          | EPA 625.1  | % Recovery | 75     | 1  |       |       | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| (d10-Phenanthrene)          | EPA 625.1  | % Recovery | 82     | 1  |       |       | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| (d12-Chrysene)              | EPA 625.1  | % Recovery | 86     | 1  |       |       | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| (d12-Perylene)              | EPA 625.1  | % Recovery | 87     | 1  |       |       | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| (d8-Naphthalene)            | EPA 625.1  | % Recovery | 68     | 1  |       |       | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| 1-Methylnaphthalene         | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| 1-Methylphenanthrene        | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| 2,3,5-Trimethylnaphthalene  | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| 2,6-Dimethylnaphthalene     | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| 2-Methylnaphthalene         | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Acenaphthene                | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Acenaphthylene              | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Anthracene                  | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benz[a]anthracene           | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benzo[a]pyrene              | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benzo[b]fluoranthene        | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benzo[e]pyrene              | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benzo[g,h,i]perylene        | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Benzo[k]fluoranthene        | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Biphenyl                    | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Chrysene                    | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Dibenz[a,h]anthracene       | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Dibenzo[a,l]pyrene          | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |
| Dibenzothiophene            | EPA 625.1  | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                  | O-42088      | 18-Sep-23        | 15-Oct-23        |



## Polynuclear Aromatic Hydrocarbons

| ANALYTE                | Method    | Units | RESULT | DF | MDL   | RL    | Fraction | QA CODE | Batch ID | Date Processed | Date Analyzed |
|------------------------|-----------|-------|--------|----|-------|-------|----------|---------|----------|----------------|---------------|
| Fluoranthene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Fluorene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Indeno[1,2,3-cd]pyrene | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Naphthalene            | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Perylene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Phenanthrene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Pyrene                 | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |



## Polynuclear Aromatic Hydrocarbons

| ANALYTE                     | Method  | Units      | RESULT | DF | MDL   | RL    | Fraction        | QA CODE                | Batch ID | Date Processed   | Date Analyzed    |  |
|-----------------------------|---|------------|--------|----|-------|-------|-----------------|------------------------|----------|------------------|------------------|--|
| <b>Sample ID: 111037-R1</b> | <b>HALAWA WELLS UNITS 1 &amp; 2 P1 38 Matrix: Samplewater</b> |            |        |    |       |       | <b>Sampled:</b> | <b>11-Sep-23 10:31</b> |          | <b>Received:</b> | <b>14-Sep-23</b> |  |
| (d10-Acenaphthene)          | EPA 625.1   | % Recovery | 74     | 1  |       |       | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| (d10-Phenanthrene)          | EPA 625.1   | % Recovery | 78     | 1  |       |       | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| (d12-Chrysene)              | EPA 625.1   | % Recovery | 87     | 1  |       |       | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| (d12-Perylene)              | EPA 625.1   | % Recovery | 91     | 1  |       |       | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| (d8-Naphthalene)            | EPA 625.1   | % Recovery | 72     | 1  |       |       | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| 1-Methylnaphthalene         | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| 1-Methylphenanthrene        | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| 2,3,5-Trimethylnaphthalene  | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| 2,6-Dimethylnaphthalene     | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| 2-Methylnaphthalene         | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Acenaphthene                | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Acenaphthylene              | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Anthracene                  | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benz[a]anthracene           | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benzo[a]pyrene              | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benzo[b]fluoranthene        | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benzo[e]pyrene              | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benzo[g,h,i]perylene        | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Benzo[k]fluoranthene        | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Biphenyl                    | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Chrysene                    | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Dibenz[a,h]anthracene       | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Dibenzo[a,l]pyrene          | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |
| Dibenzothiophene            | EPA 625.1   | µg/L       | ND     | 1  | 0.001 | 0.005 | Total           |                        | O-42088  | 18-Sep-23        | 15-Oct-23        |  |

### Polynuclear Aromatic Hydrocarbons

| ANALYTE                | Method    | Units | RESULT | DF | MDL   | RL    | Fraction | QA CODE | Batch ID | Date Processed | Date Analyzed |
|------------------------|-----------|-------|--------|----|-------|-------|----------|---------|----------|----------------|---------------|
| Fluoranthene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Fluorene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Indeno[1,2,3-cd]pyrene | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Naphthalene            | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Perylene               | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Phenanthrene           | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |
| Pyrene                 | EPA 625.1 | µg/L  | ND     | 1  | 0.001 | 0.005 | Total    |         | O-42088  | 18-Sep-23      | 15-Oct-23     |



# QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

|    |
|----|
| 1  |
| 2  |
| 3  |
| 4  |
| 5  |
| 6  |
| 7  |
| 8  |
| 9  |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

| ANALYTE                      | FRACTION | RESULT                       | DF | MDL  | RL                         | UNITS | SPIKE |                     | ACCURACY |                     | PRECISION |        | QA CODEc |
|------------------------------|----------|------------------------------|----|------|----------------------------|-------|-------|---------------------|----------|---------------------|-----------|--------|----------|
|                              |          |                              |    |      |                            |       | LEVEL | RESULT              | %        | LIMITS              | %         | LIMITS |          |
| <b>Sample ID: 111033-B1</b>  |          | <b>QAQC Procedural Blank</b> |    |      | <b>Matrix: BlankMatrix</b> |       |       | <b>Sampled:</b>     |          | <b>Received:</b>    |           |        |          |
|                              |          | Method: EPA 625.1            |    |      | Batch ID: O-42088          |       |       | Prepared: 18-Sep-23 |          | Analyzed: 15-Oct-23 |           |        |          |
| Disalicylidenepropanediamine | Total    | ND                           | 1  | 0.05 | 0.1                        | µg/L  |       |                     |          |                     |           |        |          |
| <b>Sample ID: 111033-BS1</b> |          | <b>QAQC Procedural Blank</b> |    |      | <b>Matrix: BlankMatrix</b> |       |       | <b>Sampled:</b>     |          | <b>Received:</b>    |           |        |          |
|                              |          | Method: EPA 625.1            |    |      | Batch ID: O-42088          |       |       | Prepared: 18-Sep-23 |          | Analyzed: 15-Oct-23 |           |        |          |
| Disalicylidenepropanediamine | Total    | 43.8                         | 1  | 0.05 | 0.1                        | µg/L  | 50    | 0                   | 88       | 50 - 150%           | PASS      |        |          |
| <b>Sample ID: 111033-BS2</b> |          | <b>QAQC Procedural Blank</b> |    |      | <b>Matrix: BlankMatrix</b> |       |       | <b>Sampled:</b>     |          | <b>Received:</b>    |           |        |          |
|                              |          | Method: EPA 625.1            |    |      | Batch ID: O-42088          |       |       | Prepared: 18-Sep-23 |          | Analyzed: 15-Oct-23 |           |        |          |
| Disalicylidenepropanediamine | Total    | 47.4                         | 1  | 0.05 | 0.1                        | µg/L  | 50    | 0                   | 95       | 50 - 150%           | PASS      | 8      | 30 PASS  |

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                     | FRACTION | RESULT                       | DF | MDL   | RL                         | UNITS             | SPIKE               | SOURCE | ACCURACY            | PRECISION | QA CODEc |
|-----------------------------|----------|------------------------------|----|-------|----------------------------|-------------------|---------------------|--------|---------------------|-----------|----------|
|                             |          |                              |    |       |                            |                   | LEVEL               | RESULT | %                   | LIMITS    | %        |
| <b>Sample ID: 111033-B1</b> |          | <b>QAQC Procedural Blank</b> |    |       | <b>Matrix: BlankMatrix</b> |                   | <b>Sampled:</b>     |        | <b>Received:</b>    |           |          |
|                             |          | Method: EPA 625.1            |    |       |                            | Batch ID: O-42088 | Prepared: 18-Sep-23 |        | Analyzed: 15-Oct-23 |           |          |
| (d10-Acenaphthene)          | Total    | 91                           | 1  |       |                            | % Recovery        | 100                 | 91     | 27 - 133%           | PASS      |          |
| (d10-Phenanthrene)          | Total    | 92                           | 1  |       |                            | % Recovery        | 100                 | 92     | 43 - 129%           | PASS      |          |
| (d12-Chrysene)              | Total    | 94                           | 1  |       |                            | % Recovery        | 100                 | 94     | 52 - 144%           | PASS      |          |
| (d12-Perylene)              | Total    | 99                           | 1  |       |                            | % Recovery        | 100                 | 99     | 36 - 161%           | PASS      |          |
| (d8-Naphthalene)            | Total    | 94                           | 1  |       |                            | % Recovery        | 100                 | 94     | 25 - 125%           | PASS      |          |
| 1-Methylnaphthalene         | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| 1-Methylphenanthrene        | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| 2,3,5-Trimethylnaphthalene  | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| 2,6-Dimethylnaphthalene     | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| 2-Methylnaphthalene         | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Acenaphthene                | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Acenaphthylene              | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Anthracene                  | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benz[a]anthracene           | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benzo[a]pyrene              | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benzo[b]fluoranthene        | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benzo[e]pyrene              | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benzo[g,h,i]perylene        | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Benzo[k]fluoranthene        | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Biphenyl                    | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Chrysene                    | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Dibenz[a,h]anthracene       | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |
| Dibenzo[a,l]pyrene          | Total    | ND                           | 1  | 0.001 | 0.005                      | µg/L              |                     |        |                     |           |          |

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                | FRACTION | RESULT | DF | MDL   | RL    | UNITS | SPIKE | SOURCE | ACCURACY |        | PRECISION |        | QA CODE <sup>c</sup> |
|------------------------|----------|--------|----|-------|-------|-------|-------|--------|----------|--------|-----------|--------|----------------------|
|                        |          |        |    |       |       |       | LEVEL | RESULT | %        | LIMITS | %         | LIMITS |                      |
| Dibenzothiophene       | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Fluoranthene           | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Fluorene               | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Indeno[1,2,3-cd]pyrene | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Naphthalene            | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Perylene               | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Phenanthrene           | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |
| Pyrene                 | Total    | ND     | 1  | 0.001 | 0.005 | µg/L  |       |        |          |        |           |        |                      |



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                      | FRACTION | RESULT                       | DF | MDL   | RL                         | UNITS      | SPIKE               | SOURCE          | ACCURACY |                  | PRECISION |        | QA CODEc |
|------------------------------|----------|------------------------------|----|-------|----------------------------|------------|---------------------|-----------------|----------|------------------|-----------|--------|----------|
|                              |          |                              |    |       |                            |            | LEVEL               | RESULT          | %        | LIMITS           | %         | LIMITS |          |
| <b>Sample ID: 111033-BS1</b> |          | <b>QAQC Procedural Blank</b> |    |       | <b>Matrix: BlankMatrix</b> |            |                     | <b>Sampled:</b> |          | <b>Received:</b> |           |        |          |
| Method: EPA 625.1            |          | Batch ID: O-42088            |    |       | Prepared: 18-Sep-23        |            | Analyzed: 15-Oct-23 |                 |          |                  |           |        |          |
| (d10-Acenaphthene)           | Total    | 91                           | 1  |       |                            | % Recovery | 100                 | 0               | 91       | 27 - 133%        | PASS      |        |          |
| (d10-Phenanthrene)           | Total    | 96                           | 1  |       |                            | % Recovery | 100                 | 0               | 96       | 43 - 129%        | PASS      |        |          |
| (d12-Chrysene)               | Total    | 96                           | 1  |       |                            | % Recovery | 100                 | 0               | 96       | 52 - 144%        | PASS      |        |          |
| (d12-Perylene)               | Total    | 91                           | 1  |       |                            | % Recovery | 100                 | 0               | 91       | 36 - 161%        | PASS      |        |          |
| (d8-Naphthalene)             | Total    | 86                           | 1  |       |                            | % Recovery | 100                 | 0               | 86       | 25 - 125%        | PASS      |        |          |
| 1-Methylnaphthalene          | Total    | 0.407                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 81       | 31 - 128%        | PASS      |        |          |
| 1-Methylphenanthrene         | Total    | 0.433                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 87       | 66 - 127%        | PASS      |        |          |
| 2,3,5-Trimethylnaphthalene   | Total    | 0.441                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 88       | 55 - 122%        | PASS      |        |          |
| 2,6-Dimethylnaphthalene      | Total    | 0.433                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 87       | 48 - 120%        | PASS      |        |          |
| 2-Methylnaphthalene          | Total    | 0.421                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 84       | 47 - 130%        | PASS      |        |          |
| Acenaphthene                 | Total    | 0.437                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 87       | 53 - 131%        | PASS      |        |          |
| Acenaphthylene               | Total    | 0.454                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 91       | 43 - 140%        | PASS      |        |          |
| Anthracene                   | Total    | 0.449                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 90       | 58 - 135%        | PASS      |        |          |
| Benz[a]anthracene            | Total    | 0.524                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 105      | 55 - 145%        | PASS      |        |          |
| Benzo[a]pyrene               | Total    | 0.462                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 92       | 51 - 143%        | PASS      |        |          |
| Benzo[b]fluoranthene         | Total    | 0.512                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 102      | 46 - 165%        | PASS      |        |          |
| Benzo[e]pyrene               | Total    | 0.395                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 79       | 42 - 152%        | PASS      |        |          |
| Benzo[g,h,i]perylene         | Total    | 0.479                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 96       | 63 - 133%        | PASS      |        |          |
| Benzo[k]fluoranthene         | Total    | 0.447                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 89       | 56 - 145%        | PASS      |        |          |
| Biphenyl                     | Total    | 0.456                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 91       | 56 - 119%        | PASS      |        |          |
| Chrysene                     | Total    | 0.395                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 79       | 56 - 141%        | PASS      |        |          |
| Dibenz[a,h]anthracene        | Total    | 0.516                        | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 103      | 55 - 150%        | PASS      |        |          |
| Dibenzo[a,l]pyrene           | Total    | 0.26                         | 1  | 0.001 | 0.005                      | µg/L       | 0.5                 | 0               | 52       | 50 - 150%        | PASS      |        |          |



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                | FRACTION | RESULT | DF | MDL   | RL    | UNITS | SPIKE | SOURCE | ACCURACY |           | PRECISION |        | QA CODEc |
|------------------------|----------|--------|----|-------|-------|-------|-------|--------|----------|-----------|-----------|--------|----------|
|                        |          |        |    |       |       |       | LEVEL | RESULT | %        | LIMITS    | %         | LIMITS |          |
| Dibenzothiophene       | Total    | 0.452  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 90       | 46 - 126% | PASS      |        |          |
| Fluoranthene           | Total    | 0.433  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 87       | 60 - 146% | PASS      |        |          |
| Fluorene               | Total    | 0.433  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 87       | 58 - 131% | PASS      |        |          |
| Indeno[1,2,3-cd]pyrene | Total    | 0.484  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 97       | 50 - 151% | PASS      |        |          |
| Naphthalene            | Total    | 0.427  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 85       | 41 - 126% | PASS      |        |          |
| Perylene               | Total    | 0.483  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 97       | 48 - 141% | PASS      |        |          |
| Phenanthrene           | Total    | 0.447  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 89       | 67 - 127% | PASS      |        |          |
| Pyrene                 | Total    | 0.426  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 85       | 54 - 156% | PASS      |        |          |



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                      | FRACTION | RESULT                       | DF | MDL   | RL    | UNITS                      | SPIKE |        | ACCURACY            |           |      | PRECISION           |    | QA CODEc |
|------------------------------|----------|------------------------------|----|-------|-------|----------------------------|-------|--------|---------------------|-----------|------|---------------------|----|----------|
|                              |          |                              |    |       |       |                            | LEVEL | RESULT | %                   | LIMITS    | %    | LIMITS              |    |          |
| <b>Sample ID: 111033-BS2</b> |          | <b>QAQC Procedural Blank</b> |    |       |       | <b>Matrix: BlankMatrix</b> |       |        | <b>Sampled:</b>     |           |      | <b>Received:</b>    |    |          |
|                              |          | Method: EPA 625.1            |    |       |       | Batch ID: O-42088          |       |        | Prepared: 18-Sep-23 |           |      | Analyzed: 15-Oct-23 |    |          |
| (d10-Acenaphthene)           | Total    | 94                           | 1  |       |       | % Recovery                 | 100   | 0      | 94                  | 27 - 133% | PASS | 3                   | 30 | PASS     |
| (d10-Phenanthrene)           | Total    | 99                           | 1  |       |       | % Recovery                 | 100   | 0      | 99                  | 43 - 129% | PASS | 3                   | 30 | PASS     |
| (d12-Chrysene)               | Total    | 96                           | 1  |       |       | % Recovery                 | 100   | 0      | 96                  | 52 - 144% | PASS | 0                   | 30 | PASS     |
| (d12-Perylene)               | Total    | 97                           | 1  |       |       | % Recovery                 | 100   | 0      | 97                  | 36 - 161% | PASS | 6                   | 30 | PASS     |
| (d8-Naphthalene)             | Total    | 88                           | 1  |       |       | % Recovery                 | 100   | 0      | 88                  | 25 - 125% | PASS | 2                   | 30 | PASS     |
| 1-Methylnaphthalene          | Total    | 0.444                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 89                  | 31 - 128% | PASS | 9                   | 30 | PASS     |
| 1-Methylphenanthrene         | Total    | 0.445                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 89                  | 66 - 127% | PASS | 2                   | 30 | PASS     |
| 2,3,5-Trimethylnaphthalene   | Total    | 0.451                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 90                  | 55 - 122% | PASS | 2                   | 30 | PASS     |
| 2,6-Dimethylnaphthalene      | Total    | 0.448                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 90                  | 48 - 120% | PASS | 3                   | 30 | PASS     |
| 2-Methylnaphthalene          | Total    | 0.433                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 87                  | 47 - 130% | PASS | 4                   | 30 | PASS     |
| Acenaphthene                 | Total    | 0.449                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 90                  | 53 - 131% | PASS | 3                   | 30 | PASS     |
| Acenaphthylene               | Total    | 0.467                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 93                  | 43 - 140% | PASS | 2                   | 30 | PASS     |
| Anthracene                   | Total    | 0.468                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 94                  | 58 - 135% | PASS | 4                   | 30 | PASS     |
| Benz[a]anthracene            | Total    | 0.527                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 105                 | 55 - 145% | PASS | 0                   | 30 | PASS     |
| Benzo[a]pyrene               | Total    | 0.46                         | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 92                  | 51 - 143% | PASS | 0                   | 30 | PASS     |
| Benzo[b]fluoranthene         | Total    | 0.512                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 102                 | 46 - 165% | PASS | 0                   | 30 | PASS     |
| Benzo[e]pyrene               | Total    | 0.414                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 83                  | 42 - 152% | PASS | 5                   | 30 | PASS     |
| Benzo[g,h,i]perylene         | Total    | 0.464                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 93                  | 63 - 133% | PASS | 3                   | 30 | PASS     |
| Benzo[k]fluoranthene         | Total    | 0.452                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 90                  | 56 - 145% | PASS | 1                   | 30 | PASS     |
| Biphenyl                     | Total    | 0.459                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 92                  | 56 - 119% | PASS | 1                   | 30 | PASS     |
| Chrysene                     | Total    | 0.39                         | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 78                  | 56 - 141% | PASS | 1                   | 30 | PASS     |
| Dibenz[a,h]anthracene        | Total    | 0.513                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 103                 | 55 - 150% | PASS | 0                   | 30 | PASS     |
| Dibenzo[a,l]pyrene           | Total    | 0.256                        | 1  | 0.001 | 0.005 | µg/L                       | 0.5   | 0      | 51                  | 50 - 150% | PASS | 2                   | 30 | PASS     |

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

| ANALYTE                | FRACTION | RESULT | DF | MDL   | RL    | UNITS | SPIKE | SOURCE | ACCURACY |           | PRECISION |        | QA CODE <sup>c</sup> |      |
|------------------------|----------|--------|----|-------|-------|-------|-------|--------|----------|-----------|-----------|--------|----------------------|------|
|                        |          |        |    |       |       |       | LEVEL | RESULT | %        | LIMITS    | %         | LIMITS |                      |      |
| Dibenzothiophene       | Total    | 0.463  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 93       | 46 - 126% | PASS      | 3      | 30                   | PASS |
| Fluoranthene           | Total    | 0.453  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 91       | 60 - 146% | PASS      | 4      | 30                   | PASS |
| Fluorene               | Total    | 0.453  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 91       | 58 - 131% | PASS      | 4      | 30                   | PASS |
| Indeno[1,2,3-cd]pyrene | Total    | 0.481  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 96       | 50 - 151% | PASS      | 1      | 30                   | PASS |
| Naphthalene            | Total    | 0.429  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 86       | 41 - 126% | PASS      | 1      | 30                   | PASS |
| Perylene               | Total    | 0.482  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 96       | 48 - 141% | PASS      | 1      | 30                   | PASS |
| Phenanthrene           | Total    | 0.456  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 91       | 67 - 127% | PASS      | 2      | 30                   | PASS |
| Pyrene                 | Total    | 0.444  | 1  | 0.001 | 0.005 | µg/L  | 0.5   | 0      | 89       | 54 - 156% | PASS      | 5      | 30                   | PASS |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# PHYSIS

**TENTATIVELY IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 111034

| Retention Time | Area (% of total) | Concentration (ng/L) | Library/ID                           | Cas Number   | Match Quality (%) |
|----------------|-------------------|----------------------|--------------------------------------|--------------|-------------------|
| 33.3190        | 5.8284            | 1111                 | Anthracene-D10-                      | 1719-06-8    | 92                |
| 10.0381        | 2.2429            | 428                  | Oxalic acid, cyclohexyl pentyl ester | 1000309-30-6 | 92                |

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Sample ID: 111035

| Retention Time | Area (% of total) | Concentration (ng/L) | Library/ID                          | Cas Number   | Match Quality (%) |
|----------------|-------------------|----------------------|-------------------------------------|--------------|-------------------|
| 33.3025        | 5.6852            | 1111                 | Anthracene-D10-                     | 1719-06-8    | 88                |
| 10.0375        | 1.8103            | 354                  | Oxalic acid, cyclohexyl ethyl ester | 1000309-30-2 | 93                |

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Sample ID: 111036

| Retention Time | Area (% of total) | Concentration (ng/L) | Library/ID                           | Cas Number   | Match Quality (%) |
|----------------|-------------------|----------------------|--------------------------------------|--------------|-------------------|
| 33.2997        | 7.0075            | 1111                 | Anthracene-D10                       | 1517-22-2    | 88                |
| 10.0380        | 2.7716            | 439                  | Oxalic acid, cyclohexyl pentyl ester | 1000309-30-6 | 92                |

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Sample ID: 111037

| Retention Time | Area (% of total) | Concentration (ng/L) | Library/ID                           | Cas Number   | Match Quality (%) |
|----------------|-------------------|----------------------|--------------------------------------|--------------|-------------------|
| 33.3279        | 5.6522            | 1111                 | Anthracene-D10                       | 1517-22-2    | 88                |
| 58.9296        | 2.4483            | 481                  | Bis(2-ethylhexyl) phthalate          | 117-81-7     | 95                |
| 10.0371        | 1.7809            | 350                  | Oxalic acid, cyclohexyl pentyl ester | 1000309-30-6 | 92                |
| 10.8072        | 1.4672            | 288                  | 1-Butanol                            | 71-36-3      | 92                |

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



Sample ID: Lab Blank B1\_42088

| Retention Time | Area (% of total) | Concentration (ng/L) | Library/ID                           | Cas Number   | Match Quality (%) |
|----------------|-------------------|----------------------|--------------------------------------|--------------|-------------------|
| 33.3506        | 5.4234            | 1111                 | Anthracene-D10                       | 1517-22-2    | 88                |
| 10.0375        | 1.6559            | 339                  | Oxalic acid, cyclohexyl propyl ester | 1000309-30-3 | 95                |

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# PERFORMANCE CHAIN OF CUSTODY

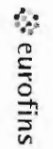
TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

|    |
|----|
| 1  |
| 2  |
| 3  |
| 4  |
| 5  |
| 6  |
| 7  |
| 8  |
| 9  |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |

# Eurofins Eaton Analytical Pomona

941 Corporate Center Drive  
Pomona, CA 91768-2642  
Phone: 626-386-1100



Environment Testing

## Chain of Custody Record

Client Information (Sub Contract Lab)

Sampler: Arada, Rachelle  
Phone: Rachelle.Arada@get.eurofins.com  
E-Mail: Rachelle.Arada@get.eurofins.com

Corner Tracking No(s):  
State of Origin: Hawaii

COC No: 380-77937.1  
Page: Page 1 of 1

Company: Physics Environmental Laboratories

Due Date Requested: 9/25/2023

Accreditations Required (See note): State - Hawaii

Job #: 380-62702-1

Address: 1904 Wright Circle

TAT Requested (days):

### Analysis Requested

Preservation Codes:  
A - HCL  
B - NaOH  
C - Zn Acetate  
D - Nitric Acid  
E - NaHSO4  
F - MeOH  
G - Anchlor  
H - Ascorbic Acid  
I - Ice  
J - DI Water  
K - EDTA  
L - EDA  
M - Hexane  
N - None  
O - AsNaO2  
P - Na2O4S  
Q - Na2S03  
R - Na2S203  
S - H2SO4  
T - TSP Dodecahydrate  
U - Acetone  
V - MCAA  
W - pH 4-5  
Y - Trizma  
Z - other (Specify)

City: Anaheim

Project #:

State, Zip: CA, 92806

Project Name: RED-HILL

Phone:

SSOV#: 38001111

Email:

WQ #:

Site: Honolulu BWS Sites

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs

### Sample Identification - Client ID (Lab ID)

| Sample Identification - Client ID (Lab ID)  | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (Hexane, Acetone, MeOH, etc.) | Preservation Code | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | Analysis Requested | Total Number of containers | Special Instructions/Note: |
|---|-------------|-------------|------------------------------|--------------------------------------|-------------------|-----------------------------------|----------------------------|--------------------|----------------------------|----------------------------|
| MOANALUA WELLS (380-62702-1)                | 9/1/123     | 09:53       | Water                        | Water                                |                   | X                                 |                            |                    | 2                          | See Attached Instructions  |
| AIEA GULCH WELLS PUMP 2 (380-62702-2)       | 9/1/123     | 11:06       | Water                        | Water                                |                   | X                                 |                            |                    | 2                          | See Attached Instructions  |
| AIEA WELLS PUMPS 1&2 (260) P2 (380-62702-3) | 9/1/123     | 11:34       | Water                        | Water                                |                   | X                                 |                            |                    | 2                          | See Attached Instructions  |
| HALAWA WELLS UNITS 1 & 2 P1 (380-62702-4)   | 9/1/123     | 10:31       | Water                        | Water                                |                   | X                                 |                            |                    | 2                          | See Attached Instructions  |

Note: Since laboratory accreditation are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontractor laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

### Possible Hazard Identification

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Deliverable Requested: I, II, III, IV, Other (Specify)

Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:

Date:

Time:

Method of Shipment:

Return To Client  Disposal By Lab  Archive For  Months

Relinquished by: *[Signature]*

Date/Time: 9/19/23 11:26

Company: BEA

Received by: *[Signature]*

Date/Time: 9/14/2023 11:26

Company: PHYSIS

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Custody Seals Intact:  Yes  No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Project Iteration ID: 1407003-445  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-62702-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

**Receiving Info**

1. Initials Received By: MW
2. Date Received: 9/14/2023
3. Time Received: 11:20
4. Client Name: Eurofins Pomona
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
    - i. Start Time: \_\_\_\_\_
    - ii. End Time: \_\_\_\_\_
    - iii. Total Mileage: \_\_\_\_\_
    - iv. Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): -0.1°C Used I/R Thermometer # 1-2

**Inspection Info**

1. Initials Inspected By: \_\_\_\_\_

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out.....  Yes / No
2. All sample containers arrived intact.....  Yes / No
3. All samples listed on COC(s) are present.....  Yes / No
4. Information on containers consistent with information on COC(s).....  Yes / No
5. Correct containers and volume for all analyses indicated.....  Yes / No
6. All samples received within method holding time.....  Yes / No
7. Correct preservation used for all analyses indicated.....  Yes / No
8. Name of sampler included on COC(s)..... Yes /  No

Notes:



3051 Fujita Street  
 Torrance, CA 90505  
 Tel: (310)-618-8889

Date: 10-11-2023  
 EMAX Batch No.: 23I096

Attn: Jackie Contreras

Eurofins Eaton Analytical  
 750 Royal Oaks Dr., Suite 100  
 Monrovia, CA 91016-3629

Subject: Laboratory Report  
 Project: 380-62702

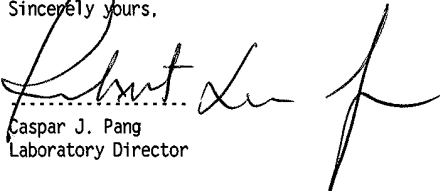
Enclosed is the Laboratory report for samples received on 09/14/23.  
 The data reported relate only to samples listed below :

| Sample ID      | Control # | Col Date | Matrix | Analysis     |
|----------------|-----------|----------|--------|--------------|
| 380-62702-1    | I096-01   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-2    | I096-02   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-3    | I096-03   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-4    | I096-04   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-5    | I096-05   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-6    | I096-06   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-7    | I096-07   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-8    | I096-08   | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-1MS  | I096-01M  | 09/11/23 | WATER  | TPH GASOLINE |
| 380-62702-1MSD | I096-01S  | 09/11/23 | WATER  | TPH GASOLINE |

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Caspar J. Pang  
 Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912023-25  
 ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing  
 California ELAP Accredited Certificate Number 2672



**Chain of Custody Record**



231096

|  |                                     |                                |                         |             |
|--|-------------------------------------|--------------------------------|-------------------------|-------------|
| <b>Client Information (Sub Contract Lab)</b> | Sampler:                            | Lab P.M:                       | Carrier Tracking No(s): | COC No:     |
| Client Contact:                              | Phone:                              | Arada, Rachelle                | State of Origin:        | 380-77536-1 |
| Shipping/Receiving:                          | E-Mail:                             | Rachelle.Arada@et.eurofins.com | Hawaii                  | Page 1 of 1 |
| Company:                                     | Accreditations Required (See note): | State - Hawaii                 | Job #:                  | 380-62702-1 |
| EMAX Laboratories Inc                        |                                     |                                |                         |             |

|                     |                       |                           |  |
|---------------------|-----------------------|---------------------------|--|
| Address:            | Due Date Requested:   | <b>Analysis Requested</b> |  |
| 3051 Fujita Street, | 9/25/2023             |                           |  |
| City:               | TAT Requested (days): |                           |  |
| Torrance            |                       |                           |  |
| State, Zip:         |                       |                           |  |
| CA, 90505           |                       |                           |  |
| Phone:              | PO #:                 |                           |  |
|                     |                       |                           |  |
| Email:              | WO #:                 |                           |  |
|                     |                       |                           |  |
| Project Name:       | Project #:            |                           |  |
| RED-HILL            | 38001111              |                           |  |
| Site:               | SSOV#:                |                           |  |
| Honolulu BWS Sites  |                       |                           |  |

| Sample Identification - Client ID (Lab ID)       | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=Water, S=Solid, O=Other) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | Total Number of containers | Special Instructions/Note: |
|--|-------------|-------------|------------------------------|------------------------------------|-----------------------------------|----------------------------|----------------------------|----------------------------|
| 1 MOANALUA WELLS (380-62702-1)                   | 9/1/123     | 09:53       |                              | Water                              | X                                 | X                          | 6                          | See Attached Instructions  |
| 2 AIEA GULCH WELLS PUMP 2 (380-62702-2)          | 9/1/123     | 11:06       |                              | Water                              | X                                 | X                          | 6                          | See Attached Instructions  |
| 3 AIEA WELLS PUMPS 1&2 (260) P2 (380-62702-3)    | 9/1/123     | 11:34       |                              | Water                              | X                                 | X                          | 6                          | See Attached Instructions  |
| 4 HALAWA WELLS UNITS 1 & 2 P1 (380-62702-4)      | 9/1/123     | 10:31       |                              | Water                              | X                                 | X                          | 5                          | See Attached Instructions  |
| 5 TB MOANALUA WELLS (380-62702-5)                | 9/1/123     | 09:53       |                              | Water                              | X                                 | X                          | 2                          | See Attached Instructions  |
| 6 TB AIEA GULCH WELLS PUMP 2 (380-62702-6)       | 9/1/123     | 11:06       |                              | Water                              | X                                 | X                          | 2                          | See Attached Instructions  |
| 7 TB AIEA WELLS PUMPS 1&2 (260) P2 (380-62702-7) | 9/1/123     | 11:34       |                              | Water                              | X                                 | X                          | 2                          | See Attached Instructions  |
| 8 TB HALAWA WELLS UNITS 1 & 2 P1 (380-62702-8)   | 9/1/123     | 10:31       |                              | Water                              | X                                 | X                          | 2                          | See Attached Instructions  |

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analytes/methods/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

**Possible Hazard Identification**

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (Specify) \_\_\_\_\_ Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**

Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



|  |                           |  |
|--|---------------------------|--|
| Type of Delivery<br><input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others<br><input checked="" type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery | Airbill / Tracking Number | ECN <u>231096</u><br>Recipient <u>John Zamora</u><br>Date <u>09/14/23</u> Time <u>1020</u> |
|--|---------------------------|--|

**COC INSPECTION**

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| <input checked="" type="checkbox"/> Client Name | <input checked="" type="checkbox"/> Client PM/FC      | <input type="checkbox"/> Sampler Name        | <input checked="" type="checkbox"/> Sampling Date/Time | <input checked="" type="checkbox"/> Sample ID  | <input checked="" type="checkbox"/> Matrix |
| <input checked="" type="checkbox"/> Address     | <input checked="" type="checkbox"/> Tel # / Fax #     | <input type="checkbox"/> Courier Signature   | <input checked="" type="checkbox"/> Analysis Required  | <input type="checkbox"/> Preservative (if any) | <input checked="" type="checkbox"/> TAT    |
| Safety Issues (if any)<br>Note:                 | <input type="checkbox"/> High concentrations expected | <input type="checkbox"/> From Superfund Site | <input type="checkbox"/> Rad screening required        |  |  |

**PACKAGING INSPECTION**

|  |  |  |  |
|--|--|--|--|
| Container                                    | <input checked="" type="checkbox"/> Cooler   | <input type="checkbox"/> Box               | <input type="checkbox"/> Other             |
| Condition                                    | <input type="checkbox"/> Custody Seal  | <input type="checkbox"/> Intact            | <input type="checkbox"/> Damaged           |
| Packaging                                    | <input checked="" type="checkbox"/> Bubble Pack                                    | <input type="checkbox"/> Styrofoam         | <input type="checkbox"/> Popcorn           |
| Temperatures<br>(Cool, ≤6 °C but not frozen) | <input checked="" type="checkbox"/> Cooler 1 <u>4.3/4.2</u> °C                     | <input type="checkbox"/> Cooler 2 _____ °C | <input type="checkbox"/> Cooler 3 _____ °C |
| Thermometer:                                 | <input type="checkbox"/> Cooler 6 _____ °C   | <input type="checkbox"/> Cooler 7 _____ °C | <input type="checkbox"/> Cooler 8 _____ °C |
|  | A - S/N <u>221852708</u>   | B - S/N <u>221925379</u>                   | C - S/N _____                              |
| Comments:                                    | <input type="checkbox"/> Temperature is out of range. PM was informed IMMEDIATELY. |  |  |

**DISCREPANCIES**

| LabSampleID    | LabSampleContainerID         | Code       | ClientSample Label ID / Information            | Corrective Action |
|----------------|------------------------------|------------|--|-------------------|
| <u>1-4</u>     | <u>5,6,11,12,17,18,22,23</u> | <u>D2</u>  | <u>JP5/JP8 is not indicated on label</u>       | <u>R8</u>         |
| <u>2,3,4</u>   | <u>8,15,21</u>               | <u>D14</u> |  | <u>R4</u>         |
| <u>5,7,8</u>   | <u>24,25, 28-31</u>          | <u>D7</u>  | <u>two dates on label: 9/10/23 and 9/11/23</u> | <u>R1</u>         |
| <u>9/15/23</u> |                              |            |  |                   |

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RB 9/19/23

**NOTES/OBSERVATIONS:**  
 SAMPLE MATRIX IS DRINKING WATER?  YES  NO

**LEGEND:**

|  |  |   |
|--|--|---|
| <p><b>Code Description- Sample Management</b></p> <p>D1 Analysis is not indicated in _____</p> <p><u>D2</u> Analysis mismatch COC vs label</p> <p>D3 Sample ID mismatch COC vs label</p> <p>D4 Sample ID is not indicated in _____</p> <p>D5 Container -[improper] [leaking] [broken]</p> <p>D6 Date/Time is not indicated in _____</p> <p><u>D7</u> Date/Time mismatch COC vs label</p> <p>D8 Sample listed in COC is not received</p> <p>D9 Sample received is not listed in COC</p> <p>D10 No initial/date on corrections in COC/label</p> <p>D11 Container count mismatch COC vs received</p> <p>D12 Container size mismatch COC vs received</p> | <p><b>Code Description-Sample Management</b></p> <p>D13 Out of Holding Time</p> <p><u>D14</u> Bubble is &gt;6mm</p> <p>D15 No trip blank in cooler</p> <p>D16 Preservation not indicated in _____</p> <p>D17 Preservation mismatch COC vs label</p> <p>D18 Insufficient chemical preservative</p> <p>D19 Insufficient Sample</p> <p>D20 No filtration info for dissolved analysis</p> <p>D21 No sample for moisture determination</p> <p>D22 _____</p> <p>D23 _____</p> <p>D24 _____</p> | <p><input type="checkbox"/> Continue to next page.</p> <p><b>Code Description-Sample Management</b></p> <p>R1 Proceed as indicated in <input checked="" type="checkbox"/> COC <input type="checkbox"/> Label</p> <p>R2 Refer to attached instruction</p> <p>R3 Cancel the analysis</p> <p>R4 Use vial with smallest bubble first</p> <p>R5 Log-in with latest sampling date and time+1 min</p> <p>R6 Adjust pH as necessary</p> <p>R7 Filter and preserved as necessary</p> <p>R8 <u>Informed client</u></p> <p>R9 _____</p> <p>R10 _____</p> <p>R11 _____</p> <p>R12 _____</p> |
|--|--|---|

**REVIEWS:**

|                                 |                     |                     |
|---------------------------------|---------------------|---------------------|
| Sample Labeling <u>Jocelyne</u> | SRF <u>Quilley</u>  | PM <u>RB</u>        |
| Date <u>09/14/23</u>            | Date <u>9/15/23</u> | Date <u>9/19/23</u> |

## REPORTING CONVENTIONS

### DATA QUALIFIERS:

| Lab Qualifier | AFCEE Qualifier | Description  |
|---------------|-----------------|--|
| J             | F               | Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.       |
| N             |                 | Indicates presumptive evidence of a compound.  |
| B             | B               | Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level. |
| E             | J               | Indicates that the result is above the maximum calibration range or estimated value.                           |
| *             | *               | Out of QC limit.   |

**Note:** The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

### ACRONYMS AND ABBREVIATIONS:

|      |                                   |
|------|-----------------------------------|
| CRDL | Contract Required Detection Limit |
| RL   | Reporting Limit                   |
| MRL  | Method Reporting Limit            |
| PQL  | Practical Quantitation Limit      |
| MDL  | Method Detection Limit            |
| DO   | Diluted out                       |

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.



LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-62702

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 231096

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-62702

SDG : 23I096

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of eight(8) water samples were received on 09/14/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39I10B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VG39I10L/VG39I10C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in I096-01M/I096-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL  
Project : 380-62702

SDG NO. : 231096  
Instrument ID : GC1039

| Client Sample ID | Laboratory Sample ID | Dilution Factor | % Moist | Analysis Date/Time | Extraction Date/Time | Sample Data FN | Calibration Data FN | Prep. Batch | Notes                    |
|------------------|----------------------|-----------------|---------|--------------------|----------------------|----------------|---------------------|-------------|--------------------------|
|                  |                      |                 |         |                    |                      |                |                     |             | WATER                    |
| MBLK1W           | VG39110B             | 1               | NA      | 09/16/2311:02      | 09/16/2311:02        | EI16005A       | EI16003A            | 23VG39110   | Method Blank             |
| LCS1W            | VG39110L             | 1               | NA      | 09/16/2311:40      | 09/16/2311:40        | EI16006A       | EI16003A            | 23VG39110   | Lab Control Sample (LCS) |
| LCD1W            | VG39110C             | 1               | NA      | 09/16/2312:17      | 09/16/2312:17        | EI16007A       | EI16003A            | 23VG39110   | LCS Duplicate            |
| 380-62702-1      | 1096-01              | 1               | NA      | 09/16/2312:54      | 09/16/2312:54        | EI16008A       | EI16003A            | 23VG39110   | Field Sample             |
| 380-62702-1MS    | 1096-01M             | 1               | NA      | 09/16/2313:31      | 09/16/2313:31        | EI16009A       | EI16003A            | 23VG39110   | Matrix Spike Sample (MS) |
| 380-62702-1MSD   | 1096-01S             | 1               | NA      | 09/16/2314:08      | 09/16/2314:08        | EI16010A       | EI16003A            | 23VG39110   | MS Duplicate (MSD)       |
| 380-62702-2      | 1096-02              | 1               | NA      | 09/16/2314:45      | 09/16/2314:45        | EI16011A       | EI16003A            | 23VG39110   | Field Sample             |
| 380-62702-3      | 1096-03              | 1               | NA      | 09/16/2315:23      | 09/16/2315:23        | EI16012A       | EI16003A            | 23VG39110   | Field Sample             |
| 380-62702-4      | 1096-04              | 1               | NA      | 09/16/2316:00      | 09/16/2316:00        | EI16013A       | EI16003A            | 23VG39110   | Field Sample             |
| 380-62702-5      | 1096-05              | 1               | NA      | 09/16/2316:37      | 09/16/2316:37        | EI16014A       | EI16003A            | 23VG39110   | Field Sample             |
| 380-62702-6      | 1096-06              | 1               | NA      | 09/16/2317:52      | 09/16/2317:52        | EI16016A       | EI16015A            | 23VG39110   | Field Sample             |
| 380-62702-7      | 1096-07              | 1               | NA      | 09/16/2318:29      | 09/16/2318:29        | EI16017A       | EI16015A            | 23VG39110   | Field Sample             |
| 380-62702-8      | 1096-08              | 1               | NA      | 09/16/2319:06      | 09/16/2319:06        | EI16018A       | EI16015A            | 23VG39110   | Field Sample             |

FN - Filename  
% Moist - Percent Moisture



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# SAMPLE RESULTS

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 09:53
Project     : 380-62702                   Date Received: 09/14/23
Batch No.   : 23I096                       Date Extracted: 09/16/23 12:54
Sample ID   : 380-62702-1                 Date Analyzed: 09/16/23 12:54
Lab Samp ID : I096-01                      Dilution Factor: 1
Lab File ID : EI16008A                     Matrix: WATER
Ext Btch ID : 23VG39I10                   % Moisture: NA
Calib. Ref.: EI16003A                     Instrument ID: 39
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| -----                | -----             | -----        | -----         |          |
| GASOLINE             | ND                | 0.020        | 0.010         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| -----                | -----             | -----        | -----         | -----    |
| Bromofluorobenzene   | 0.0308            | 0.0400       | 77            | 60-140   |
| -----                | -----             | -----        | -----         | -----    |

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva



METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:34
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/16/23 15:23
Sample ID  : 380-62702-3                 Date Analyzed: 09/16/23 15:23
Lab Samp ID: I096-03                     Dilution Factor: 1
Lab File ID: EI16012A                    Matrix: WATER
Ext Btch ID: 23VG39I10                   % Moisture: NA
Calib. Ref.: EI16003A                    Instrument ID: 39
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| -----                | -----             | -----        | -----         |          |
| GASOLINE             | ND                | 0.020        | 0.010         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| -----                | -----             | -----        | -----         | -----    |
| Bromofluorobenzene   | 0.0339            | 0.0400       | 85            | 60-140   |

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml                      Final Volume : 5ml  
Prepared by : SCerva                      Analyzed by : SCerva





METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 09:53
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/16/23 16:37
Sample ID  : 380-62702-5                 Date Analyzed: 09/16/23 16:37
Lab Samp ID: I096-05                     Dilution Factor: 1
Lab File ID: EI16014A                    Matrix: WATER
Ext Btch ID: 23VG39I10                   % Moisture: NA
Calib. Ref.: EI16003A                    Instrument ID: 39
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| -----                | -----             | -----        | -----         |          |
| GASOLINE             | ND                | 0.020        | 0.010         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| -----                | -----             | -----        | -----         | -----    |
| Bromofluorobenzene   | 0.0337            | 0.0400       | 84            | 60-140   |
| -----                | -----             | -----        | -----         | -----    |

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva



METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:34
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/16/23 18:29
Sample ID  : 380-62702-7                 Date Analyzed: 09/16/23 18:29
Lab Samp ID: I096-07                      Dilution Factor: 1
Lab File ID: EI16017A                     Matrix: WATER
Ext Btch ID: 23VG39I10                    % Moisture: NA
Calib. Ref.: EI16015A                     Instrument ID: 39
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| GASOLINE             | ND                | 0.020        | 0.010         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromofluorobenzene   | 0.0341            | 0.0400       | 85            | 60-140   |

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml                      Final Volume : 5ml  
Prepared by : SCerva                      Analyzed by : SCerva

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 10:31
Project     : 380-62702                 Date Received: 09/14/23
Batch No.   : 23I096                   Date Extracted: 09/16/23 19:06
Sample ID   : 380-62702-8              Date Analyzed: 09/16/23 19:06
Lab Samp ID : I096-08                  Dilution Factor: 1
Lab File ID : EI16018A                 Matrix: WATER
Ext Btch ID : 23VG39I10                % Moisture: NA
Calib. Ref.: EI16015A                 Instrument ID: 39
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |
|----------------------|-------------------|--------------|---------------|
| -----                | -----             | -----        | -----         |
| GASOLINE             | ND                | 0.020        | 0.010         |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     |
| -----                | -----             | -----        | -----         |
| Bromofluorobenzene   | 0.0330            | 0.0400       | 83            |
|                      |                   |              | 60-140        |

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml                      Final Volume : 5ml  
Prepared by : SCerva                      Analyzed by : SCerva

|    |
|----|
| 1  |
| 2  |
| 3  |
| 4  |
| 5  |
| 6  |
| 7  |
| 8  |
| 9  |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |

# QC SUMMARIES

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/16/23 11:02
Project     : 380-62702                 Date Received: 09/16/23
Batch No.   : 23I096                   Date Extracted: 09/16/23 11:02
Sample ID   : MBLK1W                   Date Analyzed: 09/16/23 11:02
Lab Samp ID: VG39I10B                 Dilution Factor: 1
Lab File ID: EI16005A                 Matrix: WATER
Ext Btch ID: 23VG39I10                % Moisture: NA
Calib. Ref.: EI16003A                 Instrument ID: 39
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| GASOLINE             | ND                | 0.020        | 0.010         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromofluorobenzene   | 0.0347            | 0.0400       | 87            | 60-140   |

Notes:

Parameter      H-C Range

Gasoline        C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount    : 5ml

Final Volume    : 5ml

Prepared by     : SCerva

Analyzed by    : SCerva

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-62702  
BATCH NO. : 23I096  
METHOD : 5030B/8015B

|                  |                  |                |                |
|------------------|------------------|----------------|----------------|
| MATRIX           | : WATER          |                | % MOISTURE:NA  |
| DILUTION FACTOR: | 1                | 1              | 1              |
| SAMPLE ID        | : MBLK1W         | LCS1W          | LCD1W          |
| LAB SAMPLE ID    | : VG39I10B       | VG39I10L       | VG39I10C       |
| LAB FILE ID      | : EI16005A       | EI16006A       | EI16007A       |
| DATE PREPARED    | : 09/16/23 11:02 | 09/16/23 11:40 | 09/16/23 12:17 |
| DATE ANALYZED    | : 09/16/23 11:02 | 09/16/23 11:40 | 09/16/23 12:17 |
| PREP BATCH       | : 23VG39I10      | 23VG39I10      | 23VG39I10      |
| CALIBRATION REF: | EI16003A         | EI16003A       | EI16003A       |

ACCESSION:

| PARAMETERS | MBResult<br>(mg/L) | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | RPD<br>(%) | QCLimit<br>(%) | MaxRPD<br>(%) |
|------------|--------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|------------|----------------|---------------|
| Gasoline   | ND                 | 0.500              | 0.457               | 91            | 0.500              | 0.470               | 94            | 3          | 60-130         | 30            |

| SURROGATE PARAMETER | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | QCLimit<br>(%) |
|---------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|----------------|
| Bromofluorobenzene  | 0.0400             | 0.0434              | 109           | 0.0400             | 0.0446              | 112           | 70-130         |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-62702  
BATCH NO. : 23I096  
METHOD : 5030B/8015B

|                  |                  |                |                |
|------------------|------------------|----------------|----------------|
| MATRIX           | : WATER          |                | % MOISTURE:NA  |
| DILUTION FACTOR: | 1                | 1              | 1              |
| SAMPLE ID        | : 380-62702-1    | 380-62702-1MS  | 380-62702-1MSD |
| LAB SAMPLE ID    | : I096-01        | I096-01M       | I096-01S       |
| LAB FILE ID      | : EI16008A       | EI16009A       | EI16010A       |
| DATE PREPARED    | : 09/16/23 12:54 | 09/16/23 13:31 | 09/16/23 14:08 |
| DATE ANALYZED    | : 09/16/23 12:54 | 09/16/23 13:31 | 09/16/23 14:08 |
| PREP BATCH       | : 23VG39I10      | 23VG39I10      | 23VG39I10      |
| CALIBRATION REF: | EI16003A         | EI16003A       | EI16003A       |

ACCESSION:

| PARAMETERS | PSResult<br>(mg/L) | SpikeAmt<br>(mg/L) | MSResult<br>(mg/L) | MSRec<br>(%) | SpikeAmt<br>(mg/L) | MSDResult<br>(mg/L) | MSDRec<br>(%) | RPD<br>(%) | QCLimit<br>(%) | MaxRPD<br>(%) |
|------------|--------------------|--------------------|--------------------|--------------|--------------------|---------------------|---------------|------------|----------------|---------------|
| Gasoline   | ND                 | 0.500              | 0.460              | 92           | 0.500              | 0.449               | 90            | 2          | 50-130         | 30            |

| SURROGATE PARAMETER | SpikeAmt<br>(mg/L) | MSResult<br>(mg/L) | MSRec<br>(%) | SpikeAmt<br>(mg/L) | MSDResult<br>(mg/L) | MSDRec<br>(%) | QCLimit<br>(%) |
|---------------------|--------------------|--------------------|--------------|--------------------|---------------------|---------------|----------------|
| Bromofluorobenzene  | 0.0400             | 0.0439             | 110          | 0.0400             | 0.0435              | 109           | 60-140         |

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate



LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-62702

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23I096

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-62702

SDG : 23I096

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 09/14/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSI034WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSI034WL/DSI034WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-62702

SDG : 23I096

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 09/14/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSI034WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5I034WL/J5I034WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-62702

SDG : 23I096

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 09/14/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSI034WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8I034WL/J8I034WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.







|    |
|----|
| 1  |
| 2  |
| 3  |
| 4  |
| 5  |
| 6  |
| 7  |
| 8  |
| 9  |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |

# SAMPLE RESULTS





METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 09:53
Project     : 380-62702                  Date Received: 09/14/23
Batch No.   : 23I096                     Date Extracted: 09/24/23 11:30
Sample ID   : 380-62702-1                Date Analyzed: 09/25/23 16:12
Lab Samp ID : 23I096-01                  Dilution Factor: 1
Lab File ID : LI25016A                   Matrix: WATER
Ext Btch ID : 23DSI034W                  % Moisture: NA
Calib. Ref. : LI25004A                   Instrument ID: D5
=====
  
```

| PARAMETERS | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |
|------------|-------------------|--------------|---------------|
| JP5        | ND                | 0.053        | 0.027         |

| SURROGATE PARAMETERS | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|----------------------|--------|---------|-----------|----------|
| Bromobenzene         | 0.412  | 0.530   | 78        | 60-130   |
| Hexacosane           | 0.101  | 0.132   | 76        | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml                      Final Volume : 5ml  
 Prepared by : P0reto                      Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 09:53
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : 380-62702-1                 Date Analyzed: 09/25/23 16:12
Lab Samp ID: 23I096-01                   Dilution Factor: 1
Lab File ID: LI25016A                     Matrix: WATER
Ext Btch ID: 23DSI034W                    % Moisture: NA
Calib. Ref.: LI25005A                     Instrument ID: D5
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP8                  | ND                | 0.053        | 0.027         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.412             | 0.530        | 78            | 60-130   |
| Hexacosane           | 0.101             | 0.132        | 76            | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml                      Final Volume : 5ml  
 Prepared by : POreto                        Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:06
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 231096                       Date Extracted: 09/24/23 11:30
Sample ID  : 380-62702-2                 Date Analyzed: 09/25/23 16:31
Lab Samp ID: 231096-02                   Dilution Factor: 1
Lab File ID: LI25017A                     Matrix: WATER
Ext Btch ID: 23DSI034W                    % Moisture: NA
Calib. Ref.: LI25004A                     Instrument ID: D5
=====
    
```

| PARAMETERS | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |
|------------|-------------------|--------------|---------------|
| JP5        | ND                | 0.052        | 0.026         |

| SURROGATE PARAMETERS | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|----------------------|--------|---------|-----------|----------|
| Bromobenzene         | 0.382  | 0.520   | 74        | 60-130   |
| Hexacosane           | 0.101  | 0.130   | 78        | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 960ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:06
Project     : 380-62702                 Date Received: 09/14/23
Batch No.   : 23I096                   Date Extracted: 09/24/23 11:30
Sample ID   : 380-62702-2              Date Analyzed: 09/25/23 16:31
Lab Samp ID : 23I096-02                 Dilution Factor: 1
Lab File ID : LI25017A                  Matrix: WATER
Ext Btch ID : 23DSI034W                 % Moisture: NA
Calib. Ref. : LI25005A                  Instrument ID: D5
=====
  
```

| PARAMETERS | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |
|------------|-------------------|--------------|---------------|
| JP8        | ND                | 0.052        | 0.026         |

| SURROGATE PARAMETERS | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|----------------------|--------|---------|-----------|----------|
| Bromobenzene         | 0.382  | 0.520   | 74        | 60-130   |
| Hexacosane           | 0.101  | 0.130   | 78        | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP8 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
 Sample Amount : 960ml Final Volume : 5ml  
 Prepared by : POrreto Analyzed by : SDeeso

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:34
Project     : 380-62702                 Date Received: 09/14/23
Batch No.   : 231096                   Date Extracted: 09/24/23 11:30
Sample ID   : 380-62702-3              Date Analyzed: 09/25/23 16:49
Lab Samp ID: 231096-03                 Dilution Factor: 1
Lab File ID: LI25018A                  Matrix: WATER
Ext Btch ID: 23DSI034W                 % Moisture: NA
Calib. Ref.: LI25003A                  Instrument ID: D5
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| -----                | -----             | -----        | -----         |          |
| Diesel               | ND                | 0.028        | 0.014         |          |
| Motor Oil            | ND                | 0.056        | 0.028         |          |
|                      |                   |              |               |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| -----                | -----             | -----        | -----         | -----    |
| Bromobenzene         | 0.401             | 0.555        | 72            | 60-130   |
| Hexacosane           | 0.120             | 0.139        | 87            | 60-130   |
| -----                | -----             | -----        | -----         | -----    |

Notes:

Parameter      H-C Range  
Diesel            C10-C24  
Motor Oil        C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 900ml                      Final Volume : 5ml  
Prepared by    : P0reto                        Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:34
Project     : 380-62702                 Date Received: 09/14/23
Batch No.   : 23I096                   Date Extracted: 09/24/23 11:30
Sample ID   : 380-62702-3              Date Analyzed: 09/25/23 16:49
Lab Samp ID : 23I096-03                 Dilution Factor: 1
Lab File ID : LI25018A                  Matrix: WATER
Ext Btch ID : 23DSI034W                 % Moisture: NA
Calib. Ref. : LI25004A                  Instrument ID: D5
=====
  
```

| PARAMETERS | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |
|------------|-------------------|--------------|---------------|
| JP5        | ND                | 0.056        | 0.028         |

| SURROGATE PARAMETERS | RESULT | SPK_AMT | %RECOVERY | QC LIMIT |
|----------------------|--------|---------|-----------|----------|
| Bromobenzene         | 0.401  | 0.555   | 72        | 60-130   |
| Hexacosane           | 0.120  | 0.139   | 87        | 60-130   |

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 900ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 11:34
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : 380-62702-3                 Date Analyzed: 09/25/23 16:49
Lab Samp ID: 23I096-03                   Dilution Factor: 1
Lab File ID: LI25018A                    Matrix: WATER
Ext Btch ID: 23DSI034W                   % Moisture: NA
Calib. Ref.: LI25005A                    Instrument ID: D5
=====
    
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP8                  | ND                | 0.056        | 0.028         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.401             | 0.555        | 72            | 60-130   |
| Hexacosane           | 0.120             | 0.139        | 87            | 60-130   |

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 900ml

Final Volume : 5ml

Prepared by : POrto

Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 10:31
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : 380-62702-4                 Date Analyzed: 09/25/23 17:26
Lab Samp ID: 23I096-04                   Dilution Factor: 1
Lab File ID: LI25019A                     Matrix: WATER
Ext Btch ID: 23DSI034W                   % Moisture: NA
Calib. Ref.: LI25004A                     Instrument ID: D5
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP5                  | ND                | 0.050        | 0.025         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.333             | 0.500        | 67            | 60-130   |
| Hexacosane           | 0.110             | 0.125        | 88            | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml                      Final Volume : 5ml  
 Prepared by : P0reto                         Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/11/23 10:31
Project    : 380-62702                   Date Received: 09/14/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : 380-62702-4                 Date Analyzed: 09/25/23 17:26
Lab Samp ID: 23I096-04                   Dilution Factor: 1
Lab File ID: LI25019A                     Matrix: WATER
Ext Btch ID: 23DSI034W                    % Moisture: NA
Calib. Ref.: LI25005A                     Instrument ID: D5
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP8                  | ND                | 0.050        | 0.025         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.333             | 0.500        | 67            | 60-130   |
| Hexacosane           | 0.110             | 0.125        | 88            | 60-130   |

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

|           |
|-----------|
| 1         |
| 2         |
| 3         |
| 4         |
| 5         |
| 6         |
| 7         |
| 8         |
| 9         |
| 10        |
| 11        |
| 12        |
| <b>13</b> |
| 14        |
| 15        |

# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/24/23 11:30
Project    : 380-62702                   Date Received: 09/24/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : MBLK1W                       Date Analyzed: 09/25/23 14:01
Lab Samp ID: DSI034WB                     Dilution Factor: 1
Lab File ID: LI25009A                     Matrix: WATER
Ext Btch ID: 23DSI034W                   % Moisture: NA
Calib. Ref.: LI25003A                    Instrument ID: D5
=====

```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| -----                | -----             | -----        | -----         |          |
| Diesel               | ND                | 0.025        | 0.012         |          |
| Motor Oil            | ND                | 0.050        | 0.025         |          |
|                      |                   |              |               |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| -----                | -----             | -----        | -----         | -----    |
| Bromobenzene         | 0.400             | 0.500        | 80            | 60-130   |
| Hexacosane           | 0.0938            | 0.125        | 75            | 60-130   |
| -----                | -----             | -----        | -----         | -----    |

Notes:

```

Parameter      H-C Range
Diesel         C10-C24
Motor Oil      C24-C36

```

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

```

Sample Amount : 1000ml           Final Volume : 5ml
Prepared by   : P0reto           Analyzed by   : SDeeso

```

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-62702  
BATCH NO. : 23I096  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W LCD1W  
LAB SAMPLE ID : DSI034WB DSI034WL DSI034WC  
LAB FILE ID : LI25009A LI25010A LI25011A  
DATE PREPARED : 09/24/23 11:30 09/24/23 11:30 09/24/23 11:30  
DATE ANALYZED : 09/25/23 14:01 09/25/23 14:20 09/25/23 14:38  
PREP BATCH : 23DSI034W 23DSI034W 23DSI034W  
CALIBRATION REF: LI25003A LI25003A LI25003A

ACCESSION:

| PARAMETERS | MBResult<br>(mg/L) | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | RPD<br>(%) | QLLimit<br>(%) | MaxRPD<br>(%) |
|------------|--------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|------------|----------------|---------------|
| Diesel     | ND                 | 2.50               | 2.30                | 92            | 2.50               | 2.12                | 85            | 8          | 50-130         | 30            |

| SURROGATE PARAMETERS | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | QLLimit<br>(%) |
|----------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|----------------|
| Bromobenzene         | 0.500              | 0.428               | 86            | 0.500              | 0.392               | 78            | 60-130         |
| Hexacosane           | 0.125              | 0.112               | 90            | 0.125              | 0.103               | 82            | 60-130         |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/24/23 11:30
Project     : 380-62702                 Date Received: 09/24/23
Batch No.   : 23I096                    Date Extracted: 09/24/23 11:30
Sample ID   : MBLK1W                    Date Analyzed: 09/25/23 14:01
Lab Samp ID : DSI034WB                  Dilution Factor: 1
Lab File ID : LI25009A                  Matrix: WATER
Ext Btch ID : 23DSI034W                 % Moisture: NA
Calib. Ref. : LI25004A                  Instrument ID: D5
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP5                  | ND                | 0.050        | 0.025         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.400             | 0.500        | 80            | 60-130   |
| Hexacosane           | 0.0938            | 0.125        | 75            | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml                      Final Volume : 5ml  
 Prepared by : POrreto                        Analyzed by : SDeeso



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-62702  
BATCH NO. : 23I096  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W LCD1W  
LAB SAMPLE ID : DSI034WB J5I034WL J5I034WC  
LAB FILE ID : LI25009A LI25012A LI25013A  
DATE PREPARED : 09/24/23 11:30 09/24/23 11:30 09/24/23 11:30  
DATE ANALYZED : 09/25/23 14:01 09/25/23 14:57 09/25/23 15:16  
PREP BATCH : 23DSI034W 23DSI034W 23DSI034W  
CALIBRATION REF: LI25004A LI25004A LI25004A

ACCESSION:

| PARAMETERS | MBResult<br>(mg/L) | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | RPD<br>(%) | QCLimit<br>(%) | MaxRPD<br>(%) |
|------------|--------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|------------|----------------|---------------|
| JP5        | ND                 | 2.50               | 1.34                | 54            | 2.50               | 1.73                | 69            | 25         | 30-160         | 30            |

| SURROGATE PARAMETERS | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | QCLimit<br>(%) |
|----------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|----------------|
| Bromobenzene         | 0.500              | 0.335               | 67            | 0.500              | 0.429               | 86            | 60-130         |
| Hexacosane           | 0.125              | 0.100               | 80            | 0.125              | 0.109               | 87            | 60-130         |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 09/24/23 11:30
Project    : 380-62702                   Date Received: 09/24/23
Batch No.  : 23I096                       Date Extracted: 09/24/23 11:30
Sample ID  : MBLK1W                       Date Analyzed: 09/25/23 14:01
Lab Samp ID: DSI034WB                     Dilution Factor: 1
Lab File ID: LI25009A                     Matrix: WATER
Ext Btch ID: 23DSI034W                   % Moisture: NA
Calib. Ref.: LI25005A                    Instrument ID: D5
=====
  
```

| PARAMETERS           | RESULTS<br>(mg/L) | RL<br>(mg/L) | MDL<br>(mg/L) |          |
|----------------------|-------------------|--------------|---------------|----------|
| JP8                  | ND                | 0.050        | 0.025         |          |
| SURROGATE PARAMETERS | RESULT            | SPK_AMT      | %RECOVERY     | QC LIMIT |
| Bromobenzene         | 0.400             | 0.500        | 80            | 60-130   |
| Hexacosane           | 0.0938            | 0.125        | 75            | 60-130   |

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml                      Final Volume : 5ml  
 Prepared by : P0reto                         Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-62702  
BATCH NO. : 23I096  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W LCD1W  
LAB SAMPLE ID : DSI034WB J8I034WL J8I034WC  
LAB FILE ID : LI25009A LI25014A LI25015A  
DATE PREPARED : 09/24/23 11:30 09/24/23 11:30 09/24/23 11:30  
DATE ANALYZED : 09/25/23 14:01 09/25/23 15:34 09/25/23 15:53  
PREP BATCH : 23DSI034W 23DSI034W 23DSI034W  
CALIBRATION REF: LI25005A LI25005A LI25005A

ACCESSION:

| PARAMETERS | MBResult<br>(mg/L) | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | RPD<br>(%) | QCLimit<br>(%) | MaxRPD<br>(%) |
|------------|--------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|------------|----------------|---------------|
| JP8        | ND                 | 2.50               | 2.09                | 84            | 2.50               | 2.38                | 95            | 13         | 30-160         | 30            |

| SURROGATE PARAMETERS | SpikeAmt<br>(mg/L) | LCSResult<br>(mg/L) | LCSRec<br>(%) | SpikeAmt<br>(mg/L) | LCDResult<br>(mg/L) | LCDRec<br>(%) | QCLimit<br>(%) |
|----------------------|--------------------|---------------------|---------------|--------------------|---------------------|---------------|----------------|
| Bromobenzene         | 0.500              | 0.498               | 100           | 0.500              | 0.482               | 96            | 60-130         |
| Hexacosane           | 0.125              | 0.103               | 82            | 0.125              | 0.0967              | 77            | 60-130         |

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

Monrovia, CA (Suite 100)  
 750 Royal Oaks Drive Suite 100  
 Monrovia, CA 91016  
 Phone (626) 386-1100

### Chain of Custody Record

eurofins

Environmental Testing  
 America

|  |  |   |  |  |  |   |  |   |  |
|--|--|---|--|--|--|---|--|---|--|
| <b>Client Information</b><br>Client Contact: Dr. Ron Fenstermacher<br>Company: City & County of Honolulu<br>Address: 630 South Beretania Street, Chemistry Lab<br>City: Honolulu<br>State Zip: HI, 96843<br>Phone: 808-748-5091 (tel)<br>Email: rfenstermacher@hbws.org<br>Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill<br>Site: |  | Lab PM: Arada, Rachelle<br>E-Mail: Rachelle.Arada@et.euronisus.com<br>PWSID:  |  | Carrier Tracking No(s): 380-27941-2757 2<br>State of Origin:   |  | COC No: 380-27941-2757 2<br>Page: Page 1 of 2<br>Job #:                             |  |   |  |
| Due Date Requested:<br>TAT Requested (days):<br>Compliance Project: <input type="checkbox"/> No<br>PO #: C20525101 exp 05312023<br>WO #:   |  | Analysis Requested<br>SUBCONTRACT - 825 PAH Physis LL (EAL) + TICs<br>SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)<br>SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil<br>525 2.PREC - (MOD) 525plus PLUS TICs<br>SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)<br>SUBCONTRACT - 8915 Gas (Purgable) LL (EAL)<br>537 1.DW.PREC - 537 1 Full List<br>533 - All Analytes |  | Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X<br>Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X<br>SUBCONTRACT - 825 PAH Physis LL (EAL) + TICs<br>SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)<br>SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil<br>525 2.PREC - (MOD) 525plus PLUS TICs<br>SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)<br>SUBCONTRACT - 8915 Gas (Purgable) LL (EAL)<br>537 1.DW.PREC - 537 1 Full List<br>533 - All Analytes |  | Total Number of Containers:   |  | Preservation Codes:<br>A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other:                           |  |
| Sample Identification<br>MOANALUA WELLS<br>AIEA GULCH WELLS PUMP2<br>AIEA WELLS PUMPS 1&2 (260) P2<br>HALAWA WELLS UNITS 1&2 P1  |  | Sample Date<br>11-Sep-2023<br>11-Sep-2023<br>11-Sep-2023<br>11-Sep-2023   |  | Sample Time<br>0953<br>1106<br>1134<br>1031  |  | Sample Type (C=comp, G=grab)<br>G<br>G<br>G<br>G                                    |  | Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)<br>Water<br>Water<br>Water<br>Water   |  |
| Possible Hazard Identification<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological   |  | Deliverable Requested I, II, III, IV, Other (specify)   |  | Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months  |  | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) |  | Special Instructions/Note:<br>① 7733 9021 1026<br>② 6° 02'-04"<br>③ 7733 9021 1037<br>32° 02'-30"<br>④ 7733 9021 1048<br>36° - 02' - 34"<br>⑤ 7733 9021 1059<br>27° 02' - 25"<br>⑥ 7733 9021 1060<br>33° 02' - 31"<br>380-62702 COC |  |
| Empty Kit Relinquished by: BAILEY<br>Relinquished by: BAILEY<br>Relinquished by:   |  | Date: 12/05/2023<br>Date/Time: 1400<br>Date/Time:   |  | Date: 09/13/2023<br>Date/Time: 10 50<br>Date/Time:   |  | Method of Shipment: FEDEX 5 COOLERS<br>Company: ECAF<br>Company:                    |  | Cooler Temperature(s) °C and Other Remarks: (751A) - 02-CORRECTION<br>COOLERS<br>FROZEN<br>Ver 01/16/2019   |  |





# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-62702-2

**Login Number: 62702**  
**List Number: 1**  
**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Analytical Pomona**

| Question   | Answer | Comment   |
|--|--------|---|
| The cooler's custody seal, if present, is intact.                                | True   |   |
| Sample custody seals, if present, are intact.                                    | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | True   |   |
| Cooler Temperature is recorded.  | True   |   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.                                | True   |   |
| There are no discrepancies between the containers received and the COC.          | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | False  | One 8015 vial from one site arrived broken. Refer to NCM for details. |
| Sample collection date/times are provided.                                       | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |   |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | True   |   |
| Samples do not require splitting or compositing.                                 | True   |   |
| Container provided by EEA  | True   |   |

