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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

**Number of Pages 46**
**Date Received 11/09/2017**
**Date Reported 11/20/2017**

| Job Number | Order Date | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

---

**Project ID:** 73479.17
**Project Name:** Wilmington Marine Service
**Site:** Port of LA
Wilmington, CA

Enclosed please find results of analyses of 19 soil and 1 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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# CHAIN OF CUSTODY RECORD

104463

AETL JOB No. 90174

Page 1 of 2

COMPANY: Tetra tech
PROJECT MANAGER: Madlyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd., Pasadena, CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Service
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Port of L.A. San Wilmington, CA
PO #:

ANALYSIS REQUESTED: TPH Lig-Chg; PAHs; Title 22 metals

TEST INSTRUCTIONS & COMMENTS: Email copy of COC to: Madlyn.odonnell@tetratech.com

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH Lig-Chg | PAHs | Title 22 metals | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| TE-WMS-43-0.0 | 90174.01 | 11-9-2017 | 0740 | S | 1 | NO | X | X | X | |
| TE-WMS-43-2.5 | 90174.02 | | 0757 | S | 1 | NO | X | X | X | |
| TE-WMS-45-0.0 | 90174.03 | | 0808 | S | 1 | NO | X | X | X | |
| TE-WMS-45-2.5 | 90174.04 | | 0812 | S | 1 | NO | X | X | X | |
| TE-WMS-45-5.0 | 90174.05 | | 0823 | S | 1 | NO | X | X | X | |
| TE-WMS-44-0.0 | 90174.06 | | 0837 | S | 1 | NO | X | X | X | |
| TE-WMS-44-0.0 | 90174.07 | | — | S | 1 | NO | X | X | X | Hold |
| TE-WMS-44-2.5 | 90174.08 | | 0840 | S | 1 | NO | X | X | X | |
| TE-WMS-44-5.0 | 90174.09 | | 0850 | S | 1 | NO | X | X | X | |
| TE-WMS-44-8.0 | 90174.10 | | 0855 | S | 1 | NO | X | | X | |
| TE-WMS-42-0.0 | 90174.11 | | 0910 | S | 1 | NO | X | X | X | |
| TE-WMS-42-2.5 | 90174.12 | | 0914 | S | 1 | NO | X | X | X | |
| TE-WMS-42-2.5D | 90174.13 | | — | S | 1 | NO | X | X | X | Hold |
| TE-WMS-42-5.0 | 90174.14 | | 0918 | S | 1 | NO | X | X | X | |
| TE-WMS-42-10.0 | 90174.15 | | 0922 | S | 1 | NO | X | | X | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 15 | PROPERLY COOLED | (Y) N / NA |
| CUSTODY SEALS | Y / (N) / NA | SAMPLES INTACT | (Y) N / NA |
| RECEIVED IN GOOD COND. | (Y) N | SAMPLES ACCEPTED | (Y) N |

TURN AROUND TIME: [X] NORMAL [ ] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [ ] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [X] GEOTRACKER (GLOBAL ID) [ ] OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Enclaison | Printed Name: | Printed Name: C. Pacheco |
| Date: 11/9/17 Time: 1105 | Date: Time: | Date: 11/9/17 Time: 1215 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Andrew Pacheco | Printed Name: | Printed Name: |
| Date: 11/9/17 Time: 1105 | Date: Time: | Date: 11/9/17 Time: 1215 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

104462

COMPANY: Tetra tech
PROJECT MANAGER: Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd, Pasadena, CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Port of LA, Wilmington, CA
PO #:

AETL JOB No. 90174

Page 2 of 2

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH C13-C40 | PCBs | Title 22 metals | VOCs 8260 | TPH C4-C12 | | | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TE-WMS-41-0.0 | 90174.16 | 11-9-17 | 0928 | S | 1 | NO | X | X | X | | | | | | | email copy of COC to: maclyn.odonnell@tetratech.com |
| TE-WMS-41-2.5 | 90174.17 | 11-9-17 | 0930 | S | 1 | NO | X | X | X | | | | | | | |
| TE-WMS-41-5.0 | 90174.18 | 11-9-17 | 0939 | S | 1 | NO | X | X | X | | | | | | | |
| TE-WMS-41-10.0 | 90174.19 | 11-9-17 | 0942 | S | 1 | NO | X | | X | | | | | | | |
| TE-WMS-45-10.0 | 90174.20 | 11/9/17 | 0822 | S | 1 | NO | X | | X | | | | | | | |
| ~~TE-WMS~~ | | | | | | | | | | | | | | | | |
| EB110920017 | 90174.21 | 11/9/17 | 1015 | W | 3 | No | X | X | X | | | | | | | Lab Need to Preserve |
| TDW-S | 90174.22 | 11/9/17 | 1030 | S | 6 | No | X | X | X | X | X | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 14 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y / (N) / NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND. (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Eric Nelson | Printed Name: | Printed Name: C. Rodriguez |
| Date: 11/9/17 Time: 1105 | Date: Time: | Date: 11/9/17 Time: 1115 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Carmen Rodriguez | Printed Name: | Printed Name: |
| Date: 11/9/17 Time: 1105 | Date: Time: | Date: 11/9/17 Time: 1115 |

TURN AROUND TIME: [X] NORMAL [ ] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [ ] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [X] GEOTRACKER (GLOBAL ID) _____ [ ] OTHER (PLEASE SPECIFY) _____

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

ED_004566_00003133-00003

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# COOLER RECEIPT FORM

Client Name: TetraTech
Project Name:
AETL Job Number: 90174
Date Received: 11/09/17 Received by: Ant
Carrier: ☒ AETL Courier ☐ Client ☐ GSO ☐ FedEx ☐ UPS
☐ Others:

**Samples were received in:** ☒ Cooler ( / ) ☐ Other (Specify):
**Inside temperature of shipping container** No 1: 3.4°, No 2: ____, No 3: ____
**Type of sample containers:** ☐ VOA, ☒ Glass bottles, ☒ Wide mouth jars, ☒ HDPE bottles, ☐ Metal sleeves, ☐ Others (Specify): PL sleeves 1x encore
**How are samples preserved:** ☐ None, ☐ Ice, ☒ Blue Ice, ☐ Dry Ice
✓ None, _ $HNO_3$, _ NaOH, _ ZnOAc, _ HCl, _ $Na_2S_2O_3$, _ MeOH
_ Other (Specify):

| | Yes | No, explain below | Name, if client was notified. |
|---|---|---|---|
| 1. Are the COCs Correct? | ✓ | | |
| 2. Are the Sample labels legible? | ✓ | | |
| 3. Do samples match the COC? | ✓ | | |
| 4. Are the required analyses clear? | ✓ | | |
| 5. Is there enough samples for required analysis? | ✓ | | |
| 6. Are samples sealed with evidence tape? | | ✓ | |
| 7. Are sample containers in good condition? | ✓ | | |
| 8. Are samples preserved? | ✓ | | |
| 9. Are samples preserved properly for the intended analysis? | ✓ | | |
| 10. Are the VOAs free of headspace? | N/A | | |
| 11. Are the jars free of headspace? | ✓ | | |
| | | | |

**Explain all "No" answers for above questions:**

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: 73479.17
Date Received 11/09/2017
Date Reported 11/20/2017

| Job Number | Order Date | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 22 samples with the following specification on 11/09/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 90174.21 | EB11092017 | 11/09/2017 | Aqueous | 3 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 6010/7000CAM | 11/16/2017 | 2 | Normal | mg/L |
| 8082 | 11/16/2017 | 2 | Normal | ug/L |
| M8015D ^ C13-C40 | 11/16/2017 | 2 | Normal | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 90174.01 | Tt-WMS-43-0.0 | 11/09/2017 | Soil | 1 |
| 90174.02 | Tt-WMS-43-2.5 | 11/09/2017 | Soil | 1 |
| 90174.03 | Tt-WMS-45-0.0 | 11/09/2017 | Soil | 1 |
| 90174.04 | Tt-WMS-45-2.5 | 11/09/2017 | Soil | 1 |
| 90174.05 | Tt-WMS-45-5.0 | 11/09/2017 | Soil | 1 |
| 90174.06 | Tt-WMS-44-0.0 | 11/09/2017 | Soil | 1 |
| 90174.08 | Tt-WMS-44-2.5 | 11/09/2017 | Soil | 1 |
| 90174.09 | Tt-WMS-44-5.0 | 11/09/2017 | Soil | 1 |
| 90174.11 | Tt-WMS-42-0.0 | 11/09/2017 | Soil | 1 |
| 90174.12 | Tt-WMS-42-2.5 | 11/09/2017 | Soil | 1 |
| 90174.14 | Tt-WMS-42-5.0 | 11/09/2017 | Soil | 1 |
| 90174.16 | Tt-WMS-41-0.0 | 11/09/2017 | Soil | 1 |
| 90174.17 | Tt-WMS-41-2.5 | 11/09/2017 | Soil | 1 |
| 90174.18 | Tt-WMS-41-5.0 | 11/09/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 11/16/2017 | 2 | Normal | mg/Kg |
| (8082) | 11/16/2017 | 2 | Normal | ug/Kg |
| (M8015D) ^ C13-C40 | 11/16/2017 | 2 | Normal | mg/Kg |

| | | | | |
|---|---|---|---|---|
| 90174.07 | Tt-WMS-44-0.0D | 11/09/2017 | Soil | 1 |

Continued

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: 73479.17
Date Received 11/09/2017
Date Reported 11/20/2017

| Job Number | Order Date | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 90174.13 | Tt-WMS-42-2.5D | 11/09/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| ARCHIVE | 11/16/2017 | 2 | Normal | -- |

| | | | | |
|---|---|---|---|---|
| 90174.10 | Tt-WMS-44-10.0 | 11/09/2017 | Soil | 1 |
| 90174.15 | Tt-WMS-42-10.0 | 11/09/2017 | Soil | 1 |
| 90174.19 | Tt-WMS-41-10.0 | 11/09/2017 | Soil | 1 |
| 90174.20 | Tt-WMS-45-10.0 | 11/09/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 11/16/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 11/16/2017 | 2 | Normal | mg/Kg |

| | | | | |
|---|---|---|---|---|
| 90174.22 | IDW-S | 11/09/2017 | Soil | 6 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 11/16/2017 | 2 | Normal | mg/Kg |
| (8082) | 11/16/2017 | 2 | Normal | ug/Kg |
| (8260B) | 11/16/2017 | 2 | Normal | ug/Kg |
| (M8015D) ^ C13-C40 | 11/16/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 11/16/2017 | 2 | Normal | mg/Kg |

The samples were analyzed as specified on the enclosed chain of custody. Analytical non-conformances have been noted on the report.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Port of LA
Wilmington, CA

Page: **2**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 1111172A2**

| **Our Lab I.D.** | | | Method Blank | **90174.22** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | IDW-S | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/11/2017** | **11/09/2017** | | | |
| Preparation Method | | | **5030** | **5035A** | | | |
| Date Analyzed | | | **11/11/2017** | **11/12/2017** | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Acetone | 25 | 50 | ND | ND | | | |
| Benzene | 1.0 | 10.0 | ND | ND | | | |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | ND | | | |
| Bromochloromethane | 5.0 | 10.0 | ND | ND | | | |
| Bromodichloromethane | 5.0 | 10.0 | ND | ND | | | |
| Bromoform (Tribromomethane) | 25 | 50 | ND | ND | | | |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | ND | | | |
| 2-Butanone (MEK) | 25 | 50 | ND | ND | | | |
| n-Butylbenzene | 5.0 | 10.0 | ND | ND | | | |
| sec-Butylbenzene | 5.0 | 10.0 | ND | ND | | | |
| tert-Butylbenzene | 5.0 | 10.0 | ND | ND | | | |
| Carbon Disulfide | 25 | 50 | ND | ND | | | |
| Carbon tetrachloride | 5.0 | 10.0 | ND | ND | | | |
| Chlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| Chloroethane | 15 | 30 | ND | ND | | | |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | ND | | | |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | ND | | | |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | ND | | | |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | ND | | | |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | ND | | | |
| Dibromochloromethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | ND | | | |
| Dibromomethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| Dichlorodifluoromethane | 15 | 30 | ND | ND | | | |

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# ANALYTICAL RESULTS



Project ID: 73479.17
Project Name: Wlmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 1111172A2**

| Our Lab I.D. | | | Method Blank | 90174.22 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | IDW-S | | | |
| Date Sampled | | | | 11/09/2017 | | | |
| Date Prepared | | | 11/11/2017 | 11/09/2017 | | | |
| Preparation Method | | | 5030 | 5035A | | | |
| Date Analyzed | | | 11/11/2017 | 11/12/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | ND | | | |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| Ethylbenzene | 1.0 | 10.0 | ND | ND | | | |
| Hexachlorobutadiene | 15 | 30 | ND | ND | | | |
| 2-Hexanone | 25 | 50 | ND | ND | | | |
| Iodomethane | 5.0 | 10.0 | ND | ND | | | |
| Isopropylbenzene | 5.0 | 10.0 | ND | ND | | | |
| p-Isopropyltoluene | 5.0 | 10.0 | ND | ND | | | |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | ND | | | |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | ND | | | |
| Methylene chloride (DCM) | 25 | 50 | ND | ND | | | |
| Naphthalene | 5.0 | 10.0 | ND | 23.9 | | | |
| n-Propylbenzene | 5.0 | 10.0 | ND | ND | | | |
| Styrene | 5.0 | 10.0 | ND | ND | | | |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | | | |
| Tetrachloroethene | 2.0 | 10.0 | ND | ND | | | |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | ND | | | |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | ND | | | |
| Trichloroethene | 1.5 | 10.0 | ND | ND | | | |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | ND | | | |

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# ANALYTICAL RESULTS



Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 1111172A2**

| **Our Lab I.D.** | | | Method Blank | **90174.22** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | IDW-S | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/11/2017** | **11/09/2017** | | | |
| Preparation Method | | | **5030** | **5035A** | | | |
| Date Analyzed | | | **11/11/2017** | **11/12/2017** | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | MDL | PQL | **Results** | **Results** | | | |
| 1,2,4-Trimethylbenzene | **5.0** | **10.0** | **ND** | **ND** | | | |
| 1,3,5-Trimethylbenzene | **5.0** | **10.0** | **ND** | **ND** | | | |
| Vinyl Acetate | **25** | **50** | **ND** | **ND** | | | |
| Vinyl chloride (Chloroethene) | **5.0** | **10.0** | **ND** | **ND** | | | |
| o-Xylene | **1.0** | **10.0** | **ND** | **ND** | | | |
| m,p-Xylenes | **1.0** | **20.0** | **ND** | **ND** | | | |
| **Our Lab I.D.** | | | Method Blank | **90174.22** | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | **75-125** | | **99.5** | **98.6** | | | |
| Dibromofluoromethane | **75-125** | | **112** | **110** | | | |
| Toluene-d8 | **75-125** | | **106** | **106** | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Port of LA
Wilmington, CA

Page: **5**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 111017OB1**

| **Our Lab I.D.** | | | Method Blank | **90174.22** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | IDW-S | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/10/2017** | **11/09/2017** | | | |
| Preparation Method | | | **5030** | **5035A** | | | |
| Date Analyzed | | | **11/10/2017** | **11/11/2017** | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | MDL | PQL | **Results** | **Results** | | | |
| TPH as Gasoline and Light HC. (C4-C12) | **0.100** | **1.000** | **ND** | **ND** | | | |
| **Our Lab I.D.** | | | Method Blank | **90174.22** | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | **75-125** | | **99.2** | **103** | | | |

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Port of LA
Wilmington, CA

Page: 6

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/13/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **ND** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **ND** | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Chlorobenzene | **75-125** | | **108** | | | | |

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Page: 7

**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.01** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-43-0 .0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/13/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 4 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **4.0** | **20** | **75.5** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **4.0** | **20** | **2,900** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **4.0** | **20** | **2,980** | | | | |
| **Our Lab I.D.** | | | **90174.01** | | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | | | | |
| Chlorobenzene | **75-125** | | **107** | | | | |

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Page: **8**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.02** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-43-2.5 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **ND** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **ND** | | | | |
| **Our Lab I.D.** | | | **90174.02** | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Chlorobenzene | **75-125** | | **109** | | | | |

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Port of LA
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Page: 9

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.03** | **90174.04** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-45-0.0 | Tt-WMS-45-2.5 | | | |
| Date Sampled | | | **11/09/2017** | **11/09/2017** | | | |
| Date Prepared | | | **11/13/2017** | **11/13/2017** | | | |
| Preparation Method | | | **3550B** | **3550B** | | | |
| Date Analyzed | | | **11/14/2017** | **11/14/2017** | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 2 | 2 | | | |
| **Analytes** | MDL | PQL | **Results** | **Results** | | | |
| TPH as Diesel (C13-C22) | **2.0** | **10** | **70.1** | **28.1** | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **2.0** | **10** | **1,930** | **722** | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **2.0** | **10** | **2,000** | **750** | | | |
| **Our Lab I.D.** | | | **90174.03** | **90174.04** | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | **%Rec.** | | | |
| Chlorobenzene | **75-125** | | **106** | **108** | | | |

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Page: **10**

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Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.05** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-45-5.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **ND** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **ND** | | | | |
| **Our Lab I.D.** | | | **90174.05** | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Chlorobenzene | **75-125** | | **111** | | | | |

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Page: **11**

**Site**

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Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.06** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-0.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 2 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **2.0** | **10** | **62.8** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **2.0** | **10** | **1,510** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **2.0** | **10** | **1,570** | | | | |
| **Our Lab I.D.** | | | **90174.06** | | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | | | | |
| Chlorobenzene | **75-125** | | **107** | | | | |

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Page: **12**

**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.08** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-2.5 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **138** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **138** | | | | |
| **Our Lab I.D.** | | | **90174.08** | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Chlorobenzene | **75-125** | | **113** | | | | |

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Page: **13**

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Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.09** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-5.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 2 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **2.0** | **10** | **24.9** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **2.0** | **10** | **419** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **2.0** | **10** | **444** | | | | |
| **Our Lab I.D.** | | | **90174.09** | | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | | | | |
| Chlorobenzene | **75-125** | | **109** | | | | |

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Page: **14**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.10** | **90174.11** | **90174.12** | **90174.14** | **90174.15** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-10.0 | Tt-WMS-42-0.0 | Tt-WMS-42-2.5 | Tt-WMS-42-5.0 | Tt-WMS-42-10.0 |
| Date Sampled | | | **11/09/2017** | **11/09/2017** | **11/09/2017** | **11/09/2017** | **11/09/2017** |
| Date Prepared | | | **11/13/2017** | **11/13/2017** | **11/13/2017** | **11/13/2017** | **11/13/2017** |
| Preparation Method | | | **3550B** | **3550B** | **3550B** | **3550B** | **3550B** |
| Date Analyzed | | | **11/14/2017** | **11/14/2017** | **11/14/2017** | **11/14/2017** | **11/14/2017** |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | MDL | PQL | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | **11.1** | **ND** | **ND** | **266** |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **ND** | **87.0** | **45.8** | **23.2** | **330** |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **ND** | **98.1** | **45.8** | **23.2** | **596** |
| **Our Lab I.D.** | | | **90174.10** | **90174.11** | **90174.12** | **90174.14** | **90174.15** |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** |
| Chlorobenzene | **75-125** | | **111** | **111** | **111** | **109** | **108** |

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## ANALYTICAL RESULTS

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Page: **15**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.16** | **90174.17** | **90174.18** | **90174.19** | **90174.20** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-41-0.0 | Tt-WMS-41-2.5 | Tt-WMS-41-5.0 | Tt-WMS-41-10.0 | Tt-WMS-45-10.0 |
| Date Sampled | | | **11/09/2017** | **11/09/2017** | **11/09/2017** | **11/09/2017** | **11/09/2017** |
| Date Prepared | | | **11/13/2017** | **11/13/2017** | **11/13/2017** | **11/13/2017** | **11/13/2017** |
| Preparation Method | | | **3550B** | **3550B** | **3550B** | **3550B** | **3550B** |
| Date Analyzed | | | **11/14/2017** | **11/14/2017** | **11/14/2017** | **11/14/2017** | **11/14/2017** |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | MDL | PQL | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | **1.0** | **5.0** | **ND** | **ND** | **775** | **308** | **ND** |
| TPH as Heavy Hydrocarbons (C23-C40) | **1.0** | **5.0** | **50.9** | **78.4** | **116** | **497** | **8.63** |
| TPH Total as Diesel and Heavy HC.C13-C40 | **1.0** | **5.0** | **50.9** | **78.4** | **891** | **805** | **8.63** |
| **Our Lab I.D.** | | | **90174.16** | **90174.17** | **90174.18** | **90174.19** | **90174.20** |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** |
| Chlorobenzene | **75-125** | | **110** | **109** | **109** | **110** | **108** |

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## ANALYTICAL RESULTS

**Ordered By**

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Page: **16**

**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3**

| **Our Lab I.D.** | | | **90174.22** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | IDW-S | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/13/2017** | | | | |
| Preparation Method | | | **3550B** | | | | |
| Date Analyzed | | | **11/14/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 2 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | **2.0** | **10** | **35.2** | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **2.0** | **10** | **530** | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **2.0** | **10** | **565** | | | | |
| **Our Lab I.D.** | | | **90174.22** | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Chlorobenzene | **75-125** | | **108** | | | | |

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**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 11/10/2017 | | | | |
| Preparation Method | | | 350 | | | | |
| Date Analyzed | | | 11/10/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 113 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 127 | | | | |

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Wilmington, CA

Page: **18**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.01** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-43-0.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/10/2017** | | | | |
| Preparation Method | | | **3550** | | | | |
| Date Analyzed | | | **11/10/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | **250** | **500** | **ND** | | | | |
| Aroclor-1221 (PCB-1221) | **250** | **500** | **ND** | | | | |
| Aroclor-1232 (PCB-1232) | **250** | **500** | **ND** | | | | |
| Aroclor-1242 (PCB-1242) | **250** | **500** | **ND** | | | | |
| Aroclor-1248 (PCB-1248) | **250** | **500** | **ND** | | | | |
| Aroclor-1254 (PCB-1254) | **250** | **500** | **ND** | | | | |
| Aroclor-1260 (PCB-1260) | **250** | **500** | **ND** | | | | |
| Aroclor-1262 (PCB-1262) | **250** | **500** | **ND** | | | | |
| Aroclor-1268 (PCB-1268) | **250** | **500** | **ND** | | | | |

*Comment(s):*
*90174.01: Analyzed under dilution due to matrix interference*

| **Our Lab I.D.** | | | **90174.01** | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | **30-150** | | **83.8** | | | | |
| Tetrachloro-m-xylene | **30-150** | | **93.6** | | | | |

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**Site**

Port of LA
Wilmington, CA

Page: **19**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.02** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-43-2.5 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/10/2017** | | | | |
| Preparation Method | | | **3550** | | | | |
| Date Analyzed | | | **11/10/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1221 (PCB-1221) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1232 (PCB-1232) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1242 (PCB-1242) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1248 (PCB-1248) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1254 (PCB-1254) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1260 (PCB-1260) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1262 (PCB-1262) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1268 (PCB-1268) | **25.0** | **50.0** | **ND** | | | | |
| **Our Lab I.D.** | | | **90174.02** | | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | | | | |
| Decachlorobiphenyl | **30-150** | | **103** | | | | |
| Tetrachloro-m-xylene | **30-150** | | **102** | | | | |

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Page: **20**

**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| Our Lab I.D. | | | 90174.03 | 90174.04 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-45-0.0 | Tt-WMS-45-2.5 | | | |
| Date Sampled | | | 11/09/2017 | 11/09/2017 | | | |
| Date Prepared | | | 11/10/2017 | 11/10/2017 | | | |
| Preparation Method | | | 3550 | 3550 | | | |
| Date Analyzed | | | 11/10/2017 | 11/10/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 10 | 10 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Aroclor-1016 (PCB-1016) | 250 | 500 | ND | ND | | | |
| Aroclor-1221 (PCB-1221) | 250 | 500 | ND | ND | | | |
| Aroclor-1232 (PCB-1232) | 250 | 500 | ND | ND | | | |
| Aroclor-1242 (PCB-1242) | 250 | 500 | ND | ND | | | |
| Aroclor-1248 (PCB-1248) | 250 | 500 | ND | ND | | | |
| Aroclor-1254 (PCB-1254) | 250 | 500 | ND | ND | | | |
| Aroclor-1260 (PCB-1260) | 250 | 500 | ND | ND | | | |
| Aroclor-1262 (PCB-1262) | 250 | 500 | ND | ND | | | |
| Aroclor-1268 (PCB-1268) | 250 | 500 | ND | ND | | | |

*Comment(s):*
*90174.03: Analyzed under dilution due to matrix interference 90174.04: Analyzed under dilution due to matrix interference*

| Our Lab I.D. | | | 90174.03 | 90174.04 | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | **% Rec.** | | | |
| Decachlorobiphenyl | 30-150 | | 68.2 | 77.8 | | | |
| Tetrachloro-m-xylene | 30-150 | | 93.8 | 150 | | | |

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Port of LA
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Page: **21**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.05** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-45-5.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/10/2017** | | | | |
| Preparation Method | | | **3550** | | | | |
| Date Analyzed | | | **11/10/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1221 (PCB-1221) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1232 (PCB-1232) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1242 (PCB-1242) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1248 (PCB-1248) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1254 (PCB-1254) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1260 (PCB-1260) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1262 (PCB-1262) | **25.0** | **50.0** | **ND** | | | | |
| Aroclor-1268 (PCB-1268) | **25.0** | **50.0** | **ND** | | | | |
| **Our Lab I.D.** | | | **90174.05** | | | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | | | | |
| Decachlorobiphenyl | **30-150** | | **106** | | | | |
| Tetrachloro-m-xylene | **30-150** | | **138** | | | | |

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**Site**

Port of LA
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Page: **22**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.06** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-0.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/10/2017** | | | | |
| Preparation Method | | | **3550** | | | | |
| Date Analyzed | | | **11/10/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | **250** | **500** | **ND** | | | | |
| Aroclor-1221 (PCB-1221) | **250** | **500** | **ND** | | | | |
| Aroclor-1232 (PCB-1232) | **250** | **500** | **ND** | | | | |
| Aroclor-1242 (PCB-1242) | **250** | **500** | **ND** | | | | |
| Aroclor-1248 (PCB-1248) | **250** | **500** | **ND** | | | | |
| Aroclor-1254 (PCB-1254) | **250** | **500** | **ND** | | | | |
| Aroclor-1260 (PCB-1260) | **250** | **500** | **ND** | | | | |
| Aroclor-1262 (PCB-1262) | **250** | **500** | **ND** | | | | |
| Aroclor-1268 (PCB-1268) | **250** | **500** | **ND** | | | | |

*Comment(s):*
*90174.06: Analyzed under dilution due to matrix interference*

| **Our Lab I.D.** | | | **90174.06** | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | **30-150** | | **97.2** | | | | |
| Tetrachloro-m-xylene | **30-150** | | **128** | | | | |

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Page: **23**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| Our Lab I.D. | | | 90174.08 | 90174.09 | 90174.11 | 90174.12 | 90174.14 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-44-2.5 | Tt-WMS-44-5.0 | Tt-WMS-42-0.0 | Tt-WMS-42-2.5 | Tt-WMS-42-5.0 |
| Date Sampled | | | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 |
| Date Prepared | | | 11/10/2017 | 11/10/2017 | 11/10/2017 | 11/10/2017 | 11/10/2017 |
| Preparation Method | | | 3540C | 3540C | 3540C | 3540C | 3540C |
| Date Analyzed | | | 11/10/2017 | 11/10/2017 | 11/10/2017 | 11/11/2017 | 11/11/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | ug/Kg | ug/Kg | ug/Kg | ug/Kg | ug/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | **90174.08** | **90174.09** | **90174.11** | **90174.12** | **90174.14** |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** | **%Rec.** |
| Decachlorobiphenyl | 30-150 | | 88.6 | 94.4 | 110 | 103 | 97.8 |
| Tetrachloro-m-xylene | 30-150 | | 115 | 131 | 127 | 131 | 142 |

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Page: **24**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.16** | **90174.17** | **90174.18** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-41-0.0 | Tt-WMS-41-2.5 | Tt-WMS-41-5.0 | | |
| Date Sampled | | | **11/09/2017** | **11/09/2017** | **11/09/2017** | | |
| Date Prepared | | | **11/10/2017** | **11/10/2017** | **11/10/2017** | | |
| Preparation Method | | | **3540C** | **3540C** | **3540C** | | |
| Date Analyzed | | | **11/11/2017** | **11/11/2017** | **11/11/2017** | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Aroclor-1016 (PCB-1016) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1221 (PCB-1221) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1232 (PCB-1232) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1242 (PCB-1242) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1248 (PCB-1248) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1254 (PCB-1254) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1260 (PCB-1260) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1262 (PCB-1262) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| Aroclor-1268 (PCB-1268) | **25.0** | **50.0** | **ND** | **ND** | **ND** | | |
| **Our Lab I.D.** | | | **90174.16** | **90174.17** | **90174.18** | | |
| **Surrogates** | **%Rec. Limit** | | **%Rec.** | **%Rec.** | **%Rec.** | | |
| Decachlorobiphenyl | **30-150** | | **112** | **110** | **114** | | |
| Tetrachloro-m-xylene | **30-150** | | **141** | **134** | **139** | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
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**Site**

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Wilmington, CA

Page: **25**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1**

| **Our Lab I.D.** | | | **90174.22** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | IDW-S | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/10/2017** | | | | |
| Preparation Method | | | **3540C** | | | | |
| Date Analyzed | | | **11/11/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 2 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | **50** | **100** | **ND** | | | | |
| Aroclor-1221 (PCB-1221) | **50** | **100** | **ND** | | | | |
| Aroclor-1232 (PCB-1232) | **50** | **100** | **ND** | | | | |
| Aroclor-1242 (PCB-1242) | **50** | **100** | **ND** | | | | |
| Aroclor-1248 (PCB-1248) | **50** | **100** | **ND** | | | | |
| Aroclor-1254 (PCB-1254) | **50** | **100** | **ND** | | | | |
| Aroclor-1260 (PCB-1260) | **50** | **100** | **ND** | | | | |
| Aroclor-1262 (PCB-1262) | **50** | **100** | **ND** | | | | |
| Aroclor-1268 (PCB-1268) | **50** | **100** | **ND** | | | | |

*Comment(s):*
*90174.22: Analyzed under dilution due to matrix interference*

| **Our Lab I.D.** | | | **90174.22** | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | **30-150** | | **94.0** | | | | |
| Tetrachloro-m-xylene | **30-150** | | **134** | | | | |

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Page: **26**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C3**

| Our Lab I.D. | | | Method Blank | 90174.01 | 90174.02 | 90174.03 | 90174.04 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS-43-0.0 | Tt-WMS-43-2.5 | Tt-WMS-45-0.0 | Tt-WMS-45-2.5 |
| Date Sampled | | | | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 |
| Date Prepared | | | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | ND | 81.0 | 42.1 | 118 | 81.9 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 9.90 | 5.65 | 12.6 | 19.0 |
| Cobalt | 2.5 | 5.0 | ND | 3.96J | ND | 4.82J | 5.07 |
| Copper | 2.5 | 5.0 | ND | 22.5 | 10.1 | 21.1 | 19.9 |
| Lead | 2.5 | 5.0 | ND | 19.5 | ND | 19.2 | 47.4 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | ND | ND | ND |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 14.9 | 3.35J | 14.2 | 12.8 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 23.2 | 12.4 | 26.9 | 24.1 |
| Zinc | 2.5 | 5.0 | ND | 52.2 | 20.8 | 54.6 | 57.8 |

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Page: 27

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C3**

| Our Lab I.D. | | | 90174.05 | 90174.06 | 90174.08 | 90174.09 | 90174.10 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-45-5.0 | Tt-WMS-44-0.0 | Tt-WMS-44-2.5 | Tt-WMS-44-5.0 | Tt-WMS-44-10.0 |
| Date Sampled | | | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 |
| Date Prepared | | | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | 7.69 | 32.5 | ND |
| Barium | 2.5 | 5.0 | 219 | 85.7 | 105 | 90.7 | 28.8 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 14.1 | 9.00 | 15.1 | 120 | 7.40 |
| Cobalt | 2.5 | 5.0 | 5.88 | 3.93J | 9.81 | 21.1 | 3.65J |
| Copper | 2.5 | 5.0 | 1,580 | 24.8 | 55.6 | 5,190 | 445 |
| Lead | 2.5 | 5.0 | 744 | 24.5 | 112 | 5,840 | 166 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | 0.119J | 0.957 | 0.137J |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | 3.37J | ND |
| Nickel | 2.5 | 5.0 | 34.8 | 11.7 | 13.3 | 105 | 14.7 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 19.3 | 22.4 | 28.1 | 9.20 | 14.3 |
| Zinc | 2.5 | 5.0 | 841 | 56.2 | 246 | 6,250 | 374 |

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Page: **28**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C3**

| **Our Lab I.D.** | | | **90174.11** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-42-0.0 | | | | |
| Date Sampled | | | **11/09/2017** | | | | |
| Date Prepared | | | **11/16/2017** | | | | |
| Preparation Method | | | **3050B** | | | | |
| Date Analyzed | | | **11/17/2017** | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Antimony | **1.0** | **5.0** | **ND** | | | | |
| Arsenic | **1.0** | **5.0** | **ND** | | | | |
| Barium | **2.5** | **5.0** | **103** | | | | |
| Beryllium | **1.3** | **2.5** | **ND** | | | | |
| Cadmium | **1.3** | **2.5** | **ND** | | | | |
| Chromium | **2.5** | **5.0** | **15.1** | | | | |
| Cobalt | **2.5** | **5.0** | **5.63** | | | | |
| Copper | **2.5** | **5.0** | **72.6** | | | | |
| Lead | **2.5** | **5.0** | **101** | | | | |
| Mercury (By EPA 7471) | **0.1** | **0.2** | **0.413** | | | | |
| Molybdenum | **2.5** | **5.0** | **ND** | | | | |
| Nickel | **2.5** | **5.0** | **9.59** | | | | |
| Selenium | **1.0** | **5.0** | **ND** | | | | |
| Silver | **2.5** | **5.0** | **ND** | | | | |
| Thallium | **1.0** | **5.0** | **ND** | | | | |
| Vanadium | **2.5** | **5.0** | **27.2** | | | | |
| Zinc | **2.5** | **5.0** | **134** | | | | |

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Page: **29**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C4**

| Our Lab I.D. | | | Method Blank | 90174.12 | 90174.14 | 90174.15 | 90174.16 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS-42-2.5 | Tt-WMS-42-5.0 | Tt-WMS-42-10.0 | Tt-WMS-41-0.0 |
| Date Sampled | | | | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 |
| Date Prepared | | | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | ND | 76.1 | 95.1 | 39.4 | 101 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 14.1 | 13.7 | 9.27 | 14.5 |
| Cobalt | 2.5 | 5.0 | ND | 6.37 | 6.09 | 3.46J | 6.22 |
| Copper | 2.5 | 5.0 | ND | 160 | 133 | 54.6 | 113 |
| Lead | 2.5 | 5.0 | ND | 29.9 | 121 | 50.3 | 132 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | 0.217 | 0.271 | 0.260 | 0.374 |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 9.22 | 9.62 | 6.97 | 10.3 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 25.5 | 25.3 | 16.1 | 25.5 |
| Zinc | 2.5 | 5.0 | ND | 80.6 | 130 | 205 | 115 |

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Page: **30**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C4**

| Our Lab I.D. | | | 90174.17 | 90174.18 | 90174.19 | 90174.20 | 90174.22 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-41-2.5 | Tt-WMS-41-5.0 | Tt-WMS-41-10.0 | Tt-WMS-45-10.0 | IDW-S |
| Date Sampled | | | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 | 11/09/2017 |
| Date Prepared | | | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 | 11/16/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 | 11/17/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | 81.3 | 71.1 | 65.1 | 24.6 | 80.9 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 14.1 | 12.5 | 13.9 | 8.10 | 15.9 |
| Cobalt | 2.5 | 5.0 | 6.11 | 4.87J | 5.05 | 3.29J | 6.81 |
| Copper | 2.5 | 5.0 | 91.5 | 51.2 | 17.5 | 238 | 44.8 |
| Lead | 2.5 | 5.0 | 84.9 | 55.2 | 3.89J | 94.7 | 26.9 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | 0.340 | 0.391 | ND | 0.579 | 0.376 |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | 9.33 | 7.53 | 8.22 | 30.8 | 11.4 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 24.9 | 21.7 | 26.1 | 15.0 | 27.9 |
| Zinc | 2.5 | 5.0 | 108 | 83.8 | 40.2 | 325 | 88.0 |

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Page: **31**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB1**

| **Our Lab I.D.** | | | Method Blank | **90174.21** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | EB11092017 | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/13/2017** | **11/13/2017** | | | |
| Preparation Method | | | **3510C** | **3510C** | | | |
| Date Analyzed | | | **11/14/2017** | **11/15/2017** | | | |
| Matrix | | | Aqueous | Aqueous | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | MDL | PQL | **Results** | **Results** | | | |
| TPH as Diesel (C13-C22) | **0.1** | **0.5** | **ND** | **ND** | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | **0.1** | **0.5** | **ND** | **ND** | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | **0.1** | **0.5** | **ND** | **ND** | | | |
| **Our Lab I.D.** | | | Method Blank | **90174.21** | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | **% Rec.** | | | |
| Chlorobenzene | **60-125** | | **105** | **110** | | | |

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Page: **32**

**Site**

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Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: 8082, Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111417ZB1**

| **Our Lab I.D.** | | | Method Blank | **90174.21** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | EB11092017 | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/14/2017** | **11/14/2017** | | | |
| Preparation Method | | | **3510C** | **3510C** | | | |
| Date Analyzed | | | **11/14/2017** | **11/14/2017** | | | |
| Matrix | | | Aqueous | Aqueous | | | |
| Units | | | ug/L | ug/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Aroclor-1016 (PCB-1016) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1221 (PCB-1221) | **2.00** | **10.00** | **ND** | **ND** | | | |
| Aroclor-1232 (PCB-1232) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1242 (PCB-1242) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1248 (PCB-1248) | **0.25** | **2.50** | **ND** | **ND** | | | |
| Aroclor-1254 (PCB-1254) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1260 (PCB-1260) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1262 (PCB-1262) | **1.00** | **5.00** | **ND** | **ND** | | | |
| Aroclor-1268 (PCB-1268) | **1.00** | **5.00** | **ND** | **ND** | | | |
| **Our Lab I.D.** | | | Method Blank | **90174.21** | | | |
| **Surrogates** | **%Rec. Limit** | | **% Rec.** | **% Rec.** | | | |
| Decachlorobiphenyl | **30-150** | | **96.6** | **109** | | | |
| Tetrachloro-m-xylene | **30-150** | | **119** | **116** | | | |

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell
Page: **33**

**Site**

Port of LA
Wilmington, CA

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: 6010/7000CAM, Title 22 Metals (SW-846)

**QC Batch No: 1114172C4**

| **Our Lab I.D.** | | | Method Blank | **90174.21** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | EB11092017 | | | |
| Date Sampled | | | | **11/09/2017** | | | |
| Date Prepared | | | **11/14/2017** | **11/14/2017** | | | |
| Preparation Method | | | **3005A** | **3005A** | | | |
| Date Analyzed | | | **11/15/2017** | **11/15/2017** | | | |
| Matrix | | | Aqueous | Aqueous | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Antimony | **0.05** | **0.10** | **ND** | **ND** | | | |
| Arsenic | **0.05** | **0.10** | **ND** | **ND** | | | |
| Barium | **0.03** | **0.05** | **ND** | **ND** | | | |
| Beryllium | **0.01** | **0.05** | **ND** | **ND** | | | |
| Cadmium | **0.01** | **0.05** | **ND** | **ND** | | | |
| Chromium | **0.01** | **0.05** | **ND** | **ND** | | | |
| Cobalt | **0.01** | **0.05** | **ND** | **ND** | | | |
| Copper | **0.01** | **0.05** | **ND** | **ND** | | | |
| Lead | **0.05** | **0.10** | **ND** | **ND** | | | |
| Mercury (By EPA 7470) | **0.001** | **0.002** | **ND** | **ND** | | | |
| Molybdenum | **0.01** | **0.05** | **ND** | **ND** | | | |
| Nickel | **0.01** | **0.05** | **ND** | **ND** | | | |
| Selenium | **0.05** | **0.10** | **ND** | **ND** | | | |
| Silver | **0.01** | **0.05** | **ND** | **ND** | | | |
| Thallium | **0.05** | **0.10** | **ND** | **ND** | | | |
| Vanadium | **0.03** | **0.05** | **ND** | **ND** | | | |
| Zinc | **0.01** | **0.05** | **ND** | **ND** | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
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Telephone: (626)351-4664
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**Site**

Port of LA
Wilmington, CA

Page: **34**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: 6010/7000CAM, Title 22 Metals (SW-846)

**QC Batch No: 1114172C4; Dup or Spiked Sample: 90175.01; LCS: Clean Water; QC Prepared: 11/14/2017; QC Analyzed: 11/15/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 1.00 | 0.915 | 91.5 | 1.00 | 0.913 | 91.3 | <1 | 75-125 | <15 |
| Arsenic | 0.00 | 1.00 | 0.974 | 97.4 | 1.00 | 0.942 | 94.2 | 3.34 | 75-125 | <15 |
| Barium | 0.00 | 1.00 | 0.914 | 91.4 | 1.00 | 0.925 | 92.5 | 1.20 | 75-125 | <15 |
| Beryllium | 0.00 | 1.00 | 1.07 | 107 | 1.00 | 1.09 | 109 | 1.85 | 75-125 | <15 |
| Cadmium | 0.00 | 1.00 | 0.870 | 87.0 | 1.00 | 0.882 | 88.2 | 1.37 | 75-125 | <15 |
| Chromium | 0.00 | 1.00 | 0.882 | 88.2 | 1.00 | 0.897 | 89.7 | 1.69 | 75-125 | <15 |
| Cobalt | 0.00 | 1.00 | 0.842 | 84.2 | 1.00 | 0.848 | 84.8 | <1 | 75-125 | <15 |
| Copper | 0.0290 | 1.00 | 0.939 | 91.0 | 1.00 | 0.955 | 92.6 | 1.74 | 75-125 | <15 |
| Lead | 0.00 | 1.00 | 0.827 | 82.7 | 1.00 | 0.810 | 81.0 | 2.08 | 75-125 | <15 |
| Mercury (By EPA 7470) | 0.00 | 0.0100 | 0.00934 | 93.4 | 0.0100 | 0.00943 | 94.3 | <1 | 75-125 | <15 |
| Molybdenum | 0.951 | 1.00 | 1.83 | 87.9 | 1.00 | 1.81 | 85.9 | 2.30 | 75-125 | <15 |
| Nickel | 0.00 | 1.00 | 0.822 | 82.2 | 1.00 | 0.833 | 83.3 | 1.33 | 75-125 | <15 |
| Selenium | 0.00 | 1.00 | 0.976 | 97.6 | 1.00 | 0.994 | 99.4 | 1.83 | 75-125 | <15 |
| Silver | 0.00 | 1.00 | 0.652# | 65.2 | 1.00 | 0.661# | 66.1 | 1.37 | 75-125 | <15 |
| Thallium | 0.00 | 1.00 | 0.781 | 78.1 | 1.00 | 0.781 | 78.1 | <1 | 75-125 | <15 |
| Vanadium | 0.00 | 1.00 | 0.902 | 90.2 | 1.00 | 0.914 | 91.4 | 1.32 | 75-125 | <15 |
| Zinc | 0.00 | 1.00 | 0.933 | 93.3 | 1.00 | 0.943 | 94.3 | 1.07 | 75-125 | <15 |

**QC Batch No: 1114172C4; Dup or Spiked Sample: 90175.01; LCS: Clean Water; QC Prepared: 11/14/2017; QC Analyzed: 11/15/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 1.00 | 0.970 | 96.6 | 1.00 | 0.970 | 97.1 | <1 | 75-125 | <15 | |
| Arsenic | 1.00 | 0.970 | 96.9 | 1.00 | 0.970 | 96.7 | <1 | 75-125 | <15 | |
| Barium | 1.00 | 0.970 | 97.0 | 1.00 | 0.960 | 96.3 | <1 | 75-125 | <15 | |
| Beryllium | 1.00 | 1.06 | 106 | 1.00 | 1.05 | 105 | <1 | 75-125 | <15 | |
| Cadmium | 1.00 | 0.990 | 98.7 | 1.00 | 0.970 | 97.3 | 1.43 | 75-125 | <15 | |
| Chromium | 1.00 | 0.960 | 96.2 | 1.00 | 0.950 | 95.1 | 1.15 | 75-125 | <15 | |
| Cobalt | 1.00 | 0.930 | 92.7 | 1.00 | 0.920 | 91.8 | <1 | 75-125 | <15 | |
| Copper | 1.00 | 0.880 | 88.1 | 1.00 | 0.890 | 88.8 | <1 | 75-125 | <15 | |
| Lead | 1.00 | 0.920 | 92.4 | 1.00 | 0.910 | 91.2 | 1.31 | 75-125 | <15 | |
| Mercury (By EPA 7470) | 0.0100 | 0.00973 | 97.3 | 0.0100 | 0.00974 | 97.4 | <1 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: 6010/7000CAM, Title 22 Metals (SW-846)

**QC Batch No: 1114172C4; Dup or Spiked Sample: 90175.01; LCS: Clean Water; QC Prepared: 11/14/2017; QC Analyzed: 11/15/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | 1.00 | 0.960 | 96.3 | 1.00 | 0.950 | 95.0 | 1.36 | 75-125 | <15 | |
| Nickel | 1.00 | 0.910 | 90.7 | 1.00 | 0.900 | 90.2 | <1 | 75-125 | <15 | |
| Selenium | 1.00 | 1.01 | 101 | 1.00 | 1.01 | 101 | <1 | 75-125 | <15 | |
| Silver | 1.00 | 0.980 | 97.9 | 1.00 | 0.980 | 97.9 | <1 | 75-125 | <15 | |
| Thallium | 1.00 | 0.890 | 88.5 | 1.00 | 0.870 | 87.3 | 1.37 | 75-125 | <15 | |
| Vanadium | 1.00 | 0.970 | 96.9 | 1.00 | 0.960 | 96.2 | <1 | 75-125 | <15 | |
| Zinc | 1.00 | 1.01 | 101 | 1.00 | 1.00 | 100 | <1 | 75-125 | <15 | |

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## QUALITY CONTROL RESULTS

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**Site**

Port of LA
Wilmington, CA

Page: **36**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

### Method: 8082, Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111417ZB1; Dup or Spiked Sample: 1114; LCS: Clean Water; QC Prepared: 11/14/2017; QC Analyzed: 11/14/2017; Units: ug/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 5.00 | 4.89 | 97.8 | 5.00 | 4.54 | 90.8 | 7.4 | 75-125 | <20 |
| Aroclor-1260 (PCB-1260) | 0.00 | 5.00 | 4.08 | 81.6 | 5.00 | 4.09 | 81.8 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 1.00 | 1.11 | 111 | 1.00 | 1.10 | 110 | <1 | 30-150 | <20 |
| Tetrachloro-m-xylene | 0.00 | 1.00 | 1.07 | 107 | 1.00 | 1.13 | 113 | 5.5 | 30-150 | <20 |

**QC Batch No: 111417ZB1; Dup or Spiked Sample: 1114; LCS: Clean Water; QC Prepared: 11/14/2017; QC Analyzed: 11/14/2017; Units: ug/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS/LCSD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 5.00 | 4.33 | 86.6 | 75-125 | | | | | | |
| Aroclor-1260 (PCB-1260) | 5.00 | 4.00 | 80.0 | 75-125 | | | | | | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 1.00 | 1.25 | 125 | 30-150 | | | | | | |
| Tetrachloro-m-xylene | 1.00 | 1.14 | 114 | 30-150 | | | | | | |

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# QUALITY CONTROL RESULTS

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**Site**

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Wilmington, CA

Page: **37**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB1; Dup or Spiked Sample: 1113; LCS: Clean Water; QC Prepared: 11/13/2017; QC Analyzed: 11/14/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 5.00 | 6.25 | 125 | 5.00 | 5.90 | 118 | 5.8 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 2.00 | 2.36 | 118 | 2.00 | 1.95 | 97.5 | 19.0 | 60-125 | <20 |

**QC Batch No: 111317DB1; Dup or Spiked Sample: 1113; LCS: Clean Water; QC Prepared: 11/13/2017; QC Analyzed: 11/14/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS/LCSD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 5.00 | 5.07 | 101 | 75-125 | | | | | | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 2.00 | 1.36 | 68.0 | 60-125 | | | | | | |

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Wilmington, CA

Page: **38**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C3; Dup or Spiked Sample: 90174.01; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 49.4 | 98.8 | 50.0 | 48.8 | 97.6 | 1.22 | 75-125 | <15 |
| Arsenic | 0.00 | 50.0 | 45.3 | 90.6 | 50.0 | 45.8 | 91.6 | 1.10 | 75-125 | <15 |
| Barium | 81.0 | 50.0 | 135 | 108 | 50.0 | 134 | 106 | 1.87 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 56.0 | 112 | 50.0 | 55.5 | 111 | <1 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 47.2 | 94.4 | 50.0 | 47.4 | 94.8 | <1 | 75-125 | <15 |
| Chromium | 9.90 | 50.0 | 56.6 | 93.4 | 50.0 | 56.7 | 93.6 | <1 | 75-125 | <15 |
| Cobalt | 3.96 | 50.0 | 50.4 | 92.9 | 50.0 | 50.5 | 93.1 | <1 | 75-125 | <15 |
| Copper | 22.5 | 50.0 | 72.1 | 99.2 | 50.0 | 72.1 | 99.2 | <1 | 75-125 | <15 |
| Lead | 19.5 | 50.0 | 63.2 | 87.4 | 50.0 | 63.7 | 88.4 | 1.14 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.00 | 0.500 | 0.418 | 83.6 | 0.500 | 0.417 | 83.4 | <1 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 46.8 | 93.6 | 50.0 | 47.0 | 94.0 | <1 | 75-125 | <15 |
| Nickel | 14.9 | 50.0 | 56.5 | 83.2 | 50.0 | 56.7 | 83.6 | <1 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 45.1 | 90.2 | 50.0 | 44.5 | 89.0 | 1.34 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 46.6 | 93.2 | 50.0 | 46.4 | 92.8 | <1 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 35.4 # | 70.8 | 50.0 | 36.1 # | 72.2 | 1.96 | 75-125 | <15 |
| Vanadium | 23.2 | 50.0 | 70.3 | 94.2 | 50.0 | 69.9 | 93.4 | <1 | 75-125 | <15 |
| Zinc | 52.2 | 50.0 | 147 # | 190 | 50.0 | 146 # | 188 | 1.06 | 75-125 | <15 |

**QC Batch No: 1116172C3; Dup or Spiked Sample: 90174.01; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 51.4 | 103 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Arsenic | 50.0 | 49.9 | 99.8 | 50.0 | 50.9 | 102 | 2.18 | 75-125 | <15 | |
| Barium | 50.0 | 50.3 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 56.1 | 112 | 50.0 | 56.7 | 113 | <1 | 75-125 | <15 | |
| Cadmium | 50.0 | 51.7 | 103 | 50.0 | 51.9 | 104 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 51.8 | 104 | 50.0 | 51.9 | 104 | <1 | 75-125 | <15 | |
| Cobalt | 50.0 | 51.0 | 102 | 50.0 | 51.2 | 102 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 52.8 | 106 | 50.0 | 53.1 | 106 | <1 | 75-125 | <15 | |
| Lead | 50.0 | 48.3 | 96.6 | 50.0 | 48.2 | 96.4 | <1 | 75-125 | <15 | |
| Mercury (By EPA 7471) | 0.500 | 0.535 | 107 | 0.500 | 0.540 | 108 | <1 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C3; Dup or Spiked Sample: 90174.01; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | 50.0 | 49.6 | 99.2 | 50.0 | 49.8 | 99.6 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 48.6 | 97.2 | 50.0 | 48.7 | 97.4 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 49.0 | 98.0 | 50.0 | 49.4 | 98.8 | <1 | 75-125 | <15 | |
| Silver | 50.0 | 50.3 | 101 | 50.0 | 50.6 | 101 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 51.7 | 103 | 50.0 | 52.4 | 105 | 1.92 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.3 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 52.4 | 105 | 50.0 | 55.0 | 110 | 4.65 | 75-125 | <15 | |

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## QUALITY CONTROL RESULTS

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**Site**

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Page: **40**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C4; Dup or Spiked Sample: 90174.12; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 49.0 | 98.0 | 50.0 | 49.5 | 99.0 | 1.02 | 75-125 | <15 |
| Arsenic | 0.00 | 50.0 | 42.8 | 85.6 | 50.0 | 43.3 | 86.6 | 1.16 | 75-125 | <15 |
| Barium | 76.1 | 50.0 | 122 | 91.8 | 50.0 | 124 | 95.8 | 4.26 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 53.0 | 106 | 50.0 | 55.0 | 110 | 3.70 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 46.6 | 93.2 | 50.0 | 46.9 | 93.8 | <1 | 75-125 | <15 |
| Chromium | 14.1 | 50.0 | 60.7 | 93.2 | 50.0 | 61.0 | 93.8 | <1 | 75-125 | <15 |
| Cobalt | 6.37 | 50.0 | 50.9 | 89.1 | 50.0 | 51.1 | 89.5 | <1 | 75-125 | <15 |
| Copper | 160 | 50.0 | 186 # | 52.0 | 50.0 | 189 # | 58.0 | 10.9 | 75-125 | <15 |
| Lead | 29.9 | 50.0 | 71.2 | 82.6 | 50.0 | 71.4 | 83.0 | <1 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.217 | 0.500 | 0.912# | 139 | 0.500 | 0.917# | 140 | <1 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 45.4 | 90.8 | 50.0 | 45.6 | 91.2 | <1 | 75-125 | <15 |
| Nickel | 9.22 | 50.0 | 50.5 | 82.6 | 50.0 | 50.8 | 83.2 | <1 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 41.7 | 83.4 | 50.0 | 41.4 | 82.8 | <1 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 45.9 | 91.8 | 50.0 | 46.5 | 93.0 | 1.30 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 30.8 # | 61.6 | 50.0 | 30.8 # | 61.6 | <1 | 75-125 | <15 |
| Vanadium | 25.5 | 50.0 | 72.0 | 93.0 | 50.0 | 72.9 | 94.8 | 1.92 | 75-125 | <15 |
| Zinc | 80.6 | 50.0 | 119 | 76.8 | 50.0 | 121 | 80.8 | 5.08 | 75-125 | <15 |

**QC Batch No: 1116172C4; Dup or Spiked Sample: 90174.12; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 51.9 | 104 | 50.0 | 52.1 | 104 | <1 | 75-125 | <15 | |
| Arsenic | 50.0 | 50.5 | 101 | 50.0 | 50.2 | 100 | <1 | 75-125 | <15 | |
| Barium | 50.0 | 50.6 | 101 | 50.0 | 50.8 | 102 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 55.8 | 112 | 50.0 | 57.1 | 114 | 1.77 | 75-125 | <15 | |
| Cadmium | 50.0 | 52.0 | 104 | 50.0 | 52.1 | 104 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 51.9 | 104 | 50.0 | 51.9 | 104 | <1 | 75-125 | <15 | |
| Cobalt | 50.0 | 51.5 | 103 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 53.4 | 107 | 50.0 | 53.8 | 108 | <1 | 75-125 | <15 | |
| Lead | 50.0 | 48.6 | 97.2 | 50.0 | 48.7 | 97.4 | <1 | 75-125 | <15 | |
| Mercury (By EPA 7471) | 0.500 | 0.570 | 114 | 0.500 | 0.590 | 118 | 3.4 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 1116172C4; Dup or Spiked Sample: 90174.12; LCS: Clean Sand; QC Prepared: 11/16/2017; QC Analyzed: 11/17/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | 50.0 | 49.7 | 99.4 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 48.8 | 97.6 | 50.0 | 49.0 | 98.0 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 48.8 | 97.6 | 50.0 | 48.7 | 97.4 | <1 | 75-125 | <15 | |
| Silver | 50.0 | 50.4 | 101 | 50.0 | 50.8 | 102 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 52.5 | 105 | 50.0 | 52.1 | 104 | <1 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.4 | 101 | 50.0 | 50.7 | 101 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 53.1 | 106 | 50.0 | 53.1 | 106 | <1 | 75-125 | <15 | |

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**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Port of LA
Wilmington, CA

Page: **42**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 111017ZB1; Dup or Spiked Sample: 90174.02; LCS: Clean Sand; QC Prepared: 11/10/2017; QC Analyzed: 11/10/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 500 | 495 | 99.0 | 500 | 475 | 95.0 | 4.1 | 50-150 | <40 |
| Aroclor-1260 (PCB-1260) | 0.00 | 500 | 363 | 72.6 | 500 | 386 | 77.2 | 6.1 | 50-150 | <40 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 50.0 | 52.0 | 104 | 50.0 | 51.5 | 103 | <1 | 30-150 | <40 |
| Tetrachloro-m-xylene | 0.00 | 50.0 | 69.0 | 138 | 50.0 | 61.0 | 122 | 12.3 | 30-150 | <40 |

**QC Batch No: 111017ZB1; Dup or Spiked Sample: 90174.02; LCS: Clean Sand; QC Prepared: 11/10/2017; QC Analyzed: 11/10/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 500 | 463 | 92.6 | 500 | 480 | 96.0 | 3.6 | 50-150 | <40 | |
| Aroclor-1260 (PCB-1260) | 500 | 362 | 72.4 | 500 | 387 | 77.4 | 6.7 | 50-150 | <40 | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 50.0 | 49.4 | 98.8 | 50.0 | 49.7 | 99.4 | <1 | 30-150 | <40 | |
| Tetrachloro-m-xylene | 50.0 | 62.0 | 124 | 50.0 | 64.5 | 129 | 4.0 | 30-150 | <40 | |

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# QUALITY CONTROL RESULTS

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Wilmington, CA

Page: **43**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 1111172A2; Dup or Spiked Sample: B1111172A2; LCS: Clean Sand; QC Prepared: 11/11/2017;MS Analyzed: 11/12/2017; LCS Analyzed: 11/11/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00 | 50.0 | 42.7 | 85.4 | 50.0 | 40.8 | 81.6 | 4.6 | 75-125 | <20 |
| Carbon tetrachloride | 0.00 | 50.0 | 43.7 | 87.4 | 50.0 | 41.6 | 83.2 | 4.9 | 75-125 | <20 |
| Chlorobenzene | 0.00 | 50.0 | 48.3 | 96.6 | 50.0 | 45.9 | 91.8 | 5.1 | 75-125 | <20 |
| Chloroform (Trichloromethane) | 0.00 | 50.0 | 44.5 | 89.0 | 50.0 | 42.1 | 84.2 | 5.5 | 75-125 | <20 |
| 1,2-Dichlorobenzene | 0.00 | 50.0 | 51.0 | 102 | 50.0 | 50.0 | 100 | 2.0 | 75-125 | <20 |
| 1,1-Dichloroethane | 0.00 | 50.0 | 44.5 | 89.0 | 50.0 | 40.9 | 81.8 | 8.4 | 75-125 | <20 |
| 1,1-Dichloroethene | 0.00 | 50.0 | 43.4 | 86.8 | 50.0 | 41.8 | 83.6 | 3.8 | 75-125 | <20 |
| cis-1,2-Dichloroethene | 0.00 | 50.0 | 45.5 | 91.0 | 50.0 | 42.6 | 85.2 | 6.6 | 75-125 | <20 |
| Ethylbenzene | 0.00 | 50.0 | 43.8 | 87.6 | 50.0 | 41.6 | 83.2 | 5.2 | 75-125 | <20 |
| Methyl-tert-butyl ether (MTBE) | 0.00 | 50.0 | 46.9 | 93.8 | 50.0 | 44.2 | 88.4 | 5.9 | 75-125 | <20 |
| n-Propylbenzene | 0.00 | 50.0 | 48.1 | 96.2 | 50.0 | 46.6 | 93.2 | 3.2 | 75-125 | <20 |
| Toluene (Methyl benzene) | 0.00 | 50.0 | 44.2 | 88.4 | 50.0 | 42.0 | 84.0 | 5.1 | 75-125 | <20 |
| 1,1,1-Trichloroethane | 0.00 | 50.0 | 44.9 | 89.8 | 50.0 | 42.6 | 85.2 | 5.3 | 75-125 | <20 |
| 1,1,2-Trichloroethane | 0.00 | 50.0 | 47.6 | 95.2 | 50.0 | 46.1 | 92.2 | 3.2 | 75-125 | <20 |
| Trichloroethene | 0.00 | 50.0 | 44.7 | 89.4 | 50.0 | 44.1 | 88.2 | 1.4 | 75-125 | <20 |
| 1,2,4-Trimethylbenzene | 0.00 | 50.0 | 46.4 | 92.8 | 50.0 | 45.3 | 90.6 | 2.4 | 75-125 | <20 |
| 1,3,5-Trimethylbenzene | 0.00 | 50.0 | 46.1 | 92.2 | 50.0 | 44.6 | 89.2 | 3.3 | 75-125 | <20 |
| o-Xylene | 0.00 | 50.0 | 44.4 | 88.8 | 50.0 | 41.4 | 82.8 | 7.0 | 75-125 | <20 |
| m,p-Xylenes | 0.00 | 100 | 86.7 | 86.7 | 100 | 82.7 | 82.7 | 4.7 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 50.0 | 49.3 | 98.6 | 50.0 | 50.5 | 101 | 2.4 | 75-125 | <20 |
| Dibromofluoromethane | 0.00 | 50.0 | 50.0 | 100 | 50.0 | 49.2 | 98.3 | 1.7 | 75-125 | <20 |
| Toluene-d8 | 0.00 | 50.0 | 49.9 | 99.8 | 50.0 | 49.5 | 99.0 | <1 | 75-125 | <20 |

**QC Batch No: 1111172A2; Dup or Spiked Sample: B1111172A2; LCS: Clean Sand; QC Prepared: 11/11/2017;MS Analyzed: 11/12/2017; LCS Analyzed: 11/11/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 43.3 | 86.6 | 50.0 | 43.0 | 86.0 | <1 | 75-125 | <20 | |
| Carbon tetrachloride | 50.0 | 44.7 | 89.4 | 50.0 | 44.5 | 89.0 | <1 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 48.0 | 96.0 | 50.0 | 48.0 | 96.0 | <1 | 75-125 | <20 | |
| Chloroform (Trichloromethane) | 50.0 | 44.5 | 89.0 | 50.0 | 44.0 | 88.0 | 1.1 | 75-125 | <20 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479.17
Project Name: Wlmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 1111172A2; Dup or Spiked Sample: B1111172A2; LCS: Clean Sand; QC Prepared: 11/11/2017;MS Analyzed: 11/12/2017; LCS Analyzed: 11/11/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | 50.0 | 51.0 | 102 | 50.0 | 51.0 | 102 | <1 | 75-125 | <20 | |
| 1,1-Dichloroethane | 50.0 | 44.3 | 88.6 | 50.0 | 40.0 | 80.0 | 10.2 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 47.5 | 95.0 | 50.0 | 46.0 | 92.0 | 3.2 | 75-125 | <20 | |
| cis-1,2-Dichloroethene | 50.0 | 45.2 | 90.4 | 50.0 | 44.0 | 88.0 | 2.7 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 43.8 | 87.6 | 50.0 | 44.0 | 88.0 | <1 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 45.1 | 90.2 | 50.0 | 45.5 | 91.0 | <1 | 75-125 | <20 | |
| n-Propylbenzene | 50.0 | 49.3 | 98.6 | 50.0 | 48.5 | 97.0 | 1.6 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 44.3 | 88.6 | 50.0 | 44.5 | 89.0 | <1 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 45.7 | 91.4 | 50.0 | 45.5 | 91.0 | <1 | 75-125 | <20 | |
| 1,1,2-Trichloroethane | 50.0 | 47.6 | 95.2 | 50.0 | 47.5 | 95.0 | <1 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 47.5 | 95.0 | 50.0 | 47.0 | 94.0 | 1.1 | 75-125 | <20 | |
| 1,2,4-Trimethylbenzene | 50.0 | 47.9 | 95.8 | 50.0 | 47.5 | 95.0 | <1 | 75-125 | <20 | |
| 1,3,5-Trimethylbenzene | 50.0 | 47.1 | 94.2 | 50.0 | 46.5 | 93.0 | 1.3 | 75-125 | <20 | |
| o-Xylene | 50.0 | 43.3 | 86.6 | 50.0 | 44.0 | 88.0 | 1.6 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 87.0 | 87.0 | 100 | 87.0 | 87.0 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 44.8 | 89.5 | 50.0 | 48.6 | 97.1 | 8.1 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 49.6 | 99.1 | 50.0 | 50.5 | 101 | 1.9 | 75-125 | <20 | |

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## QUALITY CONTROL RESULTS

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**Site**

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Wilmington, CA

Page: **45**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 111317DB3; Dup or Spiked Sample: 90174.02; LCS: Clean Sand; QC Prepared: 11/13/2017;MS Analyzed: 11/14/2017; LCS Analyzed: 11/13/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 500 | 597 | 119 | 500 | 608 | 122 | 2.49 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 106 | 106 | 100 | 106 | 106 | <1 | 75-125 | <20 |

**QC Batch No: 111317DB3; Dup or Spiked Sample: 90174.02; LCS: Clean Sand; QC Prepared: 11/13/2017;MS Analyzed: 11/14/2017; LCS Analyzed: 11/13/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 550 | 110 | 500 | 589 | 118 | 7.02 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 101 | 101 | 100 | 101 | 101 | <1 | 75-125 | <20 | |

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## QUALITY CONTROL RESULTS

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**Site**

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Wilmington, CA

Page: **46**

Project ID: 73479.17
Project Name: Wilmington Marine Service

| AETL Job Number | Submitted | Client |
|---|---|---|
| 90174 | 11/09/2017 | T/T |

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 111017OB1; Dup or Spiked Sample: 90192.01AGA; LCS: Clean Sand; QC Prepared: 11/10/2017;MS Analyzed: 11/11/2017; LCS Analyzed: 11/10/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.776 | 77.6 | 1.00 | 0.773 | 77.3 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0486 | 97.2 | 0.0500 | 0.0510 | 102 | 4.8 | 75-125 | <20 |

**QC Batch No: 111017OB1; Dup or Spiked Sample: 90192.01AGA; LCS: Clean Sand; QC Prepared: 11/10/2017;MS Analyzed: 11/11/2017; LCS Analyzed: 11/10/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 0.936 | 93.6 | 1.00 | 0.931 | 93.1 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0480 | 96.0 | 0.0500 | 0.0494 | 98.8 | 2.9 | 75-125 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Number of Pages 6**
**Date Received 08/24/2017**
**Date Reported 09/29/2017**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89557 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 4 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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89557

# CHAIN OF CUSTODY RECORD

102274

COMPANY: Tetra tech
PROJECT MANAGER: Eric Nelson, Maclyn Odonnell
COMPANY ADDRESS: 3475 E Foothill, Pasadena, CA 91107
PHONE / FAX: 626-3514664
PROJECT NAME: Wilmington Marine Service
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:
AETL JOB No. 89125
Page 2 of 4

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH (C4-C40) 8015 | TPH (C13-C40) 8015 | Title 22 Metals Grain Size Moisture Break | VOCs + Oxy Bzaa SVOCs | PCBs 8082 Soxhlet | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Tt-WMS-4-0 | 2-089125.16 | 8-24-17 | 0906 | S | 5 | | X | X | X | X | | STANDARD Tt EDD VOCs + Oxy and TPH(G) require 3 day TAT The rest is normal TAT Blank = Hold |
| 2 Tt-WMS-4-2.0 | 089125.17 | | 0911 | S | 5 | | X | X | X | X | | |
| 3 Tt-WMS-4-5.0 | 89125.18 | | 0915 | S | 5 | | | | | | | |
| 4 Tt-WMS-4-40.0 | 89125.19 | | 0921 | S | 5 | | | | | | | |
| 5 Tt-WMS-40-0.5 | 89125.20 | | 0935 | S | 5 | | X | X | X | X | | |
| 6 Tt-WMS-40-2.0 | 89125.21 | | 0938 | S | 5 | | X | X | X | X | | |
| 7 Tt-WMS-40-5.0 | 89125.22 | | 0943 | S | 5 | | | | | | | |
| 8 Tt-WMS-40-10.0 | 89125.23 | | 0950 | S | 5 | | | | | | | |
| 9 Tt-WMS-5-0.5 | 89125.24 | | 1000 | S | 5 | | X | X | X | X | | |
| 10 Tt-WMS-5-2.0 | 89125.25 | | 1005 | S | 5 | | X | X | X | X | | |
| 11 Tt-WMS-5-5.0 | 89125.26 | | 1010 | S | 5 | | | | | | | |
| 12 Tt-WMS-5-10.0 | 89125.27 | | 1016 | S | 5 | | | | | | | |
| 13 Tt-WMS-6-0.5 | 89125.28 | | 1029 | S | 5 | | X | X | X | X | (*) | 89557.01 |
| 14 Tt-WMS-6-2.0 | 89125.29 | | 1034 | S | 5 | | X | X | X | X | | |
| 15 Tt-WMS-6-20.0 | 89125.30 | | 1038 | S | 5 | | X | X | X | X | (*) | 89557.02 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y / N / NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND (Y) N | | SAMPLES ACCEPTED (Y) N | |

## TURN AROUND TIME

☑ NORMAL ☑ RUSH
☐ SAME DAY
☐ NEXT DAY
☐ 2 DAYS
☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Eric Nelson | Printed Name: | Printed Name: C Martinez |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: 3.** |
| Signature: | Signature: | Signature: |
| Printed Name: Carmen Rodriguez | Printed Name: | Printed Name: Antin |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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89557

# CHAIN OF CUSTODY RECORD

102273

COMPANY: Tetra tech
PROJECT MANAGER: Maelyn Odonnell, Eric Nelson
AETL JOB No: 89125
Page 3 of 4

COMPANY ADDRESS: 3475 E Foothill, Pasadena, CA 91107
PHONE / FAX: 626-351-4664
PROJECT NAME: Wilmington Marine Services
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg ($C_4$-$C_{12}$) 8015 | TPHd ($C_{13}$-$C_{40}$) 8015 | Title 22 Metals 6010/7471 | Moisture Percent | VOCs + Oxygenates 8260B | SVOCs | PCBs 8082 Soxhlet | Hg | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tt-WMS-6-5.0 | 89125.31 | 8-24-17 | 1045 | S | 5 | | | | | | | | | | | | STANDARD Tt EDD VOCs + OXY and TPH(g) require 3 days TAT, The rest is normal TAT Blank = Hold |
| Tt-WMS-6-10.0 | 89125.32 | | 1053 | S | 5 | | | | | | | | | | | | |
| Tt-WMS-7-0.5 | 89125.33 | | 1207 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-7-2.0 | 89125.34 | | 1218 | S | 10 | | X | X | X | X | | | | | | | MS/MSD |
| Tt-WMS-7-6.0 | ~~89125.35~~ | | 1230 | S | 5 | | | | | | | | | * | | | 89557.03 |
| Tt-WMS-7-10.0 | ~~89125.36~~ | | 1235 | S | 5 | | | | | | | | | * | | | 89557.04 |
| Tt-WMS-18-0.5 | 89125.37 | | 1255 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-18-2.0 | 89125.38 | | 1300 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-18-5.0 | 89125.39 | | 1305 | S | 5 | | | | | | | | | | | | |
| Tt-WMS-18-10.0 | 89125.40 | | 1313 | S | 5 | | | | | | | | | | | | |
| Tt-WMS-21-0.5 | 89125.41 | | 1323 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-21-2.0 | 89125.42 | | 1328 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-21-2.0D | 89125.43 | | 1332 | S | 5 | | X | X | X | X | | | | | | | |
| Tt-WMS-21-5.0 | 89125.44 | | 1339 | S | 5 | | | | | | | | | | | | |
| Tt-WMS-21-10.0 | 89125.45 | | 1346 | S | 5 | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 80 | PROPERLY COOLED | Y / N / NA |
| CUSTODY SEALS | Y / N / NA | SAMPLES INTACT | Y / N / NA |
| RECEIVED IN GOOD COND. | Y / N | SAMPLES ACCEPTED | Y / N |

TURN AROUND TIME: ☐ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: C. Pagliaro |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: 3.** |
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Charlotte Pagliaro | Printed Name: | Printed Name: Antin |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** Benfield, Heather [Heather.Benfield@tetratech.com]
**Sent:** Monday, September 25, 2017 6:32 PM
**To:** JIM LIN
**Cc:** ODonnell, Maclyn
**Subject:** RE: Wilmington Marine Additional Samples

Jim,

Would you please include these four samples also for results by Friday noon? Let us know if you do not have any or enough samples left.

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID |
|---|---|---|---|---|
| POLA89125 | 08/24/2017 | Tt-WMS7-6.0 | Hg | 89125.35 |
| POLA89125 | 08/24/2017 | Tt-WMS7-10.0 | Hg | 89125.36 |
| POLA89125 | 08/24/2017 | Tt-WMS6-0.5 | PCBs with soxhlet extraction | 89125.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0D | PCBs with soxhlet extraction | 89125.30 |

And please remember we have revised the sample IDs and removed the dash between "WMS" and the number so it's "Tt-WMS6-0.5", not "Tt-WMS-6-0.5"

Thank you,

Heather

**From:** ODonnell, Maclyn
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN <jiml@aetlab.com>
**Cc:** Benfield, Heather <Heather.Benfield@tetratech.com>
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID |
|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/24/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89557 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 4 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89557.01 | Tt-WMS6-2.0 | 08/24/2017 | Soil | 5 |
| 89557.02 | Tt-WMS6-2.0D | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8082) | 09/29/2017 | 4 | Rush | ug/Kg |

| | | | | |
|---|---|---|---|---|
| 89557.03 | Tt-WMS7-6.0 | 08/24/2017 | Soil | 5 |
| 89557.04 | Tt-WMS7-10.0 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7471A | 09/29/2017 | 4 | Rush | mg/Kg |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89557 | 08/24/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 092817**

| **Our Lab I.D.** | | | Method Blank | **89557.01** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS6-2.0 | | | |
| Date Sampled | | | | 08/24/2017 | | | |
| Date Prepared | | | 09/28/2017 | 09/28/2017 | | | |
| Preparation Method | | | 3540C | 3540C | | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | ND | | | |
| **Our Lab I.D.** | | | Method Blank | **89557.01** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Decachlorobiphenyl | 30-150 | | 100 | 73.0 | | | |
| Tetrachloro-m-xylene | 30-150 | | 127 | 106 | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89557 | 08/24/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 092817**

| Our Lab I.D. | | | 89557.02 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS6-2.0 D | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/28/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 5 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 125 | 250 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 125 | 250 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 125 | 250 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 125 | 250 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 125 | 250 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 125 | 250 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 125 | 250 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 125 | 250 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 125 | 250 | ND | | | | |

*Comment(s):*
*89557.02: Analyzed under dilution due to matrix interference*

| Our Lab I.D. | | | 89557.02 | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 66.6 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 113 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89557 | 08/24/2017 | T/T |

### Method: 7471A, Mercury in Solid or Semisolid Waste, Cold-Vapor Technique

**QC Batch No: 092717-4**

| Our Lab I.D. | | | Method Blank | 89557.03 | 89557.04 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS7-6.0 | Tt-WMS7-10.0 | | |
| Date Sampled | | | | 08/24/2017 | 08/24/2017 | | |
| Date Prepared | | | 09/27/2017 | 09/27/2017 | 09/27/2017 | | |
| Preparation Method | | | 7471A | 7471A | 7471A | | |
| Date Analyzed | | | 09/27/2017 | 09/27/2017 | 09/27/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Mercury | 0.1 | 0.2 | ND | ND | ND | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89557 | 08/24/2017 | T/T |

## Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 092817; Dup or Spiked Sample: 89469.30; LCS: Clean Sand; QC Prepared: 09/28/2017; QC Analyzed: 09/28/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 500 | 418 | 83.6 | 500 | 452 | 90.4 | 7.8 | 50-150 | <20 |
| Aroclor-1260 (PCB-1260) | 0.00 | 500 | 448 | 89.6 | 500 | 402 | 80.4 | 10.8 | 50-150 | <20 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 50.0 | 61.0 | 122 | 50.0 | 58.0 | 116 | 5.0 | 30-150 | <20 |
| Tetrachloro-m-xylene | 0.00 | 50.0 | 69.0 | 138 | 50.0 | 62.0 | 124 | 10.7 | 30-150 | <20 |

**QC Batch No: 092817; Dup or Spiked Sample: 89469.30; LCS: Clean Sand; QC Prepared: 09/28/2017; QC Analyzed: 09/28/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 500 | 396 | 79.2 | 500 | 366 | 73.2 | 7.9 | 50-150 | <20 | |
| Aroclor-1260 (PCB-1260) | 500 | 448 | 89.6 | 500 | 403 | 80.6 | 10.6 | 50-150 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 50.0 | 61.0 | 122 | 50.0 | 59.0 | 118 | 3.3 | 30-150 | <20 | |
| Tetrachloro-m-xylene | 50.0 | 59.0 | 118 | 50.0 | 51.0 | 102 | 14.5 | 30-150 | <20 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89557 | 08/24/2017 | T/T |

## Method: 7471A, Mercury in Solid or Semisolid Waste, Cold-Vapor Technique

**QC Batch No: 092717-4; Dup or Spiked Sample: 89559.05; LCS: Clean Sand; QC Prepared: 09/27/2017; QC Analyzed: 09/27/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.00 | 0.500 | 0.481 | 96.2 | 0.500 | 0.478 | 95.6 | <1 | 75-125 | <15 |

**QC Batch No: 092717-4; Dup or Spiked Sample: 89559.05; LCS: Clean Sand; QC Prepared: 09/27/2017; QC Analyzed: 09/27/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.500 | 0.570 | 114 | 0.500 | 0.570 | 114 | <1 | 75-125 | <15 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages** 23
**Date Received** 08/21/2017
**Date Reported** 09/29/2017

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89524 | 09/26/2017 | T/T |

---

**Project ID:** 73479
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 5 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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# CHAIN OF CUSTODY RECORD

№ 90467

89524

Page 1 of 4

COMPANY: Tetra tech INC
PROJECT MANAGER: Eric Nelson Macilyn Odong
PHONE: 626 470-2336
COMPANY ADDRESS: 3475 Foothill Blvd
FAX:
PROJECT NAME: Wilmington Marina
PROJECT #: 73479.
SITE NAME AND ADDRESS:
PO #:
AETL JOB No. 89069

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(C4-C12) 8015 | TPH(C13-C40) 8015 | VOCs 8260B | Title 22 metals | PCBs 8082 Soil/Liquid | Organochlorine Pesticides | Pesticides 8081 | STLC Cd, Cu, Hg, Zn | TCLP As | STLC Pb | TCLP As & Pb | STLC Pb | (6) STLC Pb (Soil) | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB082120 17 | 89069.01 | 8-21-17 | 0800 | W | 2 | | X | | X | | | | | | | | | | | Tt Standard EDD TPH(g) and VOCs - 3 days TAT The rest is STANDARD TAT Blank = hold |
| TC-WMS-19-0.5 | 89069.02 | 8-21-17 | 0812 | S | 5 | | X | X | | X | | | X | | | | | | | |
| TC-WMS-19-2.0 | 89069.03 | | 0820 | | | | X | X | | X | | | X | | X | | | | | 89524.01 |
| TC-WMS-19-5.0 | 89069.04 | | 0831 | | | | | | X | | | | | | | | X | | | 89524.02 |
| TC-WMS-22-0.5 | 89069.05 | | 0846 | | | | X | X | | X | | | X | | | | | X | | 89524.03 |
| TC-WMS-22-2.0 | 89069.06 | | 0854 | | | | X | X | | X | | | X | | | | | | | |
| TC-WMS-22-5.0 | 89069.07 | | 0859 | | | | | | | | | | | | | | | | | |
| TC-WMS-22-10.0 | 89069.08 | | 0909 | | | | | | | | | | | | | | | | | |
| TC-WMS-25-0.5 | 89069.09 | | 0922 | | | | X | X | | X | | | X | | | | | X | | 89524.04 |
| TC-WMS-25-2.0 | 89069.10 | | 0930 | | | | X | X | | X | | | X | | | | | | | |
| TC-WMS-25-5.0 | 89069.11 | | 0936 | | | | | | | | | | | | | | | | | |
| TC-WMS-25-10.0 | 89069.12 | | 0943 | | | | | | | | | | | | | | | | | |
| TC-WMS-23-0.5 | 89069.13 | | 0957 | | | | X | X | | X | | | X | | | | | | X | 89524.05 |
| TC-WMS-23-2.0 | 89069.14 | | 0959 | | | | X | X | | X | | | X | | | | | | | |
| TC-WMS-23-5.0 | 89069.15 | | 1010 | | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 72 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sarah Fekher | Printed Name: | Printed Name: Sandis |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1830 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Samuel | Printed Name: | Printed Name: Adin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

**TURN AROUND TIME**

[X] NORMAL [X] RUSH
- [ ] SAME DAY
- [ ] NEXT DAY
- [ ] 2 DAYS
- [X] 3 DAYS

**DATA DELIVERABLE REQUIRED**

- [ ] HARD COPY
- [ ] PDF
- [ ] GEOTRACKER (GLOBAL ID) _____
- [ ] OTHER (PLEASE SPECIFY) _____

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

ED_004566_00003133-00067

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID |
|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | 89306.14 |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | 89089.17 |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | 89089.30 |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | 89089.31 |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | 89089.34 |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: 73479
Date Received 08/21/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89524 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 5 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89524.01 | Tt-WMS19-2.0 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-CD | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-CU | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ ZN | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ STLC-HG | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| | | | | |
|---|---|---|---|---|
| 89524.02 | Tt-WMS19-5.0 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| | | | | |
|---|---|---|---|---|
| 89524.03 | Tt-WMS22-0.5 | 08/21/2017 | Soil | 5 |
| 89524.04 | Tt-WMS25-0.5 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |

| | | | | |
|---|---|---|---|---|
| 89524.05 | Tt-WMS23-0.5 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-CU | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Cadmium (STLC) | 0.01 | 0.05 | ND | | | | |

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Telephone: (626)351-4664
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**Site**

Wilmington Marine Services

Page: 3

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | 89524.01 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-2.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Cadmium (STLC) | 0.10 | 0.50 | ND | | | | |

*Comment(s):*
*89524.01: Analyzed under dilution due to matrix interference*

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**Site**

Wilmington Marine Services

Page: 4

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Copper | 0.01 | 0.05 | ND | | | | |

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**Site**

Wilmington Marine Services

Page: 5

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | 89524.01 | 89524.05 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-2.0 | Tt-WMS23-0.5 | | | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | | | |
| Date Prepared | | | 09/27/2017 | 09/27/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 10 | 10 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Copper | 0.10 | 0.50 | 24.4 | 118 | | | |

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**Site**

Wilmington Marine Services

Page: 6

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Zinc | 0.03 | 0.05 | ND | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 7

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | 89524.01 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-2.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Zinc | 0.30 | 0.50 | 82.0 | | | | |

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## ANALYTICAL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 8

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

### Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| **Our Lab I.D.** | | | Method Blank | **89524.01** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-2.0 | | | |
| Date Sampled | | | | 08/21/2017 | | | |
| Date Prepared | | | 09/29/2017 | 09/29/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | 0.001J | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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3475 East Foothill Boulevard
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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 9

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

### Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1**

| Our Lab I.D. | | | Method Blank | 89524.01 | 89524.02 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-2.0 | Tt-WMS19-5.0 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | TITLE 22 | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Mercury (TCLP) | 0.001 | 0.002 | ND | ND | ND | | |

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Wilmington Marine Services

Page: 10

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.05 | 0.10 | ND | | | | |

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Wilmington Marine Services

Page: 11

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6**

| Our Lab I.D. | | | 89524.02 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-5.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | 2.85 | | | | |

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Wilmington Marine Services

Page: 12

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.05 | 0.10 | ND | | | | |

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Wilmington Marine Services

Page: 13

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7**

| Our Lab I.D. | | | 89524.02 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-5.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.50 | 1.00 | 17.7 | | | | |

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**Site**

Wilmington Marine Services

Page: 14

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.05 | 0.10 | ND | | | | |

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**Site**

Wilmington Marine Services

Page: 15

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8**

| Our Lab I.D. | | | 89524.03 | 89524.04 | 89524.05 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS22-0.5 | Tt-WMS25-0.5 | Tt-WMS23-0.5 | | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 09/27/2017 | 09/27/2017 | 09/27/2017 | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | TITLE 22 | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | 09/29/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 10 | 10 | 10 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Lead (STLC) | 0.50 | 1.00 | 2.64 | 4.01 | 3.93 | | |

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**Site**

Wilmington Marine Services

Page: 16

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6; Dup or Spiked Sample: 89440.37; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 0.759 | 0.740 | 2.5 | <20 | | | | | | |

**QC Batch No: 0926172C6; Dup or Spiked Sample: 89440.37; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 10.0 | 8.90 | 89.0 | 10.0 | 8.89 | 88.9 | <1 | 80-120 | <15 | |

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Page: 17

**Site**

Wilmington Marine Services

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cadmium (STLC) | 10.0 | 9.78 | 97.8 | 10.0 | 9.79 | 97.9 | <1 | 80-120 | <20 | |

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**Site**

Wilmington Marine Services

Page: 18

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 0.610 | 0.610 | <1 | <20 | | | | | | |

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 10.0 | 9.23 | 98.5 | 10.0 | 9.17 | 98.8 | <1 | 80-120 | <20 | |

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**Site**

Wilmington Marine Services

Page: 19

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 10.0 | 9.85 | 98.5 | 10.0 | 9.88 | 98.8 | <1 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 20

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8; Dup or Spiked Sample: 89524.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 2.64 | 2.29 | 14.2 | <20 | | | | | | |

**QC Batch No: 0927172C8; Dup or Spiked Sample: 89524.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 10.0 | 8.95 | 89.5 | 10.0 | 8.97 | 89.7 | <1 | 80-120 | <15 | |

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Wilmington Marine Services

Page: 21

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zinc | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C7; Dup or Spiked Sample: 89440.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zinc | 10.0 | 9.33 | 93.3 | 10.0 | 9.35 | 93.5 | <1 | 80-120 | <20 | |

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Page: 22

**Site**

Wilmington Marine Services

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

## Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092917-1; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | 1.00 | 1.02 | 102 | 1.00 | 1.02 | 102 | <1 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 23

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89524 | 08/21/2017 | T/T |

Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | 0.0100 | 0.00998 | 99.8 | 0.0100 | 0.00997 | 99.7 | <1 | 80-120 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages** 8
**Date Received** 08/22/2017
**Date Reported** 09/29/2017

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89525 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 4 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

American Environmental Testing Laboratory Inc.
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# CHAIN OF CUSTODY RECORD

102260

89525

AETL JOB No. ~~89089~~



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclun O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626 470-2405
FAX:
PROJECT NAME: Wilmington Marine Services (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C10) 8015 | Title 22 Metals 6010 / 7471 | VOC's + Oxygenates 82 Cat B | PCBs 8082 5 Oxidates | Organotin | Moisture Percent | SVOC's | STLC Hg | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tt-WMS-33-0.5 | 89089.15 | 8-22-17 | 0927 | S | 5 | | X | X | X | | | | X | | | Tt standard EDD VOC's + oxygenates and TPHg - 3 day TAT rest normal TAT (5) Blank = hold |
| Tt-WMS-33-2.0 | 89089.16 | | 0936 | S | 5 | | X | X | X | | | | X | | | |
| Tt-WMS-33-2.0D | ~~89089.17~~ | | 0938 | S | 5 | | X | X | X | | | | X | | (*) | 89525.01 |
| Tt-WMS-33-5.0 | 89089.18 | | 0944 | S | 5 | | | | | | | | | | | |
| Tt-WMS-33-10.0 | 89089.19 | | 0957 | S | 5 | | | | | | | | | | | |
| Tt-WMS-~~28~~-CC | 89089.20 | | 1108 | Asphalt | 1 | | | | | | * | | | | | |
| ~~Tt-WMS-29-CC~~ | | | ~~1110~~ | | ~~1~~ | | | | | | | | | | | |
| Tt-WMS-30-CC | 89089.21 | | 1112 | Asphalt | 1 | | | | | | * | | | | | |
| Tt-WMS-31-CC | 89089.22 | | 1120 | Concrete | 1 | | | | | | * | | | | | |
| Tt-WMS-32-CC | 89089.23 | | 1125 | Concrete | 1 | | | | | | * | | | | | |
| Tt-WMS-33-CC | 89089.24 | | 1135 | Concrete | 1 | | | | | | * | | | | | |
| Tt-WMS-15-0.5 | 89089.25 | | 1115 | S | 5 | | X | X | X | | | | X | | | |
| Tt-WMS-15-2.0 | 89089.26 | | 1120 | S | 5 | | X | X | X | | | | X | | | |
| Tt-WMS-15-5.0 | 89089.27 | | 1126 | S | 5 | | | | | | | | | | | |
| Tt-WMS-15-10.0 | 89089.28 | | 1137 | S | 5 | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 50 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

TURN AROUND TIME: ☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sergio P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: 3. AETL |
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sergio P | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102261

89525

AETL JOB No. ~~89089~~



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Marlin O'Connell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

TEST INSTRUCTIONS & COMMENTS: TT STANDARD EDD VOCs 8260 and TPH(g) – 3 days TAT rush, the rest normal TAT. (6) Blank + Hold

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH (C4-C12) 8015 | TPH (C9-C40) 8015 | Title 22 Metals (Cd, Cr, Ni, Pb, Zn) | VOCs + oxygenates 8260B | Organics | Moisture Percent | TVOC's 8260 | Pb 6020 Soluble | TCLP Hg | STLC Hg | TCLP Pb & Hg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TT-WMS-34-0.5 | 89089.29 | 8-22-17 | 1145 | S | 5 | | X | X | X | X | | | | | | | | |
| TT-WMS-34-0.5D | 89089.30 | | 1149 | | | | X | X | X | X | | | | | X | | | 89525.02 |
| TT-WMS-34-2.0 | 89089.31 | | 1200 | | | | X | X | X | | | X | X | | | X | | 89525.03 |
| TT-WMS-34-5.0 | 89089.32 | | 1211 | | | | | | | | | | | | | | | |
| TT-WMS-34-10.0 | 89089.33 | | 1221 | | | | | | | | | | | | | | | |
| TT-WMS-35-0.5 | 89089.34 | | 1233 | | | | X | X | X | | | X | | | | | X | 89525.04 |
| TT-WMS-35-2.0 | 89089.35 | | 1239 | | | | X | X | X | | | X | X | | | | | |
| TT-WMS-35-5.0 | 89089.36 | | 1245 | | | | | | | | | | | | | | | |
| TT-WMS-35-10.0 | 89089.37 | | 1254 | | | | | | | | | | | | | | | |
| TT-WMS-38-0.5 | 89089.38 | | 1306 | | | | X | X | X | X | | X | X | X | | | | |
| TT-WMS-38-2.0 | 89089.39 | | 1313 | | | | X | X | X | | | X | | | | | | |
| TT-WMS-38-5.0 | 89089.40 | | 1320 | | | | | | | | | | | | | | | |
| TT-WMS-38-10.0 | 89089.41 | | 1329 | | | | | | | | | | | | | | | |
| TT-WMS-39-0.5 | 89089.42 | | 1339 | | | | X | X | X | X | | X | | X | | | | |
| TT-WMS-39-0.5D | 89089.43 | | 1342 | | | | X | X | X | X | | X | | X | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Fisher | Printed Name: | Printed Name: Jorge Lopez |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Sean Fisher | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |

**TURN AROUND TIME**

[X] NORMAL [X] RUSH
- [ ] SAME DAY
- [ ] NEXT DAY
- [ ] 2 DAYS
- [X] 3 DAYS

**DATA DELIVERABLE REQUIRED**

- [ ] HARD COPY
- [ ] PDF
- [ ] GEOTRACKER (GLOBAL ID) _____
- [ ] OTHER (PLEASE SPECIFY) _____

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

ED_004566_00003133-00097

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID | |
|---|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 | ✓ |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | [illegible] | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | 89089.17 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | 89089.30 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | 89089.31 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | 89089.34 | ✓ |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 | ✓ |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 | ✓ |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 | ✓ |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/22/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89525 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 4 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89525.01 | Tt-WMS33-2.0D | 08/22/2017 | Soil | 5 |
| 89525.03 | Tt-WMS34-3.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7470A ^ STLC-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89525.02 | Tt-WMS34-0.5D | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89525.04 | Tt-WMS35-0.5 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

### Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| Our Lab I.D. | | | Method Blank | 89525.01 | 89525.03 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS33-2.0D | Tt-WMS34-3.0 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 09/29/2017 | 09/29/2017 | 09/29/2017 | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | TITLE 22 | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | 09/29/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | ND | ND | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

### Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1**

| Our Lab I.D. | | | Method Blank | 89525.02 | 89525.04 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5D | Tt-WMS35-0.5 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | TITLE 22 | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Mercury (TCLP) | 0.001 | 0.002 | ND | ND | ND | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.05 | 0.10 | ND | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6**

| **Our Lab I.D.** | | | **89525.04** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS35-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | ND | | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C6; Dup or Spiked Sample: 89440.37; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 0.759 | 0.740 | 2.5 | <20 | | | | | | |

**QC Batch No: 0926172C6; Dup or Spiked Sample: 89440.37; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 10.0 | 8.90 | 89.0 | 10.0 | 8.89 | 88.9 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 7

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

## Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1; Dup or Spiked Sample: 89525.03; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092917-1; Dup or Spiked Sample: 89525.03; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | 1.00 | 1.02 | 102 | 1.00 | 1.02 | 102 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

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3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 8

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89525 | 08/22/2017 | T/T |

## Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092817-1; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | 0.0100 | 0.00998 | 99.8 | 0.0100 | 0.00997 | 99.7 | <1 | 80-120 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages** 6
**Date Received** 08/23/2017
**Date Reported** 09/29/2017

**Telephone:** (626)351-4664
**Attention:** Maclyn O'Donnell

| Job Number | Order Date | Client |
|---|---|---|
| 89526 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 3 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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89526

# CHAIN OF CUSTODY RECORD

102263

AETL JOB No. 89104

Page 1 of 4

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson Marlyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470 2483
FAX:
PROJECT NAME: Wilmington Marine Service (WMS)
PROJECT #: 73479.17
SITE NAME AND ADDRESS:
PO #:

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH (C4-C12) 8015 | TPH (C13-C40) 8015 | TRH 22 Analytes 8010 / 7471 MS/STURGE Reports | VOCs + Oxygenates 82 CLPS | SVOCs PCBs 8082 Soxhlet | STLC Hg | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB092320-17 | | 8-23-17 | 0700 | W | 4 | | X | | | X | | | TT standard EDD VOCs + Oxygenates and TPHgas - 3 day TAT Rest normal TAT Blank = hold |
| Tt-WMS-30-0.5 | | | 0726 | S | 5 | | X | X | X | X | X | | 89104.01 |
| Tt-WMS-30-2.0 | | | 0732 | S | 5 | | X | X | X | X | X | | 89104.02 |
| Tt-WMS-30-2.00 | | | 0736 | S | 5 | | X | X | X | X | X | | 89104.03 |
| Tt-WMS-30-5.0 | | | 0740 | S | 5 | | X | X | X | X | X | | 89104.04 |
| Tt-WMS-30-10.0 | | | 0745 | S | 5 | | X | X | | | | | 89104.05 |
| Tt-WMS-12-0.5 | | | 0750 | S | 5 | | X | X | | | | | 89104.06 |
| Tt-WMS-12-2.0 | | | 0801 | S | 5 | | X | X | X | | | X | 89104.07 89526.0 |
| Tt-WMS-12-5.0 | | | 0808 | S | 5 | | X | X | X | | | | MS / MSD 89104.08 |
| Tt-WMS-12-10.0 | | | 0815 | S | 5 | | X | X | | X | | | 89104.09 |
| Tt-WMS-37-0.5 | | | 0828 | S | 5 | | X | X | | | | | 89104.10 |
| Tt-WMS-37-2.0 | | | 0833 | S | 5 | | X | X | X | | | | 89104.11 |
| Tt-WMS-37-5.0 | | | 0837 | S | 5 | | X | X | X | X | X | | 89104.12 |
| Tt-WMS-37-10.0 | | | 0844 | S | 5 | | X | X | | | X | | 89104.13 |
| Tt-WMS-13-0.50 | | | 0857 | S | 5 | | X | X | X | | | | 89104.14 |
| | | | | | | | | | | | | | 89104.15 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 83 | PROPERLY COOLED | (Y) N / NA |
| CUSTODY SEALS | Y (N) / NA | SAMPLES INTACT | (Y) N / NA |
| RECEIVED IN GOOD COND | (Y) N | SAMPLES ACCEPTED | (Y) N |

## TURN AROUND TIME

☐ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sam Felix | Printed Name: | Printed Name: Lorenzo |
| Date: 8-23-17 Time: 1530 | Date: Time: | Date: 8/23/17 Time: 1730 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Lorenzo | Printed Name: | Printed Name: |
| Date: 8/23/17 Time: 1530 | Date: Time: | Date: 8/23/17 Time: 1730 |

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# CHAIN OF CUSTODY RECORD

102264

89526

AETL JOB No. 89104



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Service (WMS)
PROJECT #:
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015M | TPHd (C13-C40) 8015 | Title 22 metals 6010/7471 | Moisture Percent | VOCs + Oxygenates 8260B | SVOCs | PCBs 8082 Soxhlet | Stoc Pb | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | Tt standard EDD VOCs + oxygenates + TPHgas - 3day TAT Rest normal TAT Blank = Hold |
| Tt-WMS-13-2.0 | | 8-23-17 | 0902 | S | 5 | | X | X | X | X | | | | | | | 89104.16 |
| Tt-WMS-13-2.0D | | | 0906 | S | 5 | | X | X | X | X | | | | | | | 89104.17 |
| Tt-WMS-13-5.0 | | | 0911 | S | 5 | | | | | | | | X | | | | 89104.18 |
| Tt-WMS-13-10.0 | | | 0917 | S | 5 | | | | | | | | | | | | 89104.19 |
| Tt-WMS-14-0.5 | | 0923 | ~~0920~~ | S | 5 | | X | X | X | X | | | | | | | 89104.20 |
| Tt-WMS-14-2.0 | | | 0928 | S | 5 | | X | X | X | X | | | | | | | 89104.21 |
| Tt-WMS-14-5.0 | | | 0937 | S | 5 | | | | | | | | | | | | 89104.22 |
| Tt-WMS-14-10.0 | | | 0945 | S | 5 | | | | | | | | | | | | 89104.23 |
| Tt-WMS-11-0.5 | | | 0950 | S | 5 | | X | X | X | X | | | | | | | 89104.24 |
| Tt-WMS-11-3.0 | | | 1007 | S | 5 | | X | X | X | X | | | | | | | 89104.25 |
| Tt-WMS-11-5.0 | | | 1011 | S | 5 | | | | | | | | | | | | 89104.26 |
| Tt-WMS-11-12.0 | | | 1020 | S | 5 | | | | | | | | | | | | 89104.27 |
| Tt-WMS-1-0.5 | | | 1033 | S | 5 | | X | X | X | X | | | | (*) | | | ~~89104.28~~ 89526.02 |
| Tt-WMS-1-2.0 | | | 1038 | S | 5 | | X | X | X | X | | | | | | | 89104.29 |
| Tt-WMS-1-5.0 | | | 1044 | S | 5 | | | | | | | | | | | | 89104.30 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) / N / NA | |
| CUSTODY SEALS Y / (N) / NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sagisp |
| Date: 8-23-17 Time: 1530 | Date: Time: | Date: 8/23/17 Time: 1730 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: AETL 3.** |
| Signature: [signature] | Signature: | Signature: |
| Printed Name: Sarma | Printed Name: | Printed Name: Antin |
| Date: 8/23/17 Time: 1530 | Date: Time: | Date: 08/23/17 Time: 1730 |

**TURN AROUND TIME**

☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

**DATA DELIVERABLE REQUIRED**

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☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

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# CHAIN OF CUSTODY RECORD

89526 102266

AETL JOB No. ~~89104~~



COMPANY: TETRA TECH
PROJECT MANAGER: Eric Nelson / Macly O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Service (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015M | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | Moisture Percent | VOCs + oxygenates 8260B | SVOCs | PCBS 8082 Soxhlet | STLC Pb | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TE-WMS-1-10.0 | | 8-23-17 | 1055 | S | 5 | | | | | | | | | | | | TE Standard EDD VOCs + oxygenates and TPHg as 3-day TAT Rest normal TAT Blank = Hold |
| TE-WMS-2-0.5 | | | 1158 | S | 14 | | X | X | X | X | | | | | | | 89104.31 |
| TE-WMS-2-2.0 | | | 1203 | S | 5 | | X | X | X | X | | | | | | | MS / MSD 89104.32 |
| TE-WMS-2-5.0 | | | 1209 | S | 5 | | | | | | | | | | | | 89104.33 |
| TE-WMS-2-10.0 | | | 1216 | S | 5 | | | | | | | | | | | | 89104.34 |
| TE-WMS-10-0.5 | | | 1220 | S | 5 | | X | X | X | X | | | | ⊛ | | | 89104.35 |
| TE-WMS-10-2.0 | | | 1225 | S | 5 | | X | X | X | X | | | | | | | ~~89104.36~~ 89526.03 |
| TE-WMS-10-2.0D | | | ~~1232~~ 1229 | S | 5 | | X | X | X | X | | | | | | | 89104.37 |
| TE-WMS-10-5.0 | | | 1232 | S | 5 | | | | | | | | | | | | 89104.38 |
| TE-WMS-10-10.0 | | | 1238 | S | 5 | | | | | | | | | | | | 89104.39 |
| TE-WMS-3-0.5 | | | 1251 | S | 5 | | X | X | X | X | | | | | | | 89104.40 |
| TE-WMS-3-2.0 | | | 1256 | S | 5 | | X | X | X | X | | | | | | | 89104.41 |
| TE-WMS-3-2.0D | | | 1258 | S | 5 | | X | X | X | X | | | | | | | 89104.42 |
| TE-WMS-3-5.0 | | | 1302 | S | 5 | | | | | | | | | | | | 89104.43 |
| TE-WMS-3-10.0 | | | 1309 | S | 5 | | | | | | | | | | | | 89104.44 |
| | | | | | | | | | | | | | | | | | 89104.45 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 84 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: [illegible] |
| Date: 8-23-17 Time: 1530 | Date: Time: | Date: 8/23/17 Time: 1730 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: [illegible] | Printed Name: | Printed Name: Antin |
| Date: 8/23/17 Time: 1530 | Date: Time: | Date: 08/23/17 Time: 1730 |

TURN AROUND TIME: ☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID | |
|---|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 | ✓ |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | ~~89306.14~~ | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | ~~89089.17~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | ~~89089.30~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | ~~89089.31~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | ~~89089.34~~ | ✓ |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 | ✓ |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 | ✓ |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 | ✓ |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/23/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89526 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 3 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89526.01 | Tt-WMS12-0.5 | 08/23/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7470A ^ STLC-HG | 09/29/2017 | 4 | Rush | mg/L |

| | | | | |
|---|---|---|---|---|
| 89526.02 | Tt-WMS1-0.5 | 08/23/2017 | Soil | 5 |
| 89526.03 | Tt-WMS10-0.5 | 08/23/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89526 | 08/23/2017 | T/T |

### Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| **Our Lab I.D.** | | | Method Blank | **89526.01** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS12-0.5 | | | |
| Date Sampled | | | | 08/23/2017 | | | |
| Date Prepared | | | 09/29/2017 | 09/29/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | ND | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89526 | 08/23/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.05 | 0.10 | ND | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89526 | 08/23/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8**

| Our Lab I.D. | | | 89526.02 | 89526.03 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS1-0.5 | Tt-WMS10-0.5 | | | |
| Date Sampled | | | 08/23/2017 | 08/23/2017 | | | |
| Date Prepared | | | 09/27/2017 | 09/27/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 10 | 10 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Lead (STLC) | 0.50 | 1.00 | 0.610J | 4.48 | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89526 | 08/23/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C8; Dup or Spiked Sample: 89524.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C8; Dup or Spiked Sample: 89524.03; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 10.0 | 8.95 | 89.5 | 10.0 | 8.97 | 89.7 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89526 | 08/23/2017 | T/T |

## Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1; Dup or Spiked Sample: 89525.01; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092917-1; Dup or Spiked Sample: 89525.01; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | 1.00 | 1.02 | 102 | 1.00 | 1.02 | 102 | <1 | 80-120 | <15 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages 18**
**Date Received 08/24/2017**
**Date Reported 09/29/2017**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89527 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 4 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

American Environmental Testing Laboratory Inc.
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# CHAIN OF CUSTODY RECORD

89527

102272

AETL JOB No: 89124



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626-449-2405
FAX:
PROJECT NAME: Wilmington Marine Service
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | PCBs 8082 / 8082 Aroclors / 8010 / 17471 | STLC Cu | TCLP Hg | STLC Pb | TCLP Pb | STLC Cr | STLC Hg | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S1-1 | ~~89124.01~~ | 8-24-17 | 0602 | S | 1 | | X | X | X | | | | | | | 89527.01 |
| S1-3 | ~~89124.02~~ | | 0605 | S | 1 | | X | | X | | | | | | | 89527.02 |
| S2-1 | ~~89124.03~~ | | 0609 | S | 1 | | X | | | X | X | | | | | 89527.03 |
| S2-3 | 89124.04 | | 0611 | S | 1 | | X | | | | X | X | X | | | 89527.04 |
| F-1 | 89124.05 | 8-24-17 | 0734 | Paint | 1 | | X | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | |

TE EDD

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 5 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fletcher | Printed Name: | Printed Name: C. Rodriguez |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Maclyn O'Donnell | Printed Name: | Printed Name: Adin |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

## TURN AROUND TIME

☑ NORMAL ☐ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☐ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID |
|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | 89306.14 |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | 89089.17 |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | 89089.30 |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | 89089.31 |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | 89089.34 |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/24/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89527 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 4 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89527.01 | S1-1 | 08/24/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-CU | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89527.02 | S1-3 | 08/24/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89527.03 | S2-1 | 08/24/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89527.04 | S2-3 | 08/24/2017 | Soil | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-CR | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ STLC-HG | 09/29/2017 | 4 | Rush | mg/L |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Copper | 0.01 | 0.05 | ND | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89527.01 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | S1-1 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Copper | 0.10 | 0.50 | 85.1 | | | | |

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Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

### Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1**

| Our Lab I.D. | | | Method Blank | 89527.01 | 89527.02 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | S1-1 | S1-3 | | |
| Date Sampled | | | | 08/24/2017 | 08/24/2017 | | |
| Date Prepared | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | TITLE 22 | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | 09/28/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Mercury (TCLP) | 0.001 | 0.002 | ND | ND | ND | | |

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Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| Our Lab I.D. | | | 89527.04 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | S2-3 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/29/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | | | | |

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Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.05 | 0.10 | ND | | | | |

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Wilmington Marine Services

Page: 7

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| Our Lab I.D. | | | 89527.03 | 89527.04 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | S2-1 | S2-3 | | | |
| Date Sampled | | | 08/24/2017 | 08/24/2017 | | | |
| Date Prepared | | | 09/26/2017 | 09/26/2017 | | | |
| Preparation Method | | | 1311 | 1311 | | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 10 | 10 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Lead (TCLP) | 0.50 | 1.00 | 1.89 | 4.11 | | | |

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Wilmington Marine Services

Page: 8

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.05 | 0.10 | ND | | | | |

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Wilmington Marine Services

Page: 9

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89527.03 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | S2-1 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (STLC) | 0.50 | 1.00 | 15.0 | | | | |

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**Site**

Wilmington Marine Services

Page: 10

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Chromium (STLC) | 0.03 | 0.05 | ND | | | | |

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**Site**

Wilmington Marine Services

Page: 11

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89527.04 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | S2-3 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Chromium (STLC) | 0.30 | 0.50 | 0.990 | | | | |

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**Site**

Wilmington Marine Services

Page: 12

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

### Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| Our Lab I.D. | | | Method Blank | 89527.04 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | S2-3 | | | |
| Date Sampled | | | | 08/24/2017 | | | |
| Date Prepared | | | 09/29/2017 | 09/29/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | ND | | | |

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Page: 13

**Site**

Wilmington Marine Services

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 18.8 | 18.4 | 2.2 | <20 | | | | | | |

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 10.0 | 9.16 | 91.6 | 10.0 | 9.02 | 90.2 | 1.5 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 14

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium (STLC) | 10.0 | 9.44 | 94.4 | 10.0 | 9.46 | 94.6 | <1 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 15

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 85.1 | 86.0 | 1.1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 10.0 | 9.05 | 90.5 | 10.0 | 9.07 | 90.7 | <1 | 80-120 | <20 | |

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**Site**

Wilmington Marine Services

Page: 16

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 47.6 | 47.4 | <1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 10.0 | 8.95 | 89.5 | 10.0 | 8.91 | 89.1 | <1 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 17

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

## Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | 1.00 | 1.02 | 102 | 1.00 | 1.02 | 102 | <1 | 80-120 | <15 | |

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**Site**

Wilmington Marine Services

Page: 18

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89527 | 08/24/2017 | T/T |

## Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | 0.0100 | 0.00998 | 99.8 | 0.0100 | 0.00997 | 99.7 | <1 | 80-120 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages 19**
**Date Received 08/24/2017**
**Date Reported 09/29/2017**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89528 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 8 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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89528

# CHAIN OF CUSTODY RECORD

102267

AETL JOB No. 89125



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Mindy O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Service
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH (C4-C44) 8015 | TPH (C13-C40) 8015 | Title 22 Metals (Cd, Cr, Pb, Ni, Se, Tl, Zn, Hg, As, Ba, Be, Cu, Sb, Ag, Mo, Se, Tl, Zn, Hg, Pb) | VOCs + TPH gas 8260 | SVOCs 8270 | PCBs 8082 Soxhlet | Soluble Zn | TCLP Hg & Pb | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB0824017 | 89125.01 | 8-24-17 | 0715 | S | 4 | | X | | | X | | | | | | |
| 2 | Tt-wms-16-0.5 | 89125.02 | | 0738 | S | 5 | | X | X | X | X | | | | | | |
| 3 | Tt-wms-16-2.0 | 89125.03 | | 0743 | S | 5 | | X | X | X | X | | | | | | |
| 4 | Tt-wms-16-2.0D | 89125.04 | | 0747 | S | 5 | | X | X | X | X | | | | | | |
| 5 | Tt-wms-16-5.0 | 89125.05 | | 0752 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 6 | Tt-wms-16-10.0 | 89125.06 | | 0759 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 7 | Tt-wms-17-0.5 | 89125.07 | | 0808 | S | 5 | | X | X | X | X | | | | | | |
| 8 | Tt-wms-17-2.0 | 89125.08 | | 0813 | S | 5 | | X | X | X | X | | | | | | |
| 9 | Tt-wms-17-5.0 | 89125.09 | | 0818 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 10 | Tt-wms-17-10.0 | 89125.10 | | 0825 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 11 | Tt-wms-8-0.5 | ~~89125.11~~ | | 0836 | S | 5 | | X | X | X | X | 89528.01 | (*) | | | | ~~MS/MSD~~ |
| 12 | Tt-wms-8-2.0 | ~~89125.12~~ | | 0841 | S | 10 | | X | X | X | X | 89528.02 | | (*) | | | MS/MSD |
| 13 | Tt-wms-8-5.0 | 89125.13 | | 0847 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 14 | Tt-wms-8-10.0 | 89125.14 | | 0855 | S | 5 | | | | | | | | | | | HOLD SAMPLE, PENDING |
| 15 | Tt-wms-4-0.5 | 89125.15 | | 0902 | S | 5 | | X | X | X | X | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 79 | PROPERLY COOLED (Y) / N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Polcher | Printed Name: | Printed Name: C. Pamilo |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: 3. AETL |
| Signature: | Signature: | Signature: |
| Printed Name: CARLOS PALMILO | Printed Name: | Printed Name: |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

**TURN AROUND TIME**

☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

**DATA DELIVERABLE REQUIRED**

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

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# CHAIN OF CUSTODY RECORD

89528

102274

AETL JOB No. 89125



COMPANY: Tetra tech
PROJECT MANAGER: Erie Nelson, Maclyn Odonnell
COMPANY ADDRESS: 3475 E Foothill, PASADENA, CA 91107
PHONE: 626-351-4664
FAX:
PROJECT NAME: Wilmington Marine Service
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(g) $C_4$-$C_{12}$ 8015 | TPH(d) $C_{13}$-$C_{40}$ 8015 | 7Hu 22 Metals Cd/Cr 7471 Mercury Broad | VOCs + oxygenates 8260 Broad | SVOCs | PCBs 8082 Soxhlet | TCLP Pb | STLC Pb | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Tt-WMS-4-0 | 089125.16 | 8-24-17 | 0906 | S | 5 | | X | X | X | X | | | | | STANDARD Tt EDD VOCs + oxy and TPH(g) require 3 day TAT The rest is normal TAT Blank = Hold |
| 2 Tt-WMS-4-2.0 | 089125.17 | | 0911 | S | 5 | | X | X | X | X | | | | | |
| 3 Tt-WMS-4-5.0 | 89125.18 | | 0915 | S | 5 | | | | | | | | | | |
| 4 Tt-WMS-4-10.0 | 89125.19 | | 0921 | S | 5 | | | | | | | | | | |
| 5 Tt-WMS-40-0.5 | 89125.20 | | 0935 | S | 5 | | X | X | X | X | | | | | |
| 6 Tt-WMS-40-2.0 | 89125.21 | | 0938 | S | 5 | | X | X | X | X | | | | | |
| 7 Tt-WMS-40-5.0 | 89125.22 | | 0943 | S | 5 | | | | | | | | | | |
| 8 Tt-WMS-40-10.0 | 89125.23 | | 0950 | S | 5 | | | | | | | | | | |
| 9 Tt-WMS-5-0.5 | 89125.24 | | 1000 | S | 5 | | X | X | X | X | | | | | |
| 10 Tt-WMS-5-2.0 | 89125.25 | | 1005 | S | 5 | | X | X | X | X | | | | | |
| 11 Tt-WMS-5-5.0 | 89125.26 | | 1010 | S | 5 | | | | | | | | | | |
| 12 Tt-WMS-5-10.0 | 89125.27 | | 1016 | S | 5 | | | | | | | | | | |
| 13 Tt-WMS-6-0.5 | ~~89125.28~~ | | 1029 | S | 5 | | X | X | X | X | | | (*) | | 89528.03 |
| 14 Tt-WMS-6-2.0 | ~~89125.29~~ | | 1034 | S | 5 | | X | X | X | X | | | | (*) | 89528.04 |
| 15 Tt-WMS-6-20.0 | 89125.30 | | 1038 | S | 5 | | X | X | X | X | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y / N / NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Dan Fletcher | Printed Name: | Printed Name: E. Shamlian |
| Date: 8-24-17 Time: 1600 | Date: Time: | Date: 8/24/17 Time: 1850 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: [signature] | Signature: | Signature: |
| Printed Name: [signature] | Printed Name: | Printed Name: Austin |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

## TURN AROUND TIME

☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

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# CHAIN OF CUSTODY RECORD

89528

102273

AETL JOB No. 89125



COMPANY: Tetra tech
PROJECT MANAGER: Maclyn Odonnell, Eric Nelson
COMPANY ADDRESS: 3475 E Foothill, Pasadena, CA 91107
PHONE FAX: 626-351-4664
PROJECT NAME: Wilmington Marine Services
PROJECT #: 73479.17
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | Moisture Percent | VOCs + Oxygenates 8260B | SVOCs | PCBs 8082 Soxhlet | STLC Pb | TCLP Hg | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Tt-WMS-6-5.0 | 89125.31 | 8-24-17 | 1045 | S | 5 | | | | | | | | | | | | STANDARD Tt-EDD VOCs + OXY and TPH(g) require 3 days TAT, The rest is normal TAT Blank = Hold |
| 2 Tt-WMS-6-10.0 | 89125.32 | | 1053 | S | 5 | | | | | | | | | | | | |
| 3 Tt-WMS-7-0.5 | ~~89125.33~~ | | 1207 | S | 5 | | X | X | X | X | | | | * | | | 89528.05 |
| 4 Tt-WMS-7-2.0 | ~~89125.34~~ | | 1218 | S | 10 | | X | X | X | X | 89528.06 | | | * | | | MS/MSD |
| 5 Tt-WMS-7-6.0 | 89125.35 | | 1230 | S | 5 | | | | | | | | | | | | |
| 6 Tt-WMS-7-10.0 | 89125.36 | | 1235 | S | 5 | | | | | | | | | | | | |
| 7 Tt-WMS-18-0.5 | 89125.37 | | 1255 | S | 5 | | X | X | X | X | | | | | | | |
| 8 Tt-WMS-18-2.0 | 89125.38 | | 1300 | S | 5 | | X | X | X | X | | | | | | | |
| 9 Tt-WMS-18-5.0 | 89125.39 | | 1305 | S | 5 | | | | | | | | | | | | |
| 10 Tt-WMS-18-10.0 | 89125.40 | | 1313 | S | 5 | | | | | | | | | | | | |
| 11 Tt-WMS-21-0.5 | 89125.41 | | 1323 | S | 5 | | X | X | X | X | | | | | | | |
| 12 Tt-WMS-21-2.0 | 89125.42 | | 1328 | S | 5 | | X | X | X | X | | | | | | | |
| 13 Tt-WMS-21-2.0D | 89125.43 | | 1332 | S | 5 | | X | X | X | X | | | | | | | |
| 14 Tt-WMS-21-5.0 | 89125.44 | | 1339 | S | 5 | | | | | | | | | | | | |
| 15 Tt-WMS-21-10.0 | 89125.45 | | 1346 | S | 5 | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 80 | PROPERLY COOLED | Y / N / NA |
| CUSTODY SEALS | Y / N / NA | SAMPLES INTACT | Y / N / NA |
| RECEIVED IN GOOD COND. | Y / N | SAMPLES ACCEPTED | Y / N |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: C. Pagliaro |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Charlton Pagliaro | Printed Name: | Printed Name: Antin |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 08/24/17 Time: 1850 |

TURN AROUND TIME: ☐ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

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# CHAIN OF CUSTODY RECORD

102275

89528

AETL JOB No. 89125



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Marlyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: 773479-17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(g) - C12 8015 | TPH(d) (C13 - C40) 8015 | Title 22 metals (Cd, Cr, Ni, Pb, Hg, As, Se, Ag, Ba) | VOCs + oxygenates 8260B | SVOCs | PCBs 8082 | Title 22 metals 9250/1640 | STLC Cr & Hg | TCLP Pb | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 ~~Tt-WMS-19-0.5~~ 10 | | 8/24/17 | 1359 | S | 5 | | | | | | | | | | | STANDARD Tt EDD VOCs + Oxy and TPH(g) requires 3 day TAT reso is normal TAT Blank = Hold |
| 2 Tt-WMS-~~20-0.5~~ 0.5 | | | 1411 | S | 5 89528.07 | | X | X | X | X | | X | | (X) | | 89125.46 |
| 3 Tt-WMS-20-~~2.0~~ 0.5D | | | 1415 | S | 5 | | X | X | X | X | | X | | | | 89125.47 |
| 4 Tt-WMS-20-2.0 | | | 1420 | S | 5 89528.08 | | | | | | | | | | (X) | 89125.48 |
| 5 Tt-WMS-20-9.0 | | | 1425 | S | 5 | | | | | | | | | | | ~~89125.49~~ |
| 6 Tt-WMS-20-10.0 | | | 1431 | S | 5 | | | | | | | | | | | 89125.50 |
| 7 Tt-WMS-9 | | | 1445 | W | 7 | | X | X | | X | | X | X | | | 89125.51 |
| 8 Tt-WMS-13 | | | 1530 | W | 7 | | X | X | | X | | X | X | | | 89125.52 |
| 9 ~~Tt-WMS-EBOD~~ 2-2-2017 | | | 1545 | W | 5 | | X | X | | X | | | | | | 89125.53 |
| 10 Tt-WMS- | | | | | | | | | | | | | | | | 89125.54 |
| 11 Tt-WMS- | | | | | | | | | | | | | | | | |
| 12 Tt-WMS- | | | | | | | | | | | | | | | | |
| 13 Tt-WMS- | | | | | | | | | | | | | | | | |
| 14 Tt-WMS- | | | | | | | | | | | | | | | | |
| 15 Tt-WMS- | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 49 | PROPERLY COOLED | Y / N / NA |
| CUSTODY SEALS | Y / N / NA | SAMPLES INTACT | Y / N / NA |
| RECEIVED IN GOOD COND. | Y / N | SAMPLES ACCEPTED | Y / N |

## TURN AROUND TIME

☐ NORMAL ☑ RUSH
☐ SAME DAY
☐ NEXT DAY
☐ 2 DAYS
☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Fitzsimmons | Printed Name: | Printed Name: C. Santana |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: 3.** |
| Signature: | Signature: | Signature: |
| Printed Name: Guillermo Aguilar | Printed Name: | Printed Name: |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID |
|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-0.5 | TCLP Lead | 89125.28 |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | ~~89306.14~~ |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | ~~89089.17~~ |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | ~~89089.30~~ |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | ~~89089.31~~ |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | ~~89089.34~~ |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/24/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89528 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 8 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.01 | Tt-WMS8-0.5 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ ZN | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.02 | Tt-WMS8-2.0 | 08/24/2017 | Soil | 10 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.03 | Tt-WMS6-0.5 | 08/24/2017 | Soil | 10 |
| 89528.08 | Tt-WMS20-2.0 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.04 | Tt-WMS6-2.0 | 08/24/2017 | Soil | 5 |
| 89528.05 | Tt-WMS7-0.5 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-PB | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.06 | Tt-WMS-7-2.0 | 08/24/2017 | Soil | 10 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 7470A ^ TCLP-HG | 09/29/2017 | 4 | Rush | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89528.07 | Tt-WMS20-0.5 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B-STLC) ^ STLC-CR | 09/29/2017 | 4 | Rush | mg/L |
| 7470A ^ STLC-HG | 09/29/2017 | 4 | Rush | mg/L |

Continued

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Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/24/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89528 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

The samples were analyzed as specified on the enclosed chain of custody. No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Zinc | 0.03 | 0.05 | ND | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89528.01 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS8-0.5 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Zinc | 0.30 | 0.50 | 204 | | | | |

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**Site**

Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.05 | 0.10 | ND | | | | |

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**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | **89528.02** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS8-2.0 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | 18.8 | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

### Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1**

| **Our Lab I.D.** | | | Method Blank | **89528.02** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS8-2.0 | | | |
| Date Sampled | | | | 08/24/2017 | | | |
| Date Prepared | | | 09/28/2017 | 09/28/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/28/2017 | 09/28/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Mercury (TCLP) | 0.001 | 0.002 | ND | ND | | | |

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**Site**

Wilmington Marine Services

Page: 7

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | **89528.03** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS6-0.5 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | 34.0 | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 8

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89528.04 | 89528.05 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS6-2.0 | Tt-WMS7-0.5 | | | |
| Date Sampled | | | 08/24/2017 | 08/24/2017 | | | |
| Date Prepared | | | 09/27/2017 | 09/27/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 10 | 10 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Lead (STLC) | 0.50 | 1.00 | 4.43 | 3.88 | | | |

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**Site**

Wilmington Marine Services

Page: 9

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1**

| Our Lab I.D. | | | 89528.06 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS-7-2.0 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/28/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Mercury (TCLP) | 0.001 | 0.002 | ND | | | | |

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**Site**

Wilmington Marine Services

Page: 10

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Chromium (STLC) | 0.03 | 0.05 | ND | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 11

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89528.07 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS20-0.5 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Chromium (STLC) | 0.30 | 0.50 | 0.625 | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 12

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

### Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1**

| **Our Lab I.D.** | | | Method Blank | **89528.07** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS20-0.5 | | | |
| Date Sampled | | | | 08/24/2017 | | | |
| Date Prepared | | | 09/29/2017 | 09/29/2017 | | | |
| Preparation Method | | | TITLE 22 | TITLE 22 | | | |
| Date Analyzed | | | 09/29/2017 | 09/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Mercury (STLC) | 0.001 | 0.002 | ND | ND | | | |

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**Site**

Wilmington Marine Services

Page: 13

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | **89528.08** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS20-2.0 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | 2.16 | | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

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Page: 14

**Site**

Wilmington Marine Services

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 18.8 | 18.4 | 2.2 | <20 | | | | | | |

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 10.0 | 9.16 | 91.6 | 10.0 | 9.02 | 90.2 | 1.5 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell
Page: 15

**Site**

Wilmington Marine Services

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium (STLC) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium (STLC) | 10.0 | 9.44 | 94.4 | 10.0 | 9.46 | 94.6 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 16

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 47.6 | 47.4 | <1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (STLC) | 10.0 | 8.95 | 89.5 | 10.0 | 8.91 | 89.1 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell
Page: 17

**Site**

Wilmington Marine Services

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zinc | 29.1 | 28.3 | 2.8 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Zinc | 10.0 | 9.49 | 94.9 | 10.0 | 9.51 | 95.1 | <1 | 80-120 | <20 | |

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# QUALITY CONTROL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 18

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

## Method: 7470A, Soluble Threshold Limit Concentration, STLC for Mercury

**QC Batch No: 092917-1; LCS: Clean Sand; LCS Prepared: 09/29/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (STLC) | 1.00 | 1.02 | 102 | 1.00 | 1.02 | 102 | <1 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 19

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89528 | 08/24/2017 | T/T |

## Method: 7470A, Toxicity Characteristic Leaching Procedure, TCLP for Mercury

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | ND | ND | <1 | <20 | | | | | | |

**QC Batch No: 092817-1; LCS: Clean Sand; LCS Prepared: 09/28/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (TCLP) | 0.0100 | 0.00998 | 99.8 | 0.0100 | 0.00997 | 99.7 | <1 | 80-120 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages 7**
**Date Received 08/24/2017**
**Date Reported 09/29/2017**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89529 | 09/26/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 1 soil sample which was analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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89529

# CHAIN OF CUSTODY RECORD

102275

AETL JOB No. 89306 89125



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Wilson / Madlyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: 773479-17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

TEST INSTRUCTIONS & COMMENTS: STANDARD Tt EDD VOC's + Oxy and TPH(g) requires 3 day TAT rest is normal TAT Blank = Hold

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(C4-C12) 8015 | TPH(C13-C40) 8015 | TPH 22 Petro Gas (EPA 8015) Mod Silica Gel | VOCs (Oxygenates) 8260B | SVOCs | PCBs 8082 | TPH 22 Petro Diesel 8015 Mod | STLC Cu | TCLP Pb | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Tt-WMS-19-0.5 | 10 | 8/24/17 | 1359 | S | 5 | 89306.11 | | ⊛ | ⊛ | ⊛ | | ⊛ | | | | 89125.46 |
| 2 Tt-WMS-20-0.5 | | | 1411 | S | 5 | | X | X | X | X | X | X | | | | 89125.47 |
| 3 Tt-WMS-20-0.5D | | | 1415 | S | 5 | | X | X | X | X | X | X | | | | 89125.48 |
| 4 Tt-WMS-20-2.0 | | | 1420 | S | 5 | 89306.12 | | ⊛ | ⊛ | ⊛ | | ⊛ | | | | 89125.49 |
| 5 Tt-WMS-20-5.0 | | | 1425 | S | 5 | 89306.13 | | ⊛ | ⊛ | ⊛ | | ⊛ | | | | 89125.50 |
| 6 Tt-WMS-20-10.0 | | | 1431 | S | 5 | 89306.14 | | ⊛ | ⊛ | ⊛ | | ⊛ | | ⊛ | ⊛ | 89125.51 89529.01 |
| 7 Tt-WMS-9 | | | 1445 | W | 7 | | X | X | | | X | X | X | | | 89125.52 |
| 8 Tt-WMS-13 | | | 1530 | W | 7 | | X | X | | | X | X | X | | | 89125.53 |
| 9 ~~Tt-WMS-EQD 8242017~~ | | | 1545 | W | 5 | | X | X | | | X | | | | | 89125.54 |
| 10 Tt-WMS- | | | | | | | | | | | | | | | | |
| 11 Tt-WMS- | | | | | | | | | | | | | | | | |
| 12 Tt-WMS- | | | | | | | | | | | | | | | | |
| 13 Tt-WMS- | | | | | | | | | | | | | | | | |
| 14 Tt-WMS- | | | | | | | | | | | | | | | | |
| 15 Tt-WMS- | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 49 | PROPERLY COOLED | Y / N / NA |
| CUSTODY SEALS | Y / N / NA | SAMPLES INTACT | Y / N / NA |
| RECEIVED IN GOOD COND. | Y / N | SAMPLES ACCEPTED | Y / N |

## TURN AROUND TIME

☐ NORMAL ☑ RUSH
☐ SAME DAY
☐ NEXT DAY
☐ 2 DAYS
☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sam Fletcher | Printed Name: | Printed Name: |
| Date: 8-24-17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: 3.** |
| Signature: | Signature: | Signature: |
| Printed Name: Cornelius Pigmilus | Printed Name: | Printed Name: |
| Date: 8/24/17 Time: 1604 | Date: Time: | Date: 8/24/17 Time: 1850 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

**JIM LIN**

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Monday, September 25, 2017 3:25 PM
**To:** JIM LIN
**Cc:** Benfield, Heather
**Subject:** Wilmington Marine Additional Samples

Jim,

Could you run the additional samples outlined in the table below with a 4day expedited turn around? We are looking to have them Friday at 9am (noon at the latest). Let me know if anything happens to make this timeframe not work. Thank you.

Maclyn O'Donnell | Project Engineer
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

| Lab work Order | Sample Date | Archived Sample ID | Additional analyses | Lab Sample ID | |
|---|---|---|---|---|---|
| POLA89104 | 08/23/2017 | Tt-WMS1-0.5 | STLC Lead | 89104.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS5-0.5 | TCLP Lead | 89125.28 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS6-2.0 | STLC Lead | 89125.29 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-0.5 | STLC Lead | 89125.33 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS7-2.0 | TCPL Mercury | 89125.34 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-0.5 | STLC Zinc | 89125.11 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS8-2.0 | TCPL Mercury and Lead | 89125.12 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS10-0.5 | STLC Lead | 89104.36 | ✓ |
| POLA89104 | 08/23/2017 | Tt-WMS12-0.5 | STLC Mercury | 89104.07 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS19-2.0 | STLC Cadmium, Copper, Mercury, and Zinc. TCLP Mercury | 89069.03 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS-19-5.0 | STLC Lead. TCLP Mercury and Lead | 89069.04 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS20-0.5 | STLC Chromium and Mercury | 89125.47 | ✓ |
| POLA89125 | 08/24/2017 | Tt-WMS-20-2.0 | TCLP Lead | 89125.49 | ✓ |
| POLA89306 | 08/24/2017 | Tt-WMS-20-10.0 | STLC Copper. TCLP Lead | ~~89306.14~~ | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS22-0.5 | STLC Lead | 89069.05 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS23-0.5 | STLC Copper, Lead | 89069.13 | ✓ |
| POLA89069 | 08/21/2017 | Tt-WMS25-0.5 | Lead STLC | 89069.09 | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS33-2.0D | STLC Mercury | ~~89089.17~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-0.5D | TCLP Mercury | ~~89089.30~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS34-3.0 | STLC Mercury | ~~89089.31~~ | ✓ |
| POLA89089 | 08/22/2017 | Tt-WMS35-0.5 | TCLP Lead, Mercury | ~~89089.34~~ | ✓ |
| POLA89124 | 08/24/2017 | S1-1 | STLC Copper. TCLP Mercury | 89124.01 | ✓ |
| POLA89124 | 08/24/2017 | S1-3 | TCLP Mercury | 89124.02 | ✓ |
| POLA89124 | 08/24/2017 | S2-1 | STLC Lead. TCLP Lead | 89124.03 | ✓ |

| | | | | |
|---|---|---|---|---|
| POLA89124 | 08/24/2017 | S2-3 | STLC Chromium and Mercury. TCLP Lead | 89124.04✓ |

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**Ordered By**

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3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/24/2017
Date Reported 09/29/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89529 | 09/26/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 1 samples with the following specification on 09/26/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89529.01 | Tt-WMS20-10.0 | 08/24/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010/7000TCLP) ^ PB | 09/29/2017 | 4 | Rush | mg/L |
| (6010B-STLC) ^ STLC-CU | 09/29/2017 | 4 | Rush | mg/L |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.05 | 0.10 | ND | | | | |

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## ANALYTICAL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5**

| **Our Lab I.D.** | | | **89529.01** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS20-1 0.0 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/26/2017 | | | | |
| Preparation Method | | | 1311 | | | | |
| Date Analyzed | | | 09/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Lead (TCLP) | 0.50 | 1.00 | 0.905J | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 4

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

### Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Copper | 0.01 | 0.05 | ND | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9**

| Our Lab I.D. | | | 89529.01 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS20-1 0.0 | | | | |
| Date Sampled | | | 08/24/2017 | | | | |
| Date Prepared | | | 09/27/2017 | | | | |
| Preparation Method | | | TITLE 22 | | | | |
| Date Analyzed | | | 09/29/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/L | | | | |
| Dilution Factor | | | 10 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Copper | 0.10 | 0.50 | 18.7 | | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 6

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

Method: (6010/7000TCLP), Toxicity Characteristic Leaching Procedure (TCLP,EPA 1311)

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 18.8 | 18.4 | 2.2 | <20 | | | | | | |

**QC Batch No: 0926172C5; Dup or Spiked Sample: 89528.02; LCS: Clean Sand; LCS Prepared: 09/26/2017; LCS Analyzed: 09/28/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead (TCLP) | 10.0 | 9.16 | 91.6 | 10.0 | 9.02 | 90.2 | 1.5 | 80-120 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell
Page: 7

**Site**

Wilmington Marine Services

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89529 | 08/24/2017 | T/T |

## Method: (6010B-STLC), Soluble Threshold Limit Concentration (STLC)

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 85.1 | 86.0 | 1.1 | <20 | | | | | | |

**QC Batch No: 0927172C9; Dup or Spiked Sample: 89527.01; LCS: Clean Sand; LCS Prepared: 09/27/2017; LCS Analyzed: 09/29/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 10.0 | 9.05 | 90.5 | 10.0 | 9.07 | 90.7 | <1 | 80-120 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

**Tetra Tech, Inc.**
**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Number of Pages** 52
**Date Received** 08/21/2017
**Date Reported** 09/06/2017

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

| Job Number | Order Date | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

---

**Project ID:** 73479
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 22 soil, 4 solid and 2 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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# CHAIN OF CUSTODY RECORD

№ 90467

AETL JOB No. 89069

Page 1 of 4

COMPANY: Tetra tech INC
PROJECT MANAGER: Eric Nelson, Maclyn O'donell
COMPANY ADDRESS: 3475 Foothill Blvd
PHONE: 626 470-2535
FAX:
PROJECT NAME: Wilmington Marine
PROJECT #: 73479.
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(C4-C12) 8015m | TPH(C13-C40) 8015m | VOCs+oxygenates 8260B | Title 22 metals 7000/7470 | PCBs 8082 Soxhlet | Organotins | moisture content % | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TBC8212017 | 89069.01 | 8-21-17 | 0800 | W | 2 | | X | | X | | | | | | | |
| Tt-WMS-19-0.5 | 89069.02 | 8-21-17 | 0812 | S | 5 | | X | X | | X | | | X | | | |
| Tt-WMS-19-2.0 | 89069.03 | ↓ | 0820 | ↓ | ↓ | | X | X | | X | | | X | | | |
| Tt-WMS-19-5.0 | 89069.04 | | 0831 | | | | | | X | | | | | | | |
| Tt-WMS-22-0.5 | 89069.05 | | 0846 | | | | X | X | | X | | | X | | | |
| Tt-WMS-22-2.0 | 89069.06 | | 0854 | | | | X | X | | X | | | X | | | |
| Tt-WMS-22-5.0 | 89069.07 | | 0858 | | | | | | | | | | | | | |
| Tt-WMS-22-10.0 | 89069.08 | | 0909 | | | | | | | | | | | | | |
| Tt-WMS-25-0.5 | 89069.09 | | 0922 | | | | X | X | | X | | | X | | | |
| Tt-WMS-25-2.0 | 89069.10 | | 0930 | | | | X | X | | X | | | X | | | |
| Tt-WMS-25-5.0 | 89069.11 | | 0936 | | | | | | | | | | | | | |
| Tt-WMS-25-10.0 | 89069.12 | | 0943 | | | | | | | | | | | | | |
| Tt-WMS-23-0.5 | 89069.13 | | 0957 | | | | X | X | | X | | | X | | | |
| Tt-WMS-23-2.0 | 89069.14 | | 0959 | | | | X | X | | X | | | X | | | |
| Tt-WMS-23-5.0 | 89069.15 | | 1010 | | | | | | | | | | | | | |

TEST INSTRUCTIONS & COMMENTS

Tt Standard EDD
TPH(g) and VOC's - 3 days TAT
The rest is STAND ARD TAT
Blank = hold

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 72 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

TURN AROUND TIME: [X] NORMAL [X] RUSH — [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) [ ] OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fukker | Printed Name: | Printed Name: Douglas P |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Samuel P | Printed Name: | Printed Name: Antin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102259



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson (Mac) / Ryan O'Donnell
AETL JOB No.: 89069
COMPANY ADDRESS: 3475 E Foothill, Pasadena 91107
PHONE: 626-351-4664
FAX:
PROJECT NAME: Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHgas (Gasoline) | TPH (C13-C40) | VOCs Organics | PCBs 8082 | Organics | Moisture Percentage | Title 22 metals | | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tt-WMS-23 | | 8-21-17 | 1020 | S | 5 | | | | | | | | | | | | Tt Standard EDD, TPH(g) and VOC's 3day TAT Rest Standard Blank = Hold |
| Tt-WMS-23-CC | | | 1035 | Undrate | 1 | | | | | | | | | | | | 89069.16 |
| Tt-WMS-24-0.5 | | | 1032 | S | 5 | | | | | | | | | | | | 89069.17 |
| Tt-WMS-24-2.0 | | | 1038 | | 5 | | X | X | | | X | X | | | | | 89069.18 |
| Tt-WMS-24-5.0 | | | 1042 | | 5 | | X | X | | | X | X | | | | | 89069.19 |
| Tt-WMS-24-10.0 | | | 1054 | | 5 | | | | | | | | | | | | 89069.20 |
| Tt-WMS-26-0.5 | | | 1106 | | 5 | | | | | | | | | | | | 89069.21 |
| Tt-WMS-26-2.0 | | | 1113 | | 5 | | X | X | | | X | X | | | | | 89069.22 |
| Tt-WMS-26-5.0 | | | 1120 | | 5 | | X | X | | | X | X | | | | | 89069.23 |
| Tt-WMS-26-10.0 | | | 1129 | | 5 | | | | | | | | | | | | 89069.24 |
| Tt-WMS-26-CC | | | 1132 | Asphalt | 1 | | | | | | | | | | | | 89069.25 |
| Tt-WMS-24-CC | | | 1134 | Asphalt | 1 | | | | | | | | | | | | 89069.26 |
| Tt-WMS-27-0.5 | | | 1145 | S | 5 | | | | | | | | | | | | 89069.27 |
| Tt-WMS-27-2.0 | | | 1150 | | 5 | | X | X | | | X | X | | | | | 89069.28 |
| Tt-WMS-27-5.0 | | | 1203 | | 5 | | X | X | | | X | X | | | | | 89069.29 |
| | | | | | | | | | | | | | | | | | 89069.30 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 63 | PROPERLY COOLED (Y) / N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

## TURN AROUND TIME

☐ NORMAL ☐ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☐ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Falcher | Printed Name: | Printed Name: Sanchez |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Sanchez | Printed Name: | Printed Name: Austin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

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# CHAIN OF CUSTODY RECORD

102277

COMPANY: Tetra Tech INC
PROJECT MANAGER: Eric Nelson, Madyn Odonnell
AETL JOB No. 89069
Page 3 of 4

COMPANY ADDRESS: 3475 E. Foothill, Pasadena, 91107
PHONE / FAX: 626-351-4664
PROJECT NAME: Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS: Fries Ave, Wilmington CA
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH gas (C4-C12) 8015M | TPH (C13-C40) 8015M | VOCs 8260B (BTEX, 12 metals) | Title 22 metals | MBTS 8082 Soxhlet | Organotins | moisture percent | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tt-WMS-28-0.0 | | 8-21-17 | 1213 | S | 5 | | | | | | | | | | | Tt standard EDD |
| Tt-WMS-28-0.5 | | | 1220 | S | 5 | | X | X | | X | | | X | | | TPH(g) + VOCs rox |
| Tt-WMS-28-2.0 | | | 1226 | S | 5 | | X | X | | X | | | X | | | Blk=hold |
| Tt-WMS-28-5.0 | | | 1231 | S | 5 | | | | X | | | | | | | 3 days rush. |
| ~~Tt-WMS-28-10.0~~ hold | | | | | | | | | | | | | | | | The rest normal |
| Tt-WMS-30-0.5 | | | 1333 | S | 14 | | X | X | | X | | | X | | | MS/MSD 89069.35 |
| Tt-WMS-30-2.0 | | | 1339 | S | 5 | | X | X | | X | | | X | | | 89069.36 |
| Tt-WMS-30-2.0D | | | 1342 | S | 5 | | X | X | | X | | | X | | | 89069.37 |
| Tt-WMS-30-5.0 | | | 1348 | S | 5 | | | | | | | | | | | 89069.38 |
| Tt-WMS-27-0.0 | | | 1355 | ~~Asphalt~~ Concrete | 1 | | | | | | | | | | | 89069.39 |
| Tt-WMS-31-0.5 | | | 1425 | S | ~~5~~ 14 | | X | X | | X | | | X | | | MS/MSD 89069.40 |
| Tt-WMS-31-2.0 | | | ~~1300~~ 1430 | S | 5 | | X | X | | X | | | X | | | 89069.41 |
| Tt-WMS-31-2.0D | | | 1434 | S | 5 | | X | X | | X | | | X | | | 89069.42 |
| Tt-WMS-31-5.0 | | | 1439 | S | 5 | | | | | | | | | | | 89069.43 |
| ~~Tt-WMS-31-10.0~~ dry | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 79 | PROPERLY COOLED (Y) / N / NA | |
| CUSTODY SEALS Y / (N) NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

## TURN AROUND TIME

[X] NORMAL [X] RUSH
[ ] SAME DAY
[ ] NEXT DAY
[ ] 2 DAYS
[X] 3 DAYS

## DATA DELIVERABLE REQUIRED

[ ] HARD COPY
[ ] PDF
[ ] GEOTRACKER (GLOBAL ID) _____
[ ] OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Belcher | Printed Name: | Printed Name: Sanger |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Sanger | Printed Name: | Printed Name: Aaron |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

ED_004566_00003133-00193

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# CHAIN OF CUSTODY RECORD

102276

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson, Marlyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626 351 4664
FAX:
PROJECT NAME: USMC Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:

AETL JOB No. 89069

Page 4 of 4

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | VOCs 8260B | TPH (C4-C12) 8015M | TPH (C13-C40) 8015M | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 EB082120-17 | 89069.44 | 8-21-17 | 1500 | W | 7 | | X | X | X | Tt standard EDD TPH(g) + VOCs + oxy requires 3 days TAT The rest normal |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 7 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) / NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Felcher | Printed Name: | Printed Name: |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: | Printed Name: | Printed Name: Ardin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

## TURN AROUND TIME

☒ NORMAL ☒ RUSH
☐ SAME DAY
☐ NEXT DAY
☐ 2 DAYS
☒ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

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# CHAIN OF CUSTODY RECORD

№ 90467

AETL JOB No. 89069

Page 1 of 4

COMPANY: Tetra tech INC
PROJECT MANAGER: Eric Nelson, Maclyn Odonel
COMPANY ADDRESS: 3475 Foothill Blvd
PHONE: 626 470-2535
FAX:
PROJECT NAME: Wilmington Marine
PROJECT #: 73479.
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPH(C4-C12) 8015M | TPH(C13-C40) 8015M | VOCs+oxygenates 8260B | Title 22 metals 6010/7471 | PCBs 8082 Soxhlet | Organotins | moisture content % | | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TBC8212017 | 89069.01 | 8-21-17 | 0900 | W | 2 | | X | | X | | | | | | | | Tt Standard EDD TPH(g) and VOC's - 3 days TAT The rest is STAND AG TAT Blank = hold |
| 2 | Tt-WMS-19-0.5 | 89069.02 | 8-21-17 | 0812 | S | 5 | | X | X | | X | | | X | | | | |
| 3 | Tt-WMS-19-2.0 | 89069.03 | | 0820 | | | | X | X | | X | | | X | | | | |
| 4 | Tt-WMS-19-5.0 | 89069.04 | | 0831 | | | | | | X | | | | | | | | |
| 5 | Tt-WMS-22-0.5 | 89069.05 | | 0846 | | | | X | X | | X | | | X | | | | |
| 6 | Tt-WMS-22-2.0 | 89069.06 | | 0854 | | | | X | X | | X | | | X | | | | |
| 7 | Tt-WMS-22-5.0 | 89069.07 | | 0859 | | | | | | | | | | | | | | |
| 8 | Tt-WMS-22-10.0 | 89069.08 | | 0909 | | | | | | | | | | | | | | |
| 9 | Tt-WMS-25-0.5 | 89069.09 | | 0922 | | | | X | X | | X | | | X | | | | |
| 10 | Tt-WMS-25-2.0 | 89069.10 | | 0930 | | | | X | X | | X | | | X | | | | |
| 11 | Tt-WMS-25-5.0 | 89069.11 | | 0936 | | | | | | | | | | | | | | |
| 12 | Tt-WMS-25-10.0 | 89069.12 | | 0943 | | | | | | | | | | | | | | |
| 13 | Tt-WMS-23-0.5 | 89069.13 | | 0957 | | | | X | X | | X | | | X | | | | |
| 14 | Tt-WMS-23-2.0 | 89069.14 | | 0959 | | | | X | X | | X | | | X | | | | |
| 15 | Tt-WMS-23-5.0 | 89069.15 | | 1010 | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 72 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Joan Fukher | Printed Name: | Printed Name: Douglas P |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: |
| Printed Name: Douglas P | Printed Name: | Printed Name: Antin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

TURN AROUND TIME: [X] NORMAL [X] RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☒ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

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# CHAIN OF CUSTODY RECORD

102259

AETL JOB No. 89069



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'donnell
COMPANY ADDRESS: 3475 E Foothill, Pasadena 91107
PHONE / FAX: 626-351-4664
PROJECT NAME: Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHgas (Cutoly) 8015M | TPH (C13-Cyc) 8015M | VOCs + Oxygenates 8260B | PCBs 8082 | Organotins | Moisture percentage 6020/7471 | Title 22 metals | | | | TEST INSTRUCTIONS & COMMENTS (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tt-WMS-23-10.0 | | 8-21-17 | 1020 | S | 5 | | | | | | | | | | | | 89069.16 |
| 2 | Tt-WMS-23-CC | | | 1035 | concrete | 1 | | | | | * | | | | | | | 89069.17 |
| 3 | Tt-WMS-24-0.5 | | | 1032 | S | 5 | | X | X | | | | X | X | | | | 89069.18 |
| 4 | Tt-WMS-24-2.0 | | | 1038 | | 5 | | X | X | | | | X | X | | | | 89069.19 |
| 5 | Tt-WMS-24-5.0 | | | 1044 | | 5 | | | | | | | | | | | | 89069.20 |
| 6 | Tt-WMS-24-10.0 | | | 1054 | | 5 | | | | | | | | | | | | 89069.21 |
| 7 | Tt-WMS-26-0.5 | | | 1106 | | 5 | | X | X | | | | X | X | | | | 89069.22 |
| 8 | Tt-WMS-26-2.0 | | | 1113 | | 5 | | X | X | | | | X | X | | | | 89069.23 |
| 9 | Tt-WMS-26-5.0 | | | 1120 | | 5 | | | | | | | | | | | | 89069.24 |
| 10 | Tt-WMS-26-10.0 | | | 1129 | | 5 | | | | | | | | | | | | 89069.25 |
| 11 | Tt-WMS-26-CC | | | 1132 | Asphalt | 1 | | | | | * | | | | | | | 89069.26 |
| 12 | Tt-WMS-24-CC | | | 1134 | Asphalt | 1 | | | | | * | | | | | | | 89069.27 |
| 13 | Tt-WMS-27-0.5 | | | 1145 | S | 5 | | X | X | | | | X | X | | | | 89069.28 |
| 14 | Tt-WMS-27-2.0 | | | 1150 | | 5 | | X | X | | | | X | X | | | | 89069.29 |
| 15 | Tt-WMS-27-5.0 | | | 1203 | | 5 | | | | | | | | | | | | 89069.30 |

Tt Standard EDD, TPH(g) and VOCs 3day TAT Rest Standard Blank = Hold

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 63 | PROPERLY COOLED (Y)/N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y)/N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sargis P |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: |
| Printed Name: Sargis P | Printed Name: | Printed Name: Antin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 08/21/17 Time: 1800 |

TURN AROUND TIME: ☐ NORMAL ☐ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☐ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

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# CHAIN OF CUSTODY RECORD

102277

COMPANY: Tetra Tech INC
PROJECT MANAGER: Eric Nelson, Madyn Odennell
AETL JOB No. 89069
Page 3 of 4
COMPANY ADDRESS: 3475 E. Foothill, Pasadena, 91107
PHONE / FAX: 626-351-4664
PROJECT NAME: Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS: Fries Ave, Wilmington CA
PO #:

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHgas (Ug-Lug) 8015 | TPH (Ug-Lug) 8015 (DOD) | VOCs 8260 | Title 22 Metals | PAHs 8082 Soxhlet | Organotins | moisture percent | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Tt-WMS-29-0.0 | | 8-21-17 | 1213 | S | 5 | | | | | | | | | | | Fe standard EDD |
| 2 Tt-WMS-28-0.5 | | | 1220 | S | 5 | | X | X | | X | | X | | | | TPH(g) & VOCs + oxy |
| 3 Tt-WMS-28-2.0 | | | 1226 | S | 5 | | X | X | | X | | X | | | | Blank hold |
| 4 Tt-WMS-28-5.0 | | | 1231 | S | 5 | | | | X | | | | | | | 3 days rush. |
| 5 ~~Tt-WMS-28-10.0~~ hold | | | | | | | | | | | | | | | | The rest normal |
| 6 Tt-WMS-30-0.5 | | | 1333 | S | 14 | | X | X | | X | | X | | | | 89069.31 |
| 7 Tt-WMS-30-2.0 | | | 1339 | S | 5 | | X | X | | X | | X | | | | 89069.32 |
| 8 Tt-WMS-30-2.00 | | | 1342 | S | 5 | | X | X | | X | | X | | | | 89069.33 |
| 9 Tt-WMS-30-5.0 | | | 1348 | S | 5 | | | | | | | | | | | 89069.34 |
| 10 Tt-WMS-27-0.0 | | | 1355 | ~~ASWAC~~ | 1 | | | | | | * | | | | | |
| 11 Tt-WMS-31-0.5 | | | 1425 | S | ~~5~~ 14 | | X | X | | X | | X | | | | 89069.35 MS/MSD |
| 12 Tt-WMS-31-2.0 | | | ~~1300~~ | 1303 S | 5 | | X | X | | X | | X | | | | 89069.36 |
| 13 Tt-WMS-31-2.0D | | | 1334 | S | 5 | | X | X | | X | | X | | | | 89069.37 |
| 14 Tt-WMS-31-5.0 | | | 1439 | S | 5 | | | | | | | | | | | 89069.38 |
| 15 ~~Tt-WMS-31-10.0~~ dry | | | | | | | | | | | | | | | | 89069.39 |
| | | | | | | | | | | | | | | | | 89069.40 MS/MSD |
| | | | | | | | | | | | | | | | | 89069.41 |
| | | | | | | | | | | | | | | | | 89069.42 |
| | | | | | | | | | | | | | | | | 89069.43 |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 79 | PROPERLY COOLED | Y / N / NA |
| CUSTODY SEALS | Y / N / NA | SAMPLES INTACT | Y / N / NA |
| RECEIVED IN GOOD COND. | Y / N | SAMPLES ACCEPTED | Y / N |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Fletcher | Printed Name: | Printed Name: Sanyasi |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sanyasi | Printed Name: | Printed Name: Hatin |
| Date: 8/21/17 Time: 1536 | Date: Time: | Date: 08/21/17 Time: 1800 |

TURN AROUND TIME: [X] NORMAL [X] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) ____ [ ] OTHER (PLEASE SPECIFY) ____

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# CHAIN OF CUSTODY RECORD

102276

AETL JOB No. 89069

Page 4 of 4

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson, Phelan O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626 351 4664
FAX:
PROJECT NAME: (WMS) Wilmington Marine
PROJECT #:
SITE NAME AND ADDRESS: Fries Ave, Wilmington, CA
PO #:

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | 8260 VOCs + oxygenates | TPH (C4-C12) 8015M | TPH (C13-C40) 8015M | | | | | | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EDOB-12017 | 89069.44 | 8-21-17 | 1500 | W | 7 | | X | X | X | | | | | | | | TC standard EDD TPH(g) + VOCs + oxy requires 3 days TAT The rest normal (0) |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 7 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) / NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sangeep |
| Date: 8-21-17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sangeep | Printed Name: | Printed Name: Antin |
| Date: 8/21/17 Time: 1535 | Date: Time: | Date: 8/21/17 Time: 1800 |

TURN AROUND TIME: [X] NORMAL [X] RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** Fulcher, Sean [Sean.Fulcher@tetratech.com]
**Sent:** Monday, August 28, 2017 3:10 PM
**To:** JIM LIN
**Cc:** Nelson, Eric J
**Subject:** WMS concrete & asphalt core samples

Jim,

Please have the following samples analyzed for PCBs by method 8082 using soxhlet extraction.

Tt-WMS-23-CC
Tt-WMS-24-CC
Tt-WMS-26-CC
Tt-WMS-27-CC
Tt-WMS-28-CC
Tt-WMS-30-CC
Tt-WMS-31-CC
Tt-WMS-32-CC
Tt-WMS-33-CC

Regards,

**Sean Fulcher** | Staff Geologist
Direct: (626) 470-2535 | Mobile: (626) 926-0902 | sean.fulcher@tetratech.com

Tetra Tech | Pasadena Division
3475 E. Foothill Blvd. | Pasadena, CA 91107 | tetratech.com



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# COOLER RECEIPT FORM

Client Name: TetraTech
Project Name:
AETL Job Number: 89069
Date Received: 08/24/17 Received by: [illegible]
Carrier: ☒ AETL Courier ☐ Client ☐ GSO ☐ FedEx ☐ UPS
☐ Others:

**Samples were received in:** ☒ Cooler ( 3 ) ☐ Other (Specify):
**Inside temperature of shipping container** No 1: 3.3°C, No 2: 3.4°C, No 3: 3.4°C
**Type of sample containers:** ☒ VOA, ☐ Glass bottles, ☒ Wide mouth jars, ☐ HDPE bottles, ☐ Metal sleeves, ☐ Others (Specify): bag 42x5035kits
**How are samples preserved:** ☐ None, ☒ Ice, ☐ Blue Ice, ☐ Dry Ice
_ None, _ $HNO_3$, _ NaOH, _ ZnOAc, ☒ HCl, _ $Na_2S_2O_3$, ☒ MeOH
_ Other (Specify): $NaHSO_4$ $H_2O$

| | Yes | No, explain below | Name, if client was notified. |
|---|---|---|---|
| 1. Are the COCs Correct? | X | | |
| 2. Are the Sample labels legible? | X | | |
| 3. Do samples match the COC? | X | | |
| 4. Are the required analyses clear? | X | | |
| 5. Is there enough samples for required analysis? | X | | |
| 6. Are samples sealed with evidence tape? | | X | |
| 7. Are sample containers in good condition? | X | | |
| 8. Are samples preserved? | X | | |
| 9. Are samples preserved properly for the intended analysis? | X | | |
| 10. Are the VOAs free of headspace? | N/A | | |
| 11. Are the jars free of headspace? | ✓ | | |
| | | | |

**Explain all "No" answers for above questions:**

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: 73479
Date Received 08/21/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 44 samples with the following specification on 08/21/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89069.01 | TB08212017 | 08/21/2017 | Aqueous | 2 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 8260B ^ PLUS OXYGE | 08/28/2017 | 2 | Normal | ug/L |
| M8015G | 08/28/2017 | 2 | Normal | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89069.44 | EB08212017 | 08/21/2017 | Aqueous | 7 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 8260B ^ PLUS OXYGE | 08/28/2017 | 2 | Normal | ug/L |
| M8015D ^ C13-C40 | 08/28/2017 | 2 | Normal | mg/L |
| M8015G | 08/28/2017 | 2 | Normal | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89069.02 | Tt-WMS19-0.5 | 08/21/2017 | Soil | 5 |
| 89069.03 | Tt-WMS19-2.0 | 08/21/2017 | Soil | 5 |
| 89069.05 | Tt-WMS22-0.5 | 08/21/2017 | Soil | 5 |
| 89069.06 | Tt-WMS22-2.0 | 08/21/2017 | Soil | 5 |
| 89069.09 | Tt-WMS25-0.5 | 08/21/2017 | Soil | 5 |
| 89069.10 | Tt-WMS25-2.0 | 08/21/2017 | Soil | 5 |
| 89069.13 | Tt-WMS23-0.5 | 08/21/2017 | Soil | 5 |
| 89069.14 | Tt-WMS23-2.0 | 08/21/2017 | Soil | 5 |
| 89069.18 | Tt-WMS24-0.5 | 08/21/2017 | Soil | 5 |
| 89069.19 | Tt-WMS24-2.0 | 08/21/2017 | Soil | 5 |
| 89069.22 | Tt-WMS26-0.5 | 08/21/2017 | Soil | 5 |
| 89069.23 | Tt-WMS26-2.0 | 08/21/2017 | Soil | 5 |
| 89069.28 | Tt-WMS27-0.5 | 08/21/2017 | Soil | 5 |
| 89069.29 | Tt-WMS27-2.0 | 08/21/2017 | Soil | 5 |
| 89069.32 | Tt-WMS28-0.5 | 08/21/2017 | Soil | 5 |

Continued

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Ordered By

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: 73479
Date Received 08/21/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 89069.33 | Tt-WMS28-2.0 | 08/21/2017 | Soil | 5 |
| 89069.35 | Tt-WMS30-0.5 | 08/21/2017 | Soil | 14 |
| 89069.36 | Tt-WMS30-2.0 | 08/21/2017 | Soil | 5 |
| 89069.37 | Tt-WMS30-2.0D | 08/21/2017 | Soil | 5 |
| 89069.40 | Tt-WMS31-0.5 | 08/21/2017 | Soil | 14 |
| 89069.41 | Tt-WMS31-2.0 | 08/21/2017 | Soil | 5 |
| 89069.42 | Tt-WMS31-2.0D | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/28/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 08/28/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/28/2017 | 2 | Normal | mg/Kg |
| ASTM-D2216 | 08/28/2017 | 2 | Normal | % wt |

| | | | | |
|---|---|---|---|---|
| 89069.04 | Tt-WMS19-5.0 | 08/21/2017 | Soil | 5 |
| 89069.34 | Tt-WMS28-5.0 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8260B) ^ +OXY5035 | 08/28/2017 | 2 | Normal | ug/Kg |

| | | | | |
|---|---|---|---|---|
| 89069.07 | Tt-WMS22-5.0 | 08/21/2017 | Soil | 5 |
| 89069.08 | Tt-WMS22-10.0 | 08/21/2017 | Soil | 5 |
| 89069.11 | Tt-WMS25-5.0 | 08/21/2017 | Soil | 5 |
| 89069.12 | Tt-WMS25-10.0 | 08/21/2017 | Soil | 5 |
| 89069.15 | Tt-WMS23-5.0 | 08/21/2017 | Soil | 5 |
| 89069.16 | Tt-WMS23-10.0 | 08/21/2017 | Soil | 5 |
| 89069.20 | Tt-WMS24-5.0 | 08/21/2017 | Soil | 5 |
| 89069.21 | Tt-WMS24-10.0 | 08/21/2017 | Soil | 5 |
| 89069.24 | Tt-WMS26-5.0 | 08/21/2017 | Soil | 5 |
| 89069.25 | Tt-WMS26-10.0 | 08/21/2017 | Soil | 5 |
| 89069.30 | Tt-WMS27-5.0 | 08/21/2017 | Soil | 5 |
| 89069.31 | Tt-WMS27-10.0 | 08/21/2017 | Soil | 5 |
| 89069.38 | Tt-WMS30-5.0 | 08/21/2017 | Soil | 5 |

Continued

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Project ID: 73479
Date Received 08/21/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 89069.43 | Tt-WMS31-5.0 | 08/21/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| ARCHIVE | 08/28/2017 | 2 | Normal | -- |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89069.17 | Tt-WMS23-CC | 08/21/2017 | Solid | 1 |
| 89069.26 | Tt-WMS26-CC | 08/21/2017 | Solid | 1 |
| 89069.39 | Tt-WMS27-CC | 08/21/2017 | Solid | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8082) | 08/28/2017 | 2 | Normal | ug/Kg |

| | | | | |
|---|---|---|---|---|
| 89069.27 | Tt-WMS24-CC | 08/21/2017 | Solid | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8082) | 08/28/2017 | 2 | Normal | ug/Kg |
| ARCHIVE | 08/28/2017 | 2 | Normal | -- |

The samples were analyzed as specified on the enclosed chain of custody. Analytical non-conformances have been noted on the report.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
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Telephone: (626)351-4664
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**Site**

Wilmington Marine Services

Page: 2

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0822172A1**

| Our Lab I.D. | | | Method Blank | 89069.04 | 89069.34 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-5.0 | Tt-WMS28-5.0 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/22/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030 | 5035A | 5035A | | |
| Date Analyzed | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Acetone | 25 | 50 | ND | ND | ND | | |
| Benzene | 1.0 | 10.0 | ND | ND | ND | | |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | ND | ND | | |
| Bromochloromethane | 5.0 | 10.0 | ND | ND | ND | | |
| Bromodichloromethane | 5.0 | 10.0 | ND | ND | ND | | |
| Bromoform (Tribromomethane) | 25 | 50 | ND | ND | ND | | |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | ND | ND | | |
| 2-Butanone (MEK) | 25 | 50 | ND | ND | ND | | |
| n-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| sec-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| tert-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| Carbon Disulfide | 25 | 50 | ND | ND | ND | | |
| Carbon tetrachloride | 5.0 | 10.0 | ND | ND | ND | | |
| Chlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |
| Chloroethane | 15 | 30 | ND | ND | ND | | |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | ND | ND | | |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | ND | ND | | |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | ND | ND | | |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | ND | ND | | |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | ND | ND | | |
| Dibromochloromethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | ND | ND | | |
| Dibromomethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |

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## ANALYTICAL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0822172A1**

| Our Lab I.D. | | | Method Blank | 89069.04 | 89069.34 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-5.0 | Tt-WMS28-5.0 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/22/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030 | 5035A | 5035A | | |
| Date Analyzed | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Dichlorodifluoromethane | 15 | 30 | ND | ND | ND | | |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | | |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | | |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | | |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | | |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | | |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | | |
| Ethylbenzene | 1.0 | 10.0 | ND | ND | ND | | |
| Hexachlorobutadiene | 15 | 30 | ND | ND | ND | | |
| 2-Hexanone | 25 | 50 | ND | ND | ND | | |
| Isopropylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| p-Isopropyltoluene | 5.0 | 10.0 | ND | ND | ND | | |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | ND | ND | | |
| Methylene chloride (DCM) | 25 | 50 | ND | ND | ND | | |
| Naphthalene | 5.0 | 10.0 | ND | ND | ND | | |
| n-Propylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| Styrene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | ND | | |
| Tetrachloroethene | 2.0 | 10.0 | ND | ND | ND | | |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | ND | ND | | |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | ND | ND | | |
| Trichloroethene | 1.5 | 10.0 | ND | ND | ND | | |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | ND | ND | | |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | ND | ND | | |

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## ANALYTICAL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0822172A1**

| **Our Lab I.D.** | | | Method Blank | **89069.04** | **89069.34** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-5.0 | Tt-WMS28-5.0 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/22/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030 | 5035A | 5035A | | |
| Date Analyzed | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| 1,2,4-Trimethylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| 1,3,5-Trimethylbenzene | 5.0 | 10.0 | ND | ND | ND | | |
| Vinyl Acetate | 25 | 50 | ND | ND | ND | | |
| Vinyl chloride (Chloroethene) | 5.0 | 10.0 | ND | ND | ND | | |
| o-Xylene | 1.0 | 10.0 | ND | ND | ND | | |
| m,p-Xylenes | 1.0 | 20.0 | ND | ND | ND | | |
| tert-Butyl alcohol (TBA) | 20 | 500 | ND | ND | ND | | |
| Diisopropyl ether (DIPE) | 2.0 | 10.0 | ND | ND | ND | | |
| Ethyl alcohol (Ethanol) | 100 | 500 | ND | ND | ND | | |
| Ethyl-tert-butyl ether (ETBE) | 2.0 | 10.0 | ND | ND | ND | | |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | ND | ND | | |
| tert-Amyl methyl ether (TAME) | 2.0 | 10.0 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89069.04** | **89069.34** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 94.8 | 113 | 91.6 | | |
| Dibromofluoromethane | 75-125 | | 110 | 117 | 111 | | |
| Toluene-d8 | 75-125 | | 103 | 113 | 105 | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB1**

| **Our Lab I.D.** | | | Method Blank | **89069.02** | **89069.03** | **89069.05** | **89069.06** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-0.5 | Tt-WMS19-2.0 | Tt-WMS22-0.5 | Tt-WMS22-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/22/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89069.02** | **89069.03** | **89069.05** | **89069.06** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 108 | 101 | 95.0 | 107 | 108 |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 6

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB1**

| Our Lab I.D. | | | 89069.09 | 89069.10 | 89069.13 | 89069.14 | 89069.18 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS25-0.5 | Tt-WMS25-2.0 | Tt-WMS23-0.5 | Tt-WMS23-2.0 | Tt-WMS24-0.5 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Preparation Method | | | 5035A | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | **89069.09** | **89069.10** | **89069.13** | **89069.14** | **89069.18** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 108 | 107 | 107 | 108 | 107 |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 7

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB1**

| **Our Lab I.D.** | | | **89069.19** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS24-2.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/21/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/22/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | | | | |
| **Our Lab I.D.** | | | **89069.19** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 105 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 8

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB2**

| **Our Lab I.D.** | | | Method Blank | **89069.22** | **89069.23** | **89069.28** | **89069.29** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS26-0.5 | Tt-WMS26-2.0 | Tt-WMS27-0.5 | Tt-WMS27-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89069.22** | **89069.23** | **89069.28** | **89069.29** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 108 | 107 | 107 | 107 | 109 |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 9

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB2**

| Our Lab I.D. | | | 89069.32 | 89069.33 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS28-0.5 | Tt-WMS28-2.0 | | | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | | | |
| Date Prepared | | | 08/21/2017 | 08/21/2017 | | | |
| Preparation Method | | | 5035A | 5035A | | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | | | |
| **Our Lab I.D.** | | | **89069.32** | **89069.33** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | 75-125 | | 106 | 108 | | | |

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**Site**

Wilmington Marine Services

Page: 10

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB1**

| **Our Lab I.D.** | | | **89069.35** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS30-0.5 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/21/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/22/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | | | | |
| **Our Lab I.D.** | | | **89069.35** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 105 | | | | |

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**Site**

Wilmington Marine Services

Page: 11

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB2**

| Our Lab I.D. | | | 89069.36 | 89069.37 | 89069.40 | 89069.41 | 89069.42 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS30-2.0 | Tt-WMS30-2.0D | Tt-WMS31-0.5 | Tt-WMS31-2.0 | Tt-WMS31-2.0D |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Preparation Method | | | 5035A | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | **89069.36** | **89069.37** | **89069.40** | **89069.41** | **89069.42** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 106 | 109 | 108 | 95.6 | 107 |

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**Site**

Wilmington Marine Services

Page: 12

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082317PB3**

| **Our Lab I.D.** | | | Method Blank | **89069.02** | **89069.03** | **89069.05** | **89069.06** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-0.5 | Tt-WMS19-2.0 | Tt-WMS22-0.5 | Tt-WMS22-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | 417 | 407 | 3.40J | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | 281 | 1,490 | 62.8 | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | 698 | 1,900 | 66.2 | ND |
| **Our Lab I.D.** | | | Method Blank | **89069.02** | **89069.03** | **89069.05** | **89069.06** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 115 | 109 | 108 | 80.0 | 82.9 |

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**Site**

Wilmington Marine Services

Page: 13

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082317PB3**

| Our Lab I.D. | | | 89069.09 | 89069.10 | 89069.13 | 89069.14 | 89069.18 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS25-0.5 | Tt-WMS25-2.0 | Tt-WMS23-0.5 | Tt-WMS23-2.0 | Tt-WMS24-0.5 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/24/2017 | 08/24/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | 23.6 | ND | 34.9 | ND | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | 259 | ND | 18.1 | ND | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | 283 | ND | 53.0 | ND | ND |
| **Our Lab I.D.** | | | **89069.09** | **89069.10** | **89069.13** | **89069.14** | **89069.18** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 91.1 | 91.0 | 81.9 | 92.4 | 94.3 |

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**Site**

Wilmington Marine Services

Page: 14

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082317PB3**

| Our Lab I.D. | | | 89069.19 | 89069.22 | 89069.23 | 89069.28 | 89069.29 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS24-2.0 | Tt-WMS26-0.5 | Tt-WMS26-2.0 | Tt-WMS27-0.5 | Tt-WMS27-2.0 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | **89069.19** | **89069.22** | **89069.23** | **89069.28** | **89069.29** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 103 | 105 | 109 | 103 | 88.4 |

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**Site**

Wilmington Marine Services

Page: 15

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082317PB3**

| Our Lab I.D. | | | 89069.32 | 89069.33 | 89069.35 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS28-0.5 | Tt-WMS28-2.0 | Tt-WMS30-0.5 | | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Preparation Method | | | 3550B | 3550B | 3550B | | |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | ND | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | ND | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | ND | | |
| **Our Lab I.D.** | | | **89069.32** | **89069.33** | **89069.35** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Chlorobenzene | 75-125 | | 104 | 92.4 | 105 | | |

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**Site**

Wilmington Marine Services

Page: 16

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082417PB1**

| **Our Lab I.D.** | | | Method Blank | **89069.36** | **89069.37** | **89069.40** | **89069.41** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS30-2.0 | Tt-WMS30-2.0D | Tt-WMS31-0.5 | Tt-WMS31-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | ND | 24.4 | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | ND | 24.4 | ND |
| **Our Lab I.D.** | | | Method Blank | **89069.36** | **89069.37** | **89069.40** | **89069.41** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 121 | 90.9 | 90.0 | 107 | 110 |

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**Site**

Wilmington Marine Services

Page: 17

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082417PB1**

| **Our Lab I.D.** | | | **89069.42** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS31-2.0D | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | | | | |
| **Our Lab I.D.** | | | **89069.42** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Chlorobenzene | 75-125 | | 106 | | | | |

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**Site**

Wilmington Marine Services

Page: 18

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/30/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 09/01/2017 | | | | |
| Matrix | | | Solid | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 91.0 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 71.2 | | | | |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 19

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4**

| Our Lab I.D. | | | 89069.17 | 89069.26 | 89069.27 | 89069.39 | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS23-C C | Tt-WMS26-C C | Tt-WMS24-C C | Tt-WMS27-C C | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | |
| Date Prepared | | | 08/30/2017 | 08/30/2017 | 08/30/2017 | 08/30/2017 | |
| Preparation Method | | | 3540C | 3540C | 3540C | 3540C | |
| Date Analyzed | | | 09/01/2017 | 09/01/2017 | 09/01/2017 | 09/01/2017 | |
| Matrix | | | Solid | Solid | Solid | Solid | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | ug/Kg | |
| Dilution Factor | | | 5 | 5 | 5 | 5 | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | |
| Aroclor-1016 (PCB-1016) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1221 (PCB-1221) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1232 (PCB-1232) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1242 (PCB-1242) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1248 (PCB-1248) | 125 | 250 | ND | 492 | ND | 860 | |
| Aroclor-1254 (PCB-1254) | 125 | 250 | 401 | 302 | 457 | 547 | |
| Aroclor-1260 (PCB-1260) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1262 (PCB-1262) | 125 | 250 | ND | ND | ND | ND | |
| Aroclor-1268 (PCB-1268) | 125 | 250 | ND | ND | ND | ND | |
| **Our Lab I.D.** | | | **89069.17** | **89069.26** | **89069.27** | **89069.39** | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | |
| Decachlorobiphenyl | 30-150 | | 136 | 100 | 141 | 123 | |
| Tetrachloro-m-xylene | 30-150 | | 139 | 49.4 | 68.6 | 75.8 | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 20

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12**

| Our Lab I.D. | | | Method Blank | 89069.02 | 89069.03 | 89069.05 | 89069.06 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS19-0.5 | Tt-WMS19-2.0 | Tt-WMS22-0.5 | Tt-WMS22-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | 30.3 | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | 9.08 | 9.79 | 6.51 | ND |
| Barium | 2.5 | 5.0 | ND | 48.9 | 919 | 78.3 | 125 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | 13.0 | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 6.07 | 26.4 | 13.5 | 23.3 |
| Cobalt | 2.5 | 5.0 | ND | ND | 9.58 | 6.17 | 11.8 |
| Copper | 2.5 | 5.0 | ND | 1,280 | 924 | 129 | 40.0 |
| Lead | 2.5 | 5.0 | ND | 25.7 | 3,130 | 52.7 | 5.97 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | 5.82 | 4.15 | 0.532 | ND |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 6.05 | 24.1 | 10.7 | 16.7 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 5.34 | 17.3 | 23.4 | 40.4 |
| Zinc | 2.5 | 5.0 | ND | 470 | 4,490 | 285 | 78.0 |

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## ANALYTICAL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 21

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12**

| Our Lab I.D. | | | 89069.09 | 89069.10 | 89069.13 | 89069.14 | 89069.18 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS25-0.5 | Tt-WMS25-2.0 | Tt-WMS23-0.5 | Tt-WMS23-2.0 | Tt-WMS24-0.5 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | 9.31 | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | 126 | 70.7 | 83.9 | 112 | 84.7 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 17.1 | 12.1 | 17.3 | 19.8 | 16.3 |
| Cobalt | 2.5 | 5.0 | 8.77 | 6.34 | 8.98 | 10.4 | 8.22 |
| Copper | 2.5 | 5.0 | 115 | 38.1 | 257 | 26.3 | 18.0 |
| Lead | 2.5 | 5.0 | 98.8 | 17.5 | 80.4 | 3.40J | 2.79J |
| Mercury (By EPA 7471) | 0.1 | 0.2 | 0.222 | ND | 0.131J | 0.116J | ND |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | 15.2 | 8.20 | 14.9 | 14.0 | 10.9 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 33.3 | 22.2 | 30.7 | 36.9 | 29.6 |
| Zinc | 2.5 | 5.0 | 309 | 64.0 | 1,150 | 55.8 | 45.8 |

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Telephone: (626)351-4664
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**Site**

Wilmington Marine Services

Page: 22

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12**

| Our Lab I.D. | | | 89069.19 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS24-2.0 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/23/2017 | | | | |
| Preparation Method | | | 3050B | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Antimony | 1.0 | 5.0 | ND | | | | |
| Arsenic | 1.0 | 5.0 | ND | | | | |
| Barium | 2.5 | 5.0 | 66.1 | | | | |
| Beryllium | 1.3 | 2.5 | ND | | | | |
| Cadmium | 1.3 | 2.5 | ND | | | | |
| Chromium | 2.5 | 5.0 | 11.9 | | | | |
| Cobalt | 2.5 | 5.0 | 6.51 | | | | |
| Copper | 2.5 | 5.0 | 11.0 | | | | |
| Lead | 2.5 | 5.0 | ND | | | | |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | | | | |
| Molybdenum | 2.5 | 5.0 | ND | | | | |
| Nickel | 2.5 | 5.0 | 8.07 | | | | |
| Selenium | 1.0 | 5.0 | ND | | | | |
| Silver | 2.5 | 5.0 | ND | | | | |
| Thallium | 1.0 | 5.0 | ND | | | | |
| Vanadium | 2.5 | 5.0 | 21.5 | | | | |
| Zinc | 2.5 | 5.0 | 35.7 | | | | |

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**Site**

Wilmington Marine Services

Page: 23

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C13**

| Our Lab I.D. | | | Method Blank | 89069.22 | 89069.23 | 89069.28 | 89069.29 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS26-0.5 | Tt-WMS26-2.0 | Tt-WMS27-0.5 | Tt-WMS27-2.0 |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | ND | 78.4 | 77.1 | 30.3 | 77.7 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 14.6 | 14.8 | 6.84 | 13.5 |
| Cobalt | 2.5 | 5.0 | ND | 7.36 | 7.47 | 3.81J | 7.51 |
| Copper | 2.5 | 5.0 | ND | 29.5 | 14.4 | 5.44 | 10.5 |
| Lead | 2.5 | 5.0 | ND | 6.68 | ND | ND | ND |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | ND | ND | ND |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 9.82 | 9.94 | 4.40J | 9.37 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 26.9 | 26.4 | 13.2 | 24.2 |
| Zinc | 2.5 | 5.0 | ND | 55.4 | 41.9 | 21.4 | 40.2 |

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**Site**

Wilmington Marine Services

Page: 24

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C13**

| Our Lab I.D. | | | 89069.32 | 89069.33 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS28-0.5 | Tt-WMS28-2.0 | | | |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | | | |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | | | |
| Preparation Method | | | 3050B | 3050B | | | |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Antimony | 1.0 | 5.0 | ND | ND | | | |
| Arsenic | 1.0 | 5.0 | ND | ND | | | |
| Barium | 2.5 | 5.0 | 44.5 | 98.9 | | | |
| Beryllium | 1.3 | 2.5 | ND | ND | | | |
| Cadmium | 1.3 | 2.5 | ND | ND | | | |
| Chromium | 2.5 | 5.0 | 8.79 | 22.1 | | | |
| Cobalt | 2.5 | 5.0 | 4.77J | 10.7 | | | |
| Copper | 2.5 | 5.0 | 9.00 | 22.9 | | | |
| Lead | 2.5 | 5.0 | 2.50J | 3.38J | | | |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | | | |
| Molybdenum | 2.5 | 5.0 | ND | ND | | | |
| Nickel | 2.5 | 5.0 | 5.81 | 14.9 | | | |
| Selenium | 1.0 | 5.0 | ND | ND | | | |
| Silver | 2.5 | 5.0 | ND | ND | | | |
| Thallium | 1.0 | 5.0 | ND | ND | | | |
| Vanadium | 2.5 | 5.0 | 17.4 | 38.2 | | | |
| Zinc | 2.5 | 5.0 | 26.8 | 62.2 | | | |

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**Site**

Wilmington Marine Services

Page: 25

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12**

| Our Lab I.D. | | | 89069.35 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS30-0.5 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/23/2017 | | | | |
| Preparation Method | | | 3050B | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Antimony | 1.0 | 5.0 | ND | | | | |
| Arsenic | 1.0 | 5.0 | ND | | | | |
| Barium | 2.5 | 5.0 | 34.1 | | | | |
| Beryllium | 1.3 | 2.5 | ND | | | | |
| Cadmium | 1.3 | 2.5 | ND | | | | |
| Chromium | 2.5 | 5.0 | 7.39 | | | | |
| Cobalt | 2.5 | 5.0 | 3.75J | | | | |
| Copper | 2.5 | 5.0 | 7.71 | | | | |
| Lead | 2.5 | 5.0 | 3.90J | | | | |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | | | | |
| Molybdenum | 2.5 | 5.0 | ND | | | | |
| Nickel | 2.5 | 5.0 | 4.57J | | | | |
| Selenium | 1.0 | 5.0 | ND | | | | |
| Silver | 2.5 | 5.0 | ND | | | | |
| Thallium | 1.0 | 5.0 | ND | | | | |
| Vanadium | 2.5 | 5.0 | 16.0 | | | | |
| Zinc | 2.5 | 5.0 | 25.1 | | | | |

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**Site**

Wilmington Marine Services

Page: 26

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C13**

| Our Lab I.D. | | | 89069.36 | 89069.37 | 89069.40 | 89069.41 | 89069.42 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS30-2.0 | Tt-WMS30-2.0D | Tt-WMS31-0.5 | Tt-WMS31-2.0 | Tt-WMS31-2.0D |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | 27.6 | 36.2 | 89.9 | 40.3 | 52.2 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 6.57 | 7.12 | 16.1 | 7.38 | 9.82 |
| Cobalt | 2.5 | 5.0 | 3.10J | 3.71J | 8.41 | 4.18J | 5.40 |
| Copper | 2.5 | 5.0 | 4.00J | 4.70J | 29.0 | 8.77 | 20.6 |
| Lead | 2.5 | 5.0 | ND | ND | 15.8 | 3.05J | 16.6 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | ND | ND | 0.161J |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | 3.74J | 4.30J | 11.2 | 5.14 | 7.09 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 13.6 | 13.0 | 29.7 | 14.6 | 19.0 |
| Zinc | 2.5 | 5.0 | 17.1 | 21.3 | 56.0 | 25.4 | 39.2 |

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**Site**

Wilmington Marine Services

Page: 27

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2**

| Our Lab I.D. | | | 89069.02 | 89069.03 | 89069.05 | 89069.06 | 89069.09 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS19-0.5 | Tt-WMS19-2.0 | Tt-WMS22-0.5 | Tt-WMS22-2.0 | Tt-WMS25-0.5 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 3.80 | 11.9 | 10.5 | 19.2 | 14.6 |

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## ANALYTICAL RESULTS

**Ordered By**

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Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 28

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2**

| Our Lab I.D. | | | 89069.10 | 89069.13 | 89069.14 | 89069.18 | 89069.19 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS25-2.0 | Tt-WMS23-0.5 | Tt-WMS23-2.0 | Tt-WMS24-0.5 | Tt-WMS24-2.0 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 12.3 | 18.2 | 24.0 | 15.0 | 18.4 |

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**Site**

Wilmington Marine Services

Page: 29

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2**

| Our Lab I.D. | | | 89069.22 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS26-0.5 | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | ASTM-D2216 | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | % wt | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Moisture Content | 0.1 | 0.1 | 14.4 | | | | |

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**Site**

Wilmington Marine Services

Page: 30

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2A**

| Our Lab I.D. | | | 89069.23 | 89069.28 | 89069.29 | 89069.32 | 89069.33 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS26-2.0 | Tt-WMS27-0.5 | Tt-WMS27-2.0 | Tt-WMS28-0.5 | Tt-WMS28-2.0 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 17.9 | 8.60 | 21.7 | 12.6 | 27.9 |

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**Site**

Wilmington Marine Services

Page: 31

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2A**

| Our Lab I.D. | | | 89069.35 | 89069.36 | 89069.37 | 89069.40 | 89069.41 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS30-0.5 | Tt-WMS30-2.0 | Tt-WMS30-2.0D | Tt-WMS31-0.5 | Tt-WMS31-2.0 |
| Date Sampled | | | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 | 08/21/2017 |
| Date Prepared | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 8.70 | 11.9 | 23.4 | 17.1 | 9.80 |

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**Site**

Wilmington Marine Services

Page: 32

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2A**

| Our Lab I.D. | | | 89069.42 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS31-2.0D | | | | |
| Date Sampled | | | 08/21/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | ASTM-D2216 | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | % wt | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Moisture Content | 0.1 | 0.1 | 11.2 | | | | |

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**Site**

Wilmington Marine Services

Page: 33

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A1**

| Our Lab I.D. | | | Method Blank | 89069.01 | 89069.44 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08212017 | EB08212017 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Acetone | 10 | 10 | ND | ND | ND | | |
| Benzene | 0.5 | 1.0 | ND | ND | ND | | |
| Bromobenzene (Phenyl bromide) | 0.5 | 1.0 | ND | ND | ND | | |
| Bromochloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| Bromodichloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| Bromoform (Tribromomethane) | 2.5 | 5.0 | ND | ND | ND | | |
| Bromomethane (Methyl bromide) | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Butanone (MEK) | 5.0 | 5.0 | ND | ND | ND | | |
| n-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| sec-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| tert-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Carbon Disulfide | 0.5 | 1.0 | ND | ND | ND | | |
| Carbon tetrachloride | 0.5 | 1.0 | ND | ND | ND | | |
| Chlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Chloroethane | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Chloroethyl vinyl ether | 2.5 | 5.0 | ND | ND | ND | | |
| Chloroform (Trichloromethane) | 0.5 | 1.0 | ND | ND | ND | | |
| Chloromethane (Methyl chloride) | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Chlorotoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 4-Chlorotoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 2.5 | 5.0 | ND | ND | ND | | |
| Dibromochloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dibromoethane (EDB) | 0.5 | 1.0 | ND | ND | ND | | |
| Dibromomethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,3-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,4-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Dichlorodifluoromethane | 1.5 | 3.0 | ND | ND | ND | | |

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# ANALYTICAL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A1**

| Our Lab I.D. | | | Method Blank | 89069.01 | 89069.44 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08212017 | EB08212017 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| 1,1-Dichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichloroethane (EDC) | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| cis-1,2-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| trans-1,2-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,3-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 2,2-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| cis-1,3-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| trans-1,3-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| Ethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Hexachlorobutadiene | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Hexanone | 2.5 | 5.0 | ND | ND | ND | | |
| Iodomethane | 0.5 | 1.0 | ND | ND | ND | | |
| Isopropylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| p-Isopropyltoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 4-Methyl-2-pentanone (MIBK) | 2.5 | 5.0 | ND | ND | ND | | |
| Methylene chloride (DCM) | 2.0 | 4.0 | ND | ND | ND | | |
| Naphthalene | 0.5 | 1.0 | ND | ND | ND | | |
| n-Propylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Styrene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,2,2-Tetrachloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| Tetrachloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| Toluene (Methyl benzene) | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,3-Trichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,4-Trichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,1-Trichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,2-Trichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| Trichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| Trichlorofluoromethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,3-Trichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,4-Trimethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |

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# ANALYTICAL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A1**

| **Our Lab I.D.** | | | Method Blank | **89069.01** | **89069.44** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08212017 | EB08212017 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| 1,3,5-Trimethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Vinyl Acetate | 0.5 | 5.0 | ND | ND | ND | | |
| Vinyl chloride (Chloroethene) | 0.5 | 3.0 | ND | ND | ND | | |
| o-Xylene | 0.5 | 1.0 | ND | ND | ND | | |
| m,p-Xylenes | 1.0 | 2.0 | ND | ND | ND | | |
| tert-Butyl alcohol (TBA) | 10 | 50 | ND | ND | ND | | |
| Diisopropyl ether (DIPE) | 0.5 | 1.0 | ND | ND | ND | | |
| Ethyl alcohol (Ethanol) | 250 | 500 | ND | ND | ND | | |
| Ethyl-tert-butyl ether (ETBE) | 0.5 | 1.0 | ND | ND | ND | | |
| Methyl-tert-butyl ether (MTBE) | 0.5 | 1.0 | ND | ND | ND | | |
| tert-Amyl methyl ether (TAME) | 0.5 | 1.0 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89069.01** | **89069.44** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 123 | 123 | 119 | | |
| Dibromofluoromethane | 75-125 | | 109 | 110 | 109 | | |
| Toluene-d8 | 75-125 | | 120 | 117 | 120 | | |

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**Site**

Wilmington Marine Services

Page: 36

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: M8015G, TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317NB1**

| **Our Lab I.D.** | | | Method Blank | **89069.01** | **89069.44** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08212017 | EB08212017 | | |
| Date Sampled | | | | 08/21/2017 | 08/21/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/21/2017 | 08/21/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.005 | 0.010 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89069.01** | **89069.44** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 101 | 103 | 102 | | |

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**Site**

Wilmington Marine Services

Page: 37

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082217DB1**

| **Our Lab I.D.** | | | Method Blank | **89069.44** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | EB08212017 | | | |
| Date Sampled | | | | 08/21/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 3510C | 3510C | | | |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | | | |
| Matrix | | | Aqueous | Aqueous | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Diesel (C13-C22) | 0.1 | 0.5 | ND | ND | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 0.1 | 0.5 | ND | ND | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 0.1 | 0.5 | ND | ND | | | |
| **Our Lab I.D.** | | | Method Blank | **89069.44** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Chlorobenzene | 60-125 | | 103 | 99.5 | | | |

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## QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 38

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A1; Dup or Spiked Sample: 89068.04; LCS: Clean Water; LCS Prepared: 08/23/2017; LCS Analyzed: 08/23/2017; Units: ug/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 51.5 | 103 | 50.0 | 50.5 | 101 | 2.0 | 75-125 | <20 |
| Carbon tetrachloride | 50.0 | 48.1 | 96.2 | 50.0 | 48.0 | 96.0 | <1 | 75-125 | <20 |
| Chlorobenzene | 50.0 | 54.5 | 109 | 50.0 | 54.0 | 108 | <1 | 75-125 | <20 |
| Chloroform (Trichloromethane) | 50.0 | 54.0 | 108 | 50.0 | 52.5 | 105 | 2.8 | 75-125 | <20 |
| 1,2-Dichlorobenzene | 50.0 | 52.0 | 104 | 50.0 | 51.5 | 103 | <1 | 75-125 | <20 |
| 1,1-Dichloroethane | 50.0 | 50.0 | 100 | 50.0 | 47.5 | 95.0 | 5.1 | 75-125 | <20 |
| 1,1-Dichloroethene | 50.0 | 47.6 | 95.2 | 50.0 | 51.0 | 102 | 6.9 | 75-125 | <20 |
| cis-1,2-Dichloroethene | 50.0 | 54.0 | 108 | 50.0 | 51.5 | 103 | 4.7 | 75-125 | <20 |
| Ethylbenzene | 50.0 | 55.0 | 110 | 50.0 | 55.0 | 110 | <1 | 75-125 | <20 |
| n-Propylbenzene | 50.0 | 46.8 | 93.6 | 50.0 | 47.0 | 94.0 | <1 | 75-125 | <20 |
| Toluene (Methyl benzene) | 50.0 | 54.5 | 109 | 50.0 | 54.0 | 108 | <1 | 75-125 | <20 |
| 1,1,1-Trichloroethane | 50.0 | 51.0 | 102 | 50.0 | 49.8 | 99.6 | 2.4 | 75-125 | <20 |
| 1,1,2-Trichloroethane | 50.0 | 54.0 | 108 | 50.0 | 53.5 | 107 | <1 | 75-125 | <20 |
| Trichloroethene | 50.0 | 57.5 | 115 | 50.0 | 58.5 | 117 | 1.7 | 75-125 | <20 |
| 1,2,4-Trimethylbenzene | 50.0 | 53.0 | 106 | 50.0 | 53.0 | 106 | <1 | 75-125 | <20 |
| 1,3,5-Trimethylbenzene | 50.0 | 49.1 | 98.2 | 50.0 | 49.5 | 99.0 | <1 | 75-125 | <20 |
| o-Xylene | 50.0 | 56.5 | 113 | 50.0 | 56.0 | 112 | <1 | 75-125 | <20 |
| m,p-Xylenes | 100 | 110 | 110 | 100 | 109 | 109 | <1 | 75-125 | <20 |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 53.5 | 107 | 50.0 | 52.0 | 104 | 2.8 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 47.3 | 94.5 | 50.0 | 46.9 | 93.8 | <1 | 75-125 | <20 |
| Dibromofluoromethane | 50.0 | 55.0 | 110 | 50.0 | 54.0 | 108 | 1.8 | 75-125 | <20 |
| Toluene-d8 | 50.0 | 57.0 | 114 | 50.0 | 57.5 | 115 | <1 | 75-125 | <20 |

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## QUALITY CONTROL RESULTS

**Ordered By**

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3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 39

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082217DB1; Dup or Spiked Sample: 89068.04; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 5.00 | 5.60 | 112 | 5.00 | 5.80 | 116 | 3.5 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 2.00 | 1.57 | 78.5 | 2.00 | 1.89 | 94.5 | 18.5 | 60-125 | <20 |

**QC Batch No: 082217DB1; Dup or Spiked Sample: 89068.04; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS/LCSD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 5.00 | 5.25 | 105 | 75-125 | | | | | | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 2.00 | 2.04 | 102 | 60-125 | | | | | | |

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**Site**

Wilmington Marine Services

Page: 40

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: M8015G, TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317NB1; Dup or Spiked Sample: 89069.44FGA; LCS: Clean Water; QC Prepared: 08/23/2017; QC Analyzed: 08/23/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 0.500 | 0.470 | 93.8 | 0.500 | 0.470 | 94.6 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0533 | 107 | 0.0500 | 0.0555 | 111 | 3.74 | 75-125 | <20 |

**QC Batch No: 082317NB1; Dup or Spiked Sample: 89069.44FGA; LCS: Clean Water; QC Prepared: 08/23/2017; QC Analyzed: 08/23/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.500 | 0.490 | 98.4 | 0.500 | 0.500 | 99.0 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0556 | 111 | 0.0500 | 0.0570 | 114 | 2.70 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: **41**

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12; Dup or Spiked Sample: 89069.35; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 49.6 | 99.2 | 50.0 | 49.6 | 99.2 | <1 | 75-125 | <15 |
| Arsenic | 0.00 | 50.0 | 50.5 | 101 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 |
| Barium | 34.1 | 50.0 | 80.4 | 92.6 | 50.0 | 81.1 | 94.0 | 1.5 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 53.0 | 106 | 50.0 | 53.0 | 106 | <1 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 45.7 | 91.4 | 50.0 | 46.0 | 92.0 | <1 | 75-125 | <15 |
| Chromium | 7.39 | 50.0 | 54.9 | 95.0 | 50.0 | 55.0 | 95.2 | <1 | 75-125 | <15 |
| Cobalt | 3.75 | 50.0 | 49.3 | 91.1 | 50.0 | 49.4 | 91.3 | <1 | 75-125 | <15 |
| Copper | 7.71 | 50.0 | 58.2 | 101 | 50.0 | 58.2 | 101 | <1 | 75-125 | <15 |
| Lead | 3.90 | 50.0 | 45.8 | 83.8 | 50.0 | 46.0 | 84.2 | <1 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.00 | 0.500 | 0.640 | 128 | 0.500 | 0.700 | 140 | 9.0 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 47.7 | 95.4 | 50.0 | 47.8 | 95.6 | <1 | 75-125 | <15 |
| Nickel | 4.57 | 50.0 | 47.9 | 86.7 | 50.0 | 48.0 | 86.9 | <1 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 43.7 | 87.4 | 50.0 | 44.5 | 89.0 | 1.8 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 47.2 | 94.4 | 50.0 | 47.5 | 95.0 | <1 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 40.9 | 81.8 | 50.0 | 40.4 | 80.8 | 1.2 | 75-125 | <15 |
| Vanadium | 16.0 | 50.0 | 64.8 | 97.6 | 50.0 | 65.3 | 98.6 | 1.0 | 75-125 | <15 |
| Zinc | 25.1 | 50.0 | 74.2 | 98.2 | 50.0 | 71.1 | 92.0 | 6.5 | 75-125 | <15 |

**QC Batch No: 0823172C12; Dup or Spiked Sample: 89069.35; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 52.0 | 104 | 50.0 | 51.0 | 102 | 1.9 | 75-125 | <15 | |
| Arsenic | 50.0 | 51.5 | 103 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Barium | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 57.0 | 114 | 50.0 | 55.5 | 111 | 2.7 | 75-125 | <15 | |
| Cadmium | 50.0 | 51.0 | 102 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 52.0 | 104 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Cobalt | 50.0 | 51.0 | 102 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Lead | 50.0 | 50.0 | 100 | 50.0 | 49.9 | 99.8 | <1 | 75-125 | <15 | |
| Mercury (By EPA 7471) | 0.500 | 0.590 | 118 | 0.500 | 0.600 | 120 | 1.7 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C12; Dup or Spiked Sample: 89069.35; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | 50.0 | 51.0 | 102 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 49.2 | 98.4 | 50.0 | 49.1 | 98.2 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 53.0 | 106 | 50.0 | 51.5 | 103 | 2.9 | 75-125 | <15 | |
| Silver | 50.0 | 51.5 | 103 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 53.5 | 107 | 50.0 | 53.0 | 106 | <1 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 54.0 | 108 | 50.0 | 54.0 | 108 | <1 | 75-125 | <15 | |

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## QUALITY CONTROL RESULTS

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 43

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C13; Dup or Spiked Sample: 89069.40; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 49.2 | 98.4 | 50.0 | 50.0 | 100 | 1.6 | 75-125 | <15 |
| Arsenic | 0.00 | 50.0 | 48.1 | 96.2 | 50.0 | 49.1 | 98.2 | 2.1 | 75-125 | <15 |
| Barium | 89.9 | 50.0 | 131 | 82.2 | 50.0 | 131 | 82.2 | <1 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 50.5 | 101 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 45.1 | 90.2 | 50.0 | 45.6 | 91.2 | 1.1 | 75-125 | <15 |
| Chromium | 16.1 | 50.0 | 60.7 | 89.2 | 50.0 | 61.1 | 90.0 | <1 | 75-125 | <15 |
| Cobalt | 8.41 | 50.0 | 51.3 | 85.8 | 50.0 | 51.8 | 86.8 | 1.2 | 75-125 | <15 |
| Copper | 29.0 | 50.0 | 78.0 | 98.0 | 50.0 | 78.0 | 98.0 | <1 | 75-125 | <15 |
| Lead | 15.8 | 50.0 | 53.5 | 75.4 | 50.0 | 53.9 | 76.2 | 1.1 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.0949 | 0.500 | 0.428 | 66.6 | 0.500 | 0.399 | 60.8 | 9.1 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 45.6 | 91.2 | 50.0 | 46.2 | 92.4 | 1.3 | 75-125 | <15 |
| Nickel | 11.2 | 50.0 | 51.4 | 80.4 | 50.0 | 51.9 | 81.4 | 1.2 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 39.4 | 78.8 | 50.0 | 39.0 | 78.0 | 1.0 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 46.7 | 93.4 | 50.0 | 46.6 | 93.2 | <1 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 36.7 # | 73.4 | 50.0 | 36.9 # | 73.8 | <1 | 75-125 | <15 |
| Vanadium | 29.7 | 50.0 | 75.6 | 91.8 | 50.0 | 75.5 | 91.6 | <1 | 75-125 | <15 |
| Zinc | 56.0 | 50.0 | 99.6 | 87.2 | 50.0 | 99.4 | 86.8 | <1 | 75-125 | <15 |

**QC Batch No: 0823172C13; Dup or Spiked Sample: 89069.40; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 51.5 | 103 | 50.0 | 52.0 | 104 | <1 | 75-125 | <15 | |
| Arsenic | 50.0 | 51.0 | 102 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Barium | 50.0 | 51.0 | 102 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 56.5 | 113 | 50.0 | 56.5 | 113 | <1 | 75-125 | <15 | |
| Cadmium | 50.0 | 51.5 | 103 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 52.0 | 104 | 50.0 | 49.9 | 99.8 | 4.1 | 75-125 | <15 | |
| Cobalt | 50.0 | 51.5 | 103 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Lead | 50.0 | 49.9 | 99.8 | 50.0 | 50.5 | 101 | 1.2 | 75-125 | <15 | |
| Mercury (By EPA 7471) | 0.500 | 0.590 | 118 | 0.500 | 0.600 | 120 | 1.7 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0823172C13; Dup or Spiked Sample: 89069.40; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Molybdenum | 50.0 | 51.0 | 102 | 50.0 | 51.0 | 102 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 49.4 | 98.8 | 50.0 | 49.6 | 99.2 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 51.5 | 103 | 50.0 | 53.0 | 106 | 2.9 | 75-125 | <15 | |
| Silver | 50.0 | 51.5 | 103 | 50.0 | 51.5 | 103 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 53.5 | 107 | 50.0 | 54.5 | 109 | 1.9 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.5 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 54.5 | 109 | 50.0 | 55.0 | 110 | <1 | 75-125 | <15 | |

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 45

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0822172A1; Dup or Spiked Sample: 89069.04; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/22/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00 | 50.0 | 31.7 # | 63.4 | 50.0 | 33.3 # | 66.6 | 4.9 | 75-125 | <20 |
| Chlorobenzene | 0.00 | 50.0 | 24.0 # | 48.0 | 50.0 | 25.0 # | 50.0 | 4.1 | 75-125 | <20 |
| 1,1-Dichloroethene | 0.00 | 50.0 | 24.4 # | 48.8 | 50.0 | 25.6 # | 51.2 | 4.8 | 75-125 | <20 |
| Toluene (Methyl benzene) | 0.00 | 50.0 | 27.5 # | 55.0 | 50.0 | 28.8 # | 57.6 | 4.6 | 75-125 | <20 |
| Trichloroethene | 0.00 | 50.0 | 31.6 # | 63.2 | 50.0 | 33.2 # | 66.4 | 4.9 | 75-125 | <20 |
| Methyl-tert-butyl ether (MTBE) | 0.00 | 50.0 | 32.1 # | 64.2 | 50.0 | 34.8 # | 69.6 | 8.1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 50.0 | 47.4 | 94.8 | 50.0 | 46.7 | 93.4 | 1.5 | 75-125 | <20 |
| Dibromofluoromethane | 0.00 | 50.0 | 46.4 | 92.8 | 50.0 | 46.9 | 93.8 | 1.1 | 75-125 | <20 |
| Toluene-d8 | 0.00 | 50.0 | 48.5 | 96.9 | 50.0 | 48.6 | 97.2 | <1 | 75-125 | <20 |

**QC Batch No: 0822172A1; Dup or Spiked Sample: 89069.04; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/22/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 44.0 | 88.0 | 50.0 | 44.5 | 89.0 | 1.1 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 47.6 | 95.2 | 50.0 | 47.5 | 95.0 | <1 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 40.7 | 81.4 | 50.0 | 45.5 | 91.0 | 11.1 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 48.0 | 96.0 | 50.0 | 46.5 | 93.0 | 3.2 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 49.9 | 99.8 | 50.0 | 50.0 | 100 | <1 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 44.8 | 89.6 | 50.0 | 46.5 | 93.0 | 3.7 | 75-125 | <20 | |
| **LCS** | | | | | | | | | | |
| Chloroform (Trichloromethane) | 50.0 | 47.7 | 95.4 | 50.0 | 49.5 | 99.0 | 3.7 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 50.5 | 101 | 50.0 | 50.0 | 100 | <1 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 56.5 | 113 | 50.0 | 55.5 | 111 | 1.8 | 75-125 | <20 | |
| o-Xylene | 50.0 | 48.9 | 97.8 | 50.0 | 48.0 | 96.0 | 1.9 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 99.1 | 99.1 | 100 | 97.5 | 97.5 | 1.6 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 50.0 | 99.9 | 50.0 | 51.0 | 102 | 2.1 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 44.7 | 89.4 | 50.0 | 46.2 | 92.4 | 3.3 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 49.2 | 98.3 | 50.0 | 48.1 | 96.2 | 2.2 | 75-125 | <20 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell
Page: 46

**Site**

Wilmington Marine Services

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082317PB3; Dup or Spiked Sample: 89069.35; LCS: Clean Sand; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 500 | 474 | 94.8 | 500 | 471 | 94.2 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 108 | 108 | 100 | 111 | 111 | 2.78 | 75-125 | <20 |

**QC Batch No: 082317PB3; Dup or Spiked Sample: 89069.35; LCS: Clean Sand; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 473 | 94.6 | 500 | 476 | 95.2 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 111 | 111 | 100 | 111 | 111 | <1 | 75-125 | <20 | |

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 47

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082417PB1; Dup or Spiked Sample: 89069.40; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 500 | 527 | 105 | 500 | 491 | 98.2 | 6.69 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 113 | 113 | 100 | 98.3 | 98.3 | 13.0 | 75-125 | <20 |

**QC Batch No: 082417PB1; Dup or Spiked Sample: 89069.40; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 487 | 97.4 | 500 | 498 | 99.6 | 2.23 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 111 | 111 | 100 | 111 | 111 | <1 | 75-125 | <20 | |

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Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 48

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB1; Dup or Spiked Sample: 89069.35GGA; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/22/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.870 | 87.1 | 1.00 | 0.860 | 86.1 | 1.15 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0564 | 113 | 0.0500 | 0.0528 | 106 | 6.19 | 75-125 | <20 |

**QC Batch No: 082217OB1; Dup or Spiked Sample: 89069.35GGA; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/22/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 1.06 | 106 | 1.00 | 0.990 | 99.1 | 6.73 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0541 | 108 | 0.0500 | 0.0534 | 107 | <1 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 49

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082217OB2; Dup or Spiked Sample: 89069.40EGA; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.810 | 81.3 | 1.00 | 0.780 | 78.4 | 3.63 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0539 | 108 | 0.0500 | 0.0494 | 98.8 | 8.52 | 75-125 | <20 |

**QC Batch No: 082217OB2; Dup or Spiked Sample: 89069.40EGA; LCS: Clean Sand; QC Prepared: 08/22/2017; QC Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 0.840 | 84.1 | 1.00 | 0.840 | 84.0 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0525 | 105 | 0.0500 | 0.0529 | 106 | <1 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 50

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2; Dup or Spiked Sample: 89069.35; Units: % wt**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture Content | 8.70 | 8.30 | 4.7 | <20 | | | | | | |

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**Site**

Wilmington Marine Services

Page: 51

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082417-2A; Dup or Spiked Sample: 89069.40; Units: % wt**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture Content | 17.1 | 17.1 | <1 | <20 | | | | | | |

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## QUALITY CONTROL RESULTS

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**Site**

Wilmington Marine Services

Page: 52

Project ID: 73479
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89069 | 08/21/2017 | T/T |

## Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4; Dup or Spiked Sample: 89089.24; LCS: Blank; QC Prepared: 08/30/2017; QC Analyzed: 09/01/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 500 | 540 | 108 | 500 | 441 | 88.2 | 20.2 | 50-150 | <20 |
| Aroclor-1260 (PCB-1260) | 0.00 | 500 | 695 | 139 | 500 | 675 | 135 | 2.9 | 50-150 | <20 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 50.0 | 57.0 | 114 | 50.0 | 57.0 | 114 | <1 | 30-150 | <20 |
| Tetrachloro-m-xylene | 0.00 | 50.0 | 50.5 | 101 | 50.0 | 48.5 | 97.0 | 4.0 | 30-150 | <20 |

**QC Batch No: 083017-4; Dup or Spiked Sample: 89089.24; LCS: Blank; QC Prepared: 08/30/2017; QC Analyzed: 09/01/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 500 | 600 | 120 | 500 | 433 | 86.6 | 32.3 | 50-150 | <20 | |
| Aroclor-1260 (PCB-1260) | 500 | 730 | 146 | 500 | 710 | 142 | 2.8 | 50-150 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 50.0 | 54.5 | 109 | 50.0 | 61.5 | 123 | 12.1 | 30-150 | <20 | |
| Tetrachloro-m-xylene | 50.0 | 59.5 | 119 | 50.0 | 63.5 | 127 | 6.5 | 30-150 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |

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**Ordered By**

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**3475 East Foothill Boulevard**
**Pasadena, CA 91107-6024**

**Telephone: (626)351-4664**
**Attention: Maclyn O'Donnell**

**Number of Pages 91**
**Date Received 08/22/2017**
**Date Reported 09/06/2017**

| Job Number | Order Date | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

---

**Project ID:** T73479.17
**Project Name:** Wilmington Marine Services
**Site:** Wilmington Marine Services

Enclosed please find results of analyses of 24 soil and 2 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

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# CHAIN OF CUSTODY RECORD

102258

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE:
FAX:
PROJECT NAME: Wilmington Marine Services (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

AETL JOB No. 89089

Page 1 of 4

ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C10) 8015 | TPHd (C13-C40) 8015 | Title 22 metals 6010 / 7471 | VOCs + oxygenates 8260B | PCBS 8082 soxhlet | Organotin | Moisture Percent | SVOCs | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TB08222017 | 89089.01 | 8-22-17 | 0700 | W | | | X | | | X | | | | | | | Tt standard EDD VOCs + oxy and TPHg - 3 day TAT, Rest normal TAT Blank = Hold |
| Tt-WMS-28-10.0 | 89089.02 | | 0740 | S | 5 | | / | / | / | | | | / | | | | place on hold |
| Tt-WMS-30-10.0 | 89089.03 | | 0752 | | | | | | | | | | | | | | |
| Tt-WMS-31-10.0 | 89089.04 | | 0803 | | | | | | | | | | | | | | |
| Tt-WMS-29-0.5 | 89089.05 | | 0812 | | | | X | X | X | | | | X | | | | |
| Tt-WMS-29-2.0 | 89089.06 | | 0819 | | | | X | X | X | | | | X | | | | |
| Tt-WMS-29-2.0D | 89089.07 | | 0823 | | | | X | X | X | | | | X | | | | |
| Tt-WMS-29-5.0 | 89089.08 | | 0827 | | | | | | | | | | | | | | |
| Tt-WMS-29-10.0 | 89089.09 | | 0835 | | | | | | | | | | | | | | |
| ~~Tt-WMS-29-CC~~ | | | ~~0844~~ | ~~concrete~~ | | | | | | | | | | | | | |
| Tt-WMS-32-0.5 | 89089.10 | | 0842 | S | | | X | X | X | | | | X | | | | |
| Tt-WMS-32-2.0 | 89089.11 | | 0850 | | | | X | X | X | | | | X | | | | |
| Tt-WMS-32-2.0D | 89089.12 | | 0855 | | | | X | X | X | | | | X | | | | |
| Tt-WMS-32-5.0 | 89089.13 | | 0906 | | 14 | | | | | | | | | | | | MS/MSD |
| Tt-WMS-32-10.0 | 89089.14 | | 0914 | | 5 | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 76 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Jesse Fulchers | Printed Name: | Printed Name: Sargis P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sargis P | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

TURN AROUND TIME: ☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

DATA DELIVERABLE REQUIRED: ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY)

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102260

AETL JOB No. 89089



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Machyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626 470-2405
FAX:
PROJECT NAME: Wilmington Marine Services (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

TEST INSTRUCTIONS & COMMENTS: Tt Standard EDD VOC's + oxygenates and TPHg - 3 day TAT rest normal TAT Blank = hold

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPH (C13-C40) 8015 | 8260 VOC's + oxygenates | 8260 VOC's + oxygenates | PCBs 8082 Soxhlet | Organotin | Moisture Percent | SVOC's |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tt-WMS-33-0.5 | 89089.15 | 8-22-17 | 0927 | S | 5 | | X | X | X | | | | X | |
| Tt-WMS-33-2.0 | 89089.16 | | 0936 | S | 5 | | X | X | X | | | | X | |
| Tt-WMS-33-2.0D | 89089.17 | | 0938 | S | 5 | | X | X | X | | | | X | |
| Tt-WMS-33-5.0 | 89089.18 | | 0944 | S | 5 | | | | | | | | | |
| Tt-WMS-33-10.0 | 89089.19 | | 0957 | S | 5 | | | | | | | | | |
| Tt-WMS-30-CC | 89089.20 | | 1108 | Asphalt | 1 | | | | | | | | | |
| ~~Tt-WMS-29-CC~~ | | | ~~1110~~ | | ~~1~~ | | | | | | | | | |
| Tt-WMS-30-CC | 89089.21 | | 1112 | Asphalt | 1 | | | | | | | | | |
| Tt-WMS-31-CC | 89089.22 | | 1120 | Concrete | 1 | | | | | | | | | |
| Tt-WMS-32-CC | 89089.23 | | 1125 | Concrete | 1 | | | | | | | | | |
| Tt-WMS-33-CC | 89089.24 | | 1135 | Concrete | 1 | | | | | | | | | |
| Tt-WMS-15-0.5 | 89089.25 | | 1115 | S | 5 | | X | X | X | | | | X | |
| Tt-WMS-15-2.0 | 89089.26 | | 1120 | S | 5 | | X | X | X | | | | X | |
| Tt-WMS-15-5.0 | 89089.27 | | 1126 | S | 5 | | | | | | | | | |
| Tt-WMS-15-10.0 | 89089.28 | | 1137 | S | 5 | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 50 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) / N | |

## TURN AROUND TIME

☑ NORMAL ☑ RUSH
☐ SAME DAY
☐ NEXT DAY
☐ 2 DAYS
☑ 3 DAYS

## DATA DELIVERABLE REQUIRED

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sargis P |
| Date: 8-22-17 Time: 1500 | Date: Time: | Date: 8/22/17 Time: 1500 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: 3. AETL |
| Signature: | Signature: | Signature: |
| Printed Name: Sargis P | Printed Name: | Printed Name: Artin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

ED_004566_00003133-00259

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# CHAIN OF CUSTODY RECORD

102261

AETL JOB No. 89089



COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

TEST INSTRUCTIONS & COMMENTS: Tt STANDARD EDD VOC's + oxy and TPH(g) - 3 days TAT rush, the rest normal TAT. Blank = Hold

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | VOCs + oxygenates 8260B | Organotin | Moisture Percent | SVOC's | PCBs 8082 Soxhlet | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tt-WMS-34-0.5 | 89089.29 | 8-22-17 | 1145 | S | 5 | | X | X | X | X | | | | | | |
| 2 | Tt-WMS-34-0.5 | 89089.30 | | 1149 | | | | X | X | X | X | | | | | | |
| 3 | Tt-WMS-34-3.0 | 89089.31 | | 1200 | | | | X | X | X | | | X | X | | | |
| 4 | Tt-WMS-34-5.0 | 89089.32 | | 1211 | | | | | | | | | | | | | |
| 5 | Tt-WMS-34-10.0 | 89089.33 | | 1221 | | | | | | | | | | | | | |
| 6 | Tt-WMS-35-0.5 | 89089.34 | | 1233 | | | | X | X | X | | | X | | | | |
| 7 | Tt-WMS-35-2.0 | 89089.35 | | 1239 | | | | X | X | X | | | X | X | | | |
| 8 | Tt-WMS-35-5.0 | 89089.36 | | 1245 | | | | | | | | | | | | | |
| 9 | Tt-WMS-35-10.0 | 89089.37 | | 1254 | | | | | | | | | | | | | |
| 10 | Tt-WMS-38-0.5 | 89089.38 | | 1306 | | | | X | X | X | X | | X | X | X | | |
| 11 | Tt-WMS-38-2.0 | 89089.39 | | 1313 | | | | X | X | X | | | X | | | | |
| 12 | Tt-WMS-38-5.0 | 89089.40 | | 1320 | | | | | | | | | | | | | |
| 13 | Tt-WMS-38-10.0 | 89089.41 | | 1329 | | | | | | | | | | | | | |
| 14 | Tt-WMS-39-0.5 | 89089.42 | | 1339 | | | | X | X | X | X | | X | | X | | |
| 15 | Tt-WMS-39-0.5 | 89089.43 | | 1342 | | | | X | X | X | X | | X | | X | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

TURN AROUND TIME: [X] NORMAL [X] RUSH — [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) [ ] OTHER (PLEASE SPECIFY)

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sargis P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |

| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sargis P | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102262

COMPANY: Tetra tech INC
PROJECT MANAGER: Eric Nelson / Maclyn Odonnell
COMPANY ADDRESS: 3475 E Foothill Blvd, Pasadena, CA 91107
PHONE / FAX: 626-470-2405
PROJECT NAME: Wilmington Marine Services
PROJECT #: 73479.17
SITE NAME AND ADDRESS:
PO #:
AETL JOB No. 89089



ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | VOCs+oxy+naphs 8260B | PCBs 8082 8270 | Organotin | Moisture Percent | SVOCs | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 TT-WMS-39-2.0 | 89089.44 | 8-22-17 | 1349 | S | 14 | | X | X | X | X | X | | X | | | | VOCs + oxy and TPH(g) — 3 days TAT. The rest is normal TAT Blank = Hold STANDARD TE EOD |
| 2 TT-WMS-39-5.0 | 89089.45 | | 1402 | S | 5 | | | | | X | X | | | X | | | MS / MSD |
| 3 TT-WMS-39-10.0 | 89089.46 | | 1410 | S | 5 | | | | | X | | | | | | | |
| 4 ~~TT-WMS~~ | | | | | | | | | | | | | | | | | |
| 5 ~~TT-WMS~~ | | | | | | | | | | | | | | | | | |
| 6 FB0522201789089.47 | | | 1500 | W | 7 | | X | X | | X | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 31 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y / (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Sean Falcher | Printed Name: | Printed Name: Ogyalsp |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Ogyalsp | Printed Name: | Printed Name: Anin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

TURN AROUND TIME: [X] NORMAL [X] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) ____ [ ] OTHER (PLEASE SPECIFY) ____

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# CHAIN OF CUSTODY RECORD

102258

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE:
FAX:
PROJECT NAME: Wilmington Marine Services (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

AETL JOB No. 89089

Page 1 of 4

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 metals 6010/7471 | VOCs + oxygenates 8260B | PCBs 8082 soxhlet | Organotin | Moisture Percent | SVOCs | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TB08222017 | 89089.01 | 8-22-17 | 0700 | W | | | X | | | X | | | | | | | Tt standard EDD VOCs + oxy and TPHg - 3 day TAT, Rest normal TAT Blank = Hold (0) |
| 2 | Tt-WMS-28-10.0 | 89089.02 | | 0740 | S | 5 | | / | / | / | | | | / | | | | place on hold |
| 3 | Tt-WMS-30-10.0 | 89089.03 | | 0752 | | | | | | | | | | | | | | |
| 4 | Tt-WMS-31-10.0 | 89089.04 | | 0803 | | | | | | | | | | | | | | |
| 5 | Tt-WMS-29-0.5 | 89089.05 | | 0812 | | | | X | X | X | | | | X | | | | |
| 6 | Tt-WMS-29-2.0 | 89089.06 | | 0819 | | | | X | X | X | | | | X | | | | |
| 7 | Tt-WMS-29-2.0D | 89089.07 | | 0823 | | | | X | X | X | | | | X | | | | |
| 8 | Tt-WMS-29-5.0 | 89089.08 | | 0827 | | | | | | | | | | | | | | |
| 9 | Tt-WMS-29-10.0 | 89089.09 | | 0835 | | | | | | | | | | | | | | |
| 10 | ~~Tt-WMS-29-cc~~ | | | ~~0844~~ | ~~concrete~~ | | | | | | | | | | | | | |
| 11 | Tt-WMS-32-0.5 | 89089.10 | | 0842 | S | | | X | X | X | | | | X | | | | |
| 12 | Tt-WMS-32-2.0 | 89089.11 | | 0850 | | | | X | X | X | | | | X | | | | |
| 13 | Tt-WMS-32-2.0D | 89089.12 | | 0855 | | | | X | X | X | | | | X | | | | |
| 14 | Tt-WMS-32-5.0 | 89089.13 | | 0906 | | 14 | | | | | | | | | | | | MS/MSD |
| 15 | Tt-WMS-32-10.0 | 89089.14 | | 0914 | | 5 | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 76 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) / N | |

**TURN AROUND TIME**

☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS

**DATA DELIVERABLE REQUIRED**

☐ HARD COPY
☐ PDF
☐ GEOTRACKER (GLOBAL ID) _____
☐ OTHER (PLEASE SPECIFY) _____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sangisp |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: AETL 3.** |
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sangisp | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102260

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd
PHONE: 626 470-2405
FAX:
PROJECT NAME: Wilmington Marine Services (WMS)
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

AETL JOB No. 89089

Page 2 of 4

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | VOC's + Oxygenates 8260B | PCBs 8082 SOx Inlet | Organotin | Moisture Percent | SVOC's | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tt-WMS-33-0.5 | 89089.15 | 8-22-17 | 0927 | S | 5 | | X | X | X | | | | X | | | | Tt standard EDD VOC's + oxygenates and TPHg - 3 day TAT rest normal TAT (5) Blank = hold |
| 2 | Tt-WMS-33-2.0 | 89089.16 | | 0936 | S | 5 | | X | X | X | | | | X | | | | |
| 3 | Tt-WMS-33-2.0D | 89089.17 | | 0938 | S | 5 | | X | X | X | | | | X | | | | |
| 4 | Tt-WMS-33-5.0 | 89089.18 | | 0944 | S | 5 | | | | | | | | | | | | |
| 5 | Tt-WMS-33-10.0 | 89089.19 | | 0957 | S | 5 | | | | | | | | | | | | |
| 6 | Tt-WMS-~~28~~-CC | 89089.20 | | 1108 | Asphalt | 1 | | | | | | * | | | | | | |
| 7 | ~~Tt-WMS-29-CC~~ | | | ~~1110~~ | | ~~1~~ | | | | | | | | | | | | |
| 8 | Tt-WMS-30-CC | 89089.21 | | 1112 | Asphalt | 1 | | | | | | * | | | | | | |
| 9 | Tt-WMS-31-CC | 89089.22 | | 1120 | Concrete | 1 | | | | | | * | | | | | | |
| 10 | Tt-WMS-32-CC | 89089.23 | | 1125 | Concrete | 1 | | | | | | * | | | | | | |
| 11 | Tt-WMS-33-CC | 89089.24 | | 1135 | Concrete | 1 | | | | | | * | | | | | | |
| 12 | Tt-WMS-15-0.5 | 89089.25 | | 1115 | S | 5 | | X | X | X | | | | X | | | | |
| 13 | Tt-WMS-15-2.0 | 89089.26 | | 1120 | S | 5 | | X | X | X | | | | X | | | | |
| 14 | Tt-WMS-15-5.0 | 89089.27 | | 1126 | S | 5 | | | | | | | | | | | | |
| 15 | Tt-WMS-15-10.0 | 89089.28 | | 1137 | S | 5 | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 50 | PROPERLY COOLED (Y) / N / NA | |
| CUSTODY SEALS Y / (N) / NA | | SAMPLES INTACT (Y) / N / NA | |
| RECEIVED IN GOOD COND. (Y) / N | | SAMPLES ACCEPTED (Y) / N | |

| TURN AROUND TIME | DATA DELIVERABLE REQUIRED |
|---|---|
| ☑ NORMAL ☑ RUSH ☐ SAME DAY ☐ NEXT DAY ☐ 2 DAYS ☑ 3 DAYS | ☐ HARD COPY ☐ PDF ☐ GEOTRACKER (GLOBAL ID) ☐ OTHER (PLEASE SPECIFY) |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sergis P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: 3.** |
| Signature: [signature] | Signature: | Signature: AETL |
| Printed Name: Sergis P | Printed Name: | Printed Name: Arkin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102261

AETL JOB No. 89089

Page 3 of 4

COMPANY: Tetra Tech
PROJECT MANAGER: Eric Nelson / Maclyn O'Donnell
COMPANY ADDRESS: 3475 E Foothill Blvd Pasadena CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: T73479.17
SITE NAME AND ADDRESS:
PO #:

ANALYSIS REQUESTED

| | SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals 6010/7471 | VOCs & oxygenates 8260B | Organotin | Moisture Percent | SVOC's | PCBs 8082 Soxhlet | | | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Tt-WMS-34-0.5 | 89089.29 | 8-22-17 | 1145 | S | S | | X | X | X | X | | | | | | | Tt STANDARD EDD VOCs + oxy and TPH(g) - 3 days TAT rush, the rest normal TAT. (6) Blank = Hold |
| 2 | Tt-WMS-34-0.5 | 89089.30 | | 1149 | | | | X | X | X | X | | | | | | | |
| 3 | Tt-WMS-34-~~2.0~~ 3.0 | 89089.31 | | 1200 | | | | X | X | X | | | X | X | | | | |
| 4 | Tt-WMS-34-5.0 | 89089.32 | | 1211 | | | | | | | | | | | | | | |
| 5 | Tt-WMS-34-10.0 | 89089.33 | | 1221 | | | | | | | | | | | | | | |
| 6 | Tt-WMS-35-0.5 | 89089.34 | | 1233 | | | | X | X | X | | | X | | | | | |
| 7 | Tt-WMS-35-2.0 | 89089.35 | | 1239 | | | | X | X | X | | | X | X | | | | |
| 8 | Tt-WMS-35-5.0 | 89089.36 | | 1245 | | | | | | | | | | | | | | |
| 9 | Tt-WMS-35-10.0 | 89089.37 | | 1254 | | | | | | | | | | | | | | |
| 10 | Tt-WMS-38-0.5 | 89089.38 | | 1306 | | | | X | X | X | X | | X | X | X | | | |
| 11 | Tt-WMS-38-2.0 | 89089.39 | | 1313 | | | | X | X | X | | | X | | | | | |
| 12 | Tt-WMS-38-5.0 | 89089.40 | | 1320 | | | | | | | | | | | | | | |
| 13 | Tt-WMS-38-10.0 | 89089.41 | | 1329 | | | | | | | | | | | | | | |
| 14 | Tt-WMS-39-0.5 | 89089.42 | | 1339 | | | | X | X | X | X | | X | | X | | | |
| 15 | Tt-WMS-39-0.5 | 89089.43 | | 1342 | | | | X | X | X | X | | X | | X | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 75 | PROPERLY COOLED (Y) N / NA | |
| CUSTODY SEALS Y (N) NA | | SAMPLES INTACT (Y) N / NA | |
| RECEIVED IN GOOD COND. (Y) N | | SAMPLES ACCEPTED (Y) N | |

| TURN AROUND TIME | DATA DELIVERABLE REQUIRED |
|---|---|
| [X] NORMAL [X] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS | [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) [ ] OTHER (PLEASE SPECIFY) |

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sean Fulcher | Printed Name: | Printed Name: Sargis-P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| **RECEIVED BY: 1.** | **RECEIVED BY: 2.** | **RECEIVED BY LABORATORY: AETL 3.** |
| Signature: [signature] | Signature: | Signature: [signature] |
| Printed Name: Sargis P | Printed Name: | Printed Name: Antin |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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# CHAIN OF CUSTODY RECORD

102262

COMPANY: Tetra tech INC
PROJECT MANAGER: Pete Nelson / Marlyn Odonnell
COMPANY ADDRESS: 3475 E Foothill Blvd, Pasadena, CA 91107
PHONE: 626-470-2405
FAX:
PROJECT NAME: Wilmington Marine Services
PROJECT #: 73479-17
SITE NAME AND ADDRESS:
PO #:
AETL JOB No. 89089



ANALYSIS REQUESTED

| SAMPLE ID | LAB ID | DATE | TIME | MATRIX | CONTAINER NUMBER/SIZE | PRES. | TPHg (C4-C12) 8015 | TPHd (C13-C40) 8015 | Title 22 Metals | VOCs+Oxy+TPH(g) 8260 | PCBs 8082 | Organotin | Moisture Percent | SVOCs | TEST INSTRUCTIONS & COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 TT-WMS-39-2.0 | 89089.44 | 8-22-17 | 1349 | S | 14 | | X | X | X | X | X | | X | | VOCs+oxy and TPH(g) — 3 days TAT. The rest is normal TAT Blank = Hold STANDARD TR EDD |
| 2 TT-WMS-39-5.0 | 89089.45 | | 1402 | S | 5 | | X | X | | X | X | | | X | MS / MSD |
| 3 TT-WMS-39-10.0 | 89089.46 | | 1410 | S | 5 | | X | X | | X | X | | | X | |
| 4 ~~TT-WMS~~ | | | | | | | | | | | | | | | |
| 5 ~~TT-WMS~~ | | | | | | | | | | | | | | | |
| 6 EB052220172 | 89089.48 | | 1500 | W | 7 | | X | X | | X | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | |

## SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

| | | | |
|---|---|---|---|
| TOTAL NUMBER OF CONTAINERS | 31 | PROPERLY COOLED | (Y) N / NA |
| CUSTODY SEALS | Y / (N) / NA | SAMPLES INTACT | (Y) N / NA |
| RECEIVED IN GOOD COND. | (Y) N | SAMPLES ACCEPTED | (Y) N |

TURN AROUND TIME: [X] NORMAL [X] RUSH [ ] SAME DAY [ ] NEXT DAY [ ] 2 DAYS [X] 3 DAYS

DATA DELIVERABLE REQUIRED: [ ] HARD COPY [ ] PDF [ ] GEOTRACKER (GLOBAL ID) ____ [ ] OTHER (PLEASE SPECIFY) ____

| RELINQUISHED BY SAMPLER: 1. | RELINQUISHED BY: 2. | RELINQUISHED BY: 3. |
|---|---|---|
| Signature: | Signature: | Signature: |
| Printed Name: Lea Fulcher | Printed Name: | Printed Name: Sergio P |
| Date: 8-22-17 Time: 1530 | Date: Time: | Date: 8/22/17 Time: 1800 |
| RECEIVED BY: 1. | RECEIVED BY: 2. | RECEIVED BY LABORATORY: AETL 3. |
| Signature: | Signature: | Signature: |
| Printed Name: Sergio P | Printed Name: | Printed Name: Arthur |
| Date: 8/22/17 Time: 1530 | Date: Time: | Date: 08/22/17 Time: 1800 |

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

## JIM LIN

**From:** ODonnell, Maclyn [Maclyn.O'Donnell@tetratech.com]
**Sent:** Thursday, August 24, 2017 5:50 PM
**To:** JIM LIN
**Cc:** Nelson, Eric J; Benfield, Heather
**Subject:** Samples to be run

Jim,

Could you please run the following samples for TPH gas and TPH by method 8015M.

Tt-WMS39-5.0
Tt-WMS39-10.0
Tt-WMS36-5.0
Tt-WMS36-10.0
Tt-WMS37-5.0
Tt-WMS37-10.0
Tt-WMS12-5.0
Tt-WMS12-10.0

Thank you

**Maclyn O'Donnell | Project Engineer**
Direct: 626.470.2405

Tetra Tech | Engineering Department
3475 E. Foothill Blvd. | Pasadena, CA 91107 | www.tetratech.com

## JIM LIN

**From:** Fulcher, Sean [Sean.Fulcher@tetratech.com]
**Sent:** Monday, August 28, 2017 3:10 PM
**To:** JIM LIN
**Cc:** Nelson, Eric J
**Subject:** WMS concrete & asphalt core samples

Jim,

Please have the following samples analyzed for PCBs by method 8082 using soxhlet extraction.

Tt-WMS-23-CC
Tt-WMS-24-CC
Tt-WMS-26-CC
Tt-WMS-27-CC
Tt-WMS-28-CC
Tt-WMS-30-CC
Tt-WMS-31-CC
Tt-WMS-32-CC
Tt-WMS-33-CC

Regards,

**Sean Fulcher** | Staff Geologist
Direct: (626) 470-2535 | Mobile: (626) 926-0902 | sean.fulcher@tetratech.com

Tetra Tech | Pasadena Division
3475 E. Foothill Blvd. | Pasadena, CA 91107 | tetratech.com

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# COOLER RECEIPT FORM

Client Name: Tetra Tech

Project Name:

AETL Job Number: 89089

Date Received: 08/22/17 Received by: Adin

Carrier: ☒ AETL Courier ☐ Client ☐ GSO ☐ FedEx ☐ UPS

☐ Others:

**Samples were received in:** ☒ Cooler ( 3 ) ☐ Other (Specify):

**Inside temperature of shipping container** No 1: 3.2°, No 2: 3.4°, No 3: 3.4°

**Type of sample containers:** ☒ VOA, ☒ Glass bottles, ☒ Wide mouth jars, ☐ HDPE bottles, ☐ Metal sleeves, ☐ Others (Specify): Ziplog 44x5035kits

**How are samples preserved:** ☐ None, ☒ Ice, ☐ Blue Ice, ☐ Dry Ice

_ None, _ $HNO_3$, _ NaOH, _ ZnOAc, ✓ HCl, _ $Na_2S_2O_3$, ✓ MeOH

_ Other (Specify): $Na_2S_2O_4H_2O$

| | Yes | No, explain below | Name, if client was notified. |
|---|---|---|---|
| 1. Are the COCs Correct? | Y | | |
| 2. Are the Sample labels legible? | Y | | |
| 3. Do samples match the COC? | Y | | |
| 4. Are the required analyses clear? | Y | | |
| 5. Is there enough samples for required analysis? | Y | | |
| 6. Are samples sealed with evidence tape? | | Y | |
| 7. Are sample containers in good condition? | Y | | |
| 8. Are samples preserved? | Y | | |
| 9. Are samples preserved properly for the intended analysis? | Y | | |
| 10. Are the VOAs free of headspace? | N/A | | |
| 11. Are the jars free of headspace? | ✓ | | |

**Explain all "No" answers for above questions:**

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/22/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

# CERTIFICATE OF ANALYSIS
## CASE NARRATIVE

AETL received 47 samples with the following specification on 08/22/2017.

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89089.01 | TB08222017 | 08/22/2017 | Aqueous | 2 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 8260B ^ PLUS OXYGE | 08/29/2017 | 2 | Normal | ug/L |
| M8015G | 08/29/2017 | 2 | Normal | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89089.47 | EB08222017 | 08/22/2017 | Aqueous | 7 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| 8260B ^ PLUS OXYGE | 08/29/2017 | 2 | Normal | ug/L |
| M8015D ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/L |
| M8015G | 08/29/2017 | 2 | Normal | mg/L |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89089.02 | Tt-WMS28-10.0 | 08/22/2017 | Soil | 5 |
| 89089.03 | Tt-WMS30-10.0 | 08/22/2017 | Soil | 5 |
| 89089.04 | Tt-WMS31-10.0 | 08/22/2017 | Soil | 5 |
| 89089.08 | Tt-WMS29-5.0 | 08/22/2017 | Soil | 5 |
| 89089.09 | Tt-WMS29-10.0 | 08/22/2017 | Soil | 5 |
| 89089.13 | Tt-WMS32-5.0 | 08/22/2017 | Soil | 5 |
| 89089.14 | Tt-WMS32-10.0 | 08/22/2017 | Soil | 5 |
| 89089.18 | Tt-WMS33-5.0 | 08/22/2017 | Soil | 5 |
| 89089.19 | Tt-WMS33-10.0 | 08/22/2017 | Soil | 5 |
| 89089.27 | Tt-WMS15-5.0 | 08/22/2017 | Soil | 5 |
| 89089.28 | Tt-WMS15-10.0 | 08/22/2017 | Soil | 5 |
| 89089.32 | Tt-WMS34-5.0 | 08/22/2017 | Soil | 5 |
| 89089.33 | Tt-WMS34-10.0 | 08/22/2017 | Soil | 5 |
| 89089.36 | Tt-WMS35-5.0 | 08/22/2017 | Soil | 5 |
| 89089.37 | Tt-WMS35-10.0 | 08/22/2017 | Soil | 5 |

Continued

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**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/22/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 89089.40 | Tt-WMS38-5.0 | 08/22/2017 | Soil | 5 |
| 89089.41 | Tt-WMS38-10.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| ARCHIVE | 08/29/2017 | 2 | Normal | -- |

| | | | | |
|---|---|---|---|---|
| 89089.05 | Tt-WMS29-0.5 | 08/22/2017 | Soil | 5 |
| 89089.06 | Tt-WMS29-2.0 | 08/22/2017 | Soil | 5 |
| 89089.07 | Tt-WMS29-2.0D | 08/22/2017 | Soil | 5 |
| 89089.10 | Tt-WMS32-0.5 | 08/22/2017 | Soil | 5 |
| 89089.11 | Tt-WMS32-2.0 | 08/22/2017 | Soil | 5 |
| 89089.12 | Tt-WMS32-2.0D | 08/22/2017 | Soil | 5 |
| 89089.15 | Tt-WMS33-0.5 | 08/22/2017 | Soil | 5 |
| 89089.16 | Tt-WMS33-2.0 | 08/22/2017 | Soil | 5 |
| 89089.17 | Tt-WMS33-2.0D | 08/22/2017 | Soil | 5 |
| 89089.25 | Tt-WMS15-0.5 | 08/22/2017 | Soil | 5 |
| 89089.26 | Tt-WMS15-2.0 | 08/22/2017 | Soil | 5 |
| 89089.34 | Tt-WMS35-0.5 | 08/22/2017 | Soil | 5 |
| 89089.39 | Tt-WMS38-2.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |
| ASTM-D2216 | 08/29/2017 | 2 | Normal | % wt |

| | | | | |
|---|---|---|---|---|
| 89089.29 | Tt-WMS34-0.5 | 08/22/2017 | Soil | 5 |
| 89089.30 | Tt-WMS34-0.5D | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/29/2017 | 2 | Normal | mg/Kg |
| (8260B) ^ +OXY5035 | 08/29/2017 | 2 | Normal | ug/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |

| | | | | |
|---|---|---|---|---|
| 89089.31 | Tt-WMS34-3.0 | 08/22/2017 | Soil | 5 |

Continued

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Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 89089.35 | Tt-WMS35-3.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/29/2017 | 2 | Normal | mg/Kg |
| (8270C) | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |
| ASTM-D2216 | 08/29/2017 | 2 | Normal | % wt |

| | | | | |
|---|---|---|---|---|
| 89089.38 | Tt-WMS38-0.5 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/29/2017 | 2 | Normal | mg/Kg |
| (8082) | 08/29/2017 | 2 | Normal | ug/Kg |
| (8260B) ^ +OXY5035 | 08/29/2017 | 2 | Normal | ug/Kg |
| (8270C) | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |
| ASTM-D2216 | 08/29/2017 | 2 | Normal | % wt |

| | | | | |
|---|---|---|---|---|
| 89089.42 | Tt-WMS39-0.5 | 08/22/2017 | Soil | 5 |
| 89089.43 | Tt-WMS39-0.5D | 08/22/2017 | Soil | 5 |
| 89089.44 | Tt-WMS39-2.0 | 08/22/2017 | Soil | 14 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (6010B/7000CAM) | 08/29/2017 | 2 | Normal | mg/Kg |
| (8082) | 08/29/2017 | 2 | Normal | ug/Kg |
| (8260B) ^ +OXY5035 | 08/29/2017 | 2 | Normal | ug/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |
| ASTM-D2216 | 08/29/2017 | 2 | Normal | % wt |

| | | | | |
|---|---|---|---|---|
| 89089.45 | Tt-WMS39-5.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8082) | 08/29/2017 | 2 | Normal | ug/Kg |
| (8260B) ^ +OXY5035 | 08/29/2017 | 2 | Normal | ug/Kg |
| (8270C) | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |

Continued

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3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attention: Maclyn O'Donnell

Project ID: T73479.17
Date Received 08/22/2017
Date Reported 09/06/2017

| Job Number | Order Date | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

# CERTIFICATE OF ANALYSIS

## CASE NARRATIVE

| | | | | |
|---|---|---|---|---|
| 89089.45 | Tt-WMS39-5.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |

| | | | | |
|---|---|---|---|---|
| 89089.46 | Tt-WMS39-10.0 | 08/22/2017 | Soil | 5 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8260B) ^ +OXY5035 | 08/29/2017 | 2 | Normal | ug/Kg |
| (M8015D) ^ C13-C40 | 08/29/2017 | 2 | Normal | mg/Kg |
| (M8015G) | 08/29/2017 | 2 | Normal | mg/Kg |

| Lab ID | Sample ID | Sample Date | Matrix | Quantity Of Containers |
|---|---|---|---|---|
| 89089.20 | Tt-WMS28-CC | 08/22/2017 | Solid | 1 |
| 89089.21 | Tt-WMS30-CC | 08/22/2017 | Solid | 1 |
| 89089.22 | Tt-WMS31-CC | 08/22/2017 | Solid | 1 |
| 89089.23 | Tt-WMS32-CC | 08/22/2017 | Solid | 1 |
| 89089.24 | Tt-WMS33-CC | 08/22/2017 | Solid | 1 |

| Method ^ Submethod | Req Date | Priority | TAT | Units |
|---|---|---|---|---|
| (8082) | 08/29/2017 | 2 | Normal | ug/Kg |

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

# American Environmental Testing Laboratory Inc.

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 2

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | Method Blank | 89089.29 | 89089.30 | 89089.38 | 89089.42 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS38-0.5 | Tt-WMS39-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | ug/Kg | ug/Kg | ug/Kg | ug/Kg | ug/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Acetone | 25 | 50 | ND | ND | ND | ND | ND |
| Benzene | 1.0 | 10.0 | ND | ND | ND | ND | ND |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Bromochloromethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Bromodichloromethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Bromoform (Tribromomethane) | 25 | 50 | ND | ND | ND | ND | ND |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | ND | ND | ND | ND |
| 2-Butanone (MEK) | 25 | 50 | ND | ND | ND | ND | ND |
| n-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| sec-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| tert-Butylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Carbon Disulfide | 25 | 50 | ND | ND | ND | ND | ND |
| Carbon tetrachloride | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Chlorobenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Chloroethane | 15 | 30 | ND | ND | ND | ND | ND |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | ND | ND | ND | ND |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | ND | ND | ND | ND |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | ND | ND | ND | ND |
| Dibromochloromethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Dibromomethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | 29.4 | ND |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | ND | ND | 9.86J | ND |

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# ANALYTICAL RESULTS

Page: 3

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | Method Blank | 89089.29 | 89089.30 | 89089.38 | 89089.42 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS38-0.5 | Tt-WMS39-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | ug/Kg | ug/Kg | ug/Kg | ug/Kg | ug/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Dichlorodifluoromethane | 15 | 30 | ND | ND | ND | ND | ND |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Ethylbenzene | 1.0 | 10.0 | ND | ND | ND | ND | ND |
| Hexachlorobutadiene | 15 | 30 | ND | ND | ND | ND | ND |
| 2-Hexanone | 25 | 50 | ND | ND | ND | ND | ND |
| Isopropylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| p-Isopropyltoluene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | ND | ND | ND | ND |
| Methylene chloride (DCM) | 25 | 50 | ND | ND | ND | ND | ND |
| Naphthalene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| n-Propylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Styrene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Tetrachloroethene | 2.0 | 10.0 | ND | ND | ND | ND | ND |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Trichloroethene | 1.5 | 10.0 | ND | ND | ND | ND | ND |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | ND | ND | ND | ND |

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## ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| **Our Lab I.D.** | | | Method Blank | **89089.29** | **89089.30** | **89089.38** | **89089.42** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS38-0.5 | Tt-WMS39-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | ug/Kg | ug/Kg | ug/Kg | ug/Kg | ug/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| 1,2,4-Trimethylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| 1,3,5-Trimethylbenzene | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| Vinyl Acetate | 25 | 50 | ND | ND | ND | ND | ND |
| Vinyl chloride (Chloroethene) | 5.0 | 10.0 | ND | ND | ND | ND | ND |
| o-Xylene | 1.0 | 10.0 | ND | ND | ND | ND | ND |
| m,p-Xylenes | 1.0 | 20.0 | ND | ND | ND | ND | ND |
| tert-Butyl alcohol (TBA) | 20 | 500 | ND | ND | ND | ND | ND |
| Diisopropyl ether (DIPE) | 2.0 | 10.0 | ND | ND | ND | ND | ND |
| Ethyl alcohol (Ethanol) | 100 | 500 | ND | ND | ND | ND | ND |
| Ethyl-tert-butyl ether (ETBE) | 2.0 | 10.0 | ND | ND | ND | ND | ND |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | ND | ND | ND | ND |
| tert-Amyl methyl ether (TAME) | 2.0 | 10.0 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89089.29** | **89089.30** | **89089.38** | **89089.42** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 94.9 | 98.4 | 96.5 | 77.5 | 104 |
| Dibromofluoromethane | 75-125 | | 110 | 115 | 116 | 115 | 117 |
| Toluene-d8 | 75-125 | | 100 | 104 | 103 | 101 | 105 |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 5

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | 89089.43 | 89089.44 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5D | Tt-WMS39-2.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 5035A | 5035A | | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Acetone | 25 | 50 | ND | ND | | | |
| Benzene | 1.0 | 10.0 | ND | ND | | | |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | ND | | | |
| Bromochloromethane | 5.0 | 10.0 | ND | ND | | | |
| Bromodichloromethane | 5.0 | 10.0 | ND | ND | | | |
| Bromoform (Tribromomethane) | 25 | 50 | ND | ND | | | |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | ND | | | |
| 2-Butanone (MEK) | 25 | 50 | ND | ND | | | |
| n-Butylbenzene | 5.0 | 10.0 | 24.4 | ND | | | |
| sec-Butylbenzene | 5.0 | 10.0 | 5.84J | ND | | | |
| tert-Butylbenzene | 5.0 | 10.0 | ND | ND | | | |
| Carbon Disulfide | 25 | 50 | ND | ND | | | |
| Carbon tetrachloride | 5.0 | 10.0 | ND | ND | | | |
| Chlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| Chloroethane | 15 | 30 | ND | ND | | | |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | ND | | | |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | ND | | | |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | ND | | | |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | ND | | | |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | ND | | | |
| Dibromochloromethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | ND | | | |
| Dibromomethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | 13.8 | ND | | | |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | ND | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | 89089.43 | 89089.44 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5D | Tt-WMS39-2.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 5035A | 5035A | | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Dichlorodifluoromethane | 15 | 30 | ND | ND | | | |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | ND | | | |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | ND | | | |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | ND | | | |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | ND | | | |
| Ethylbenzene | 1.0 | 10.0 | 2.43J | ND | | | |
| Hexachlorobutadiene | 15 | 30 | ND | ND | | | |
| 2-Hexanone | 25 | 50 | ND | ND | | | |
| Isopropylbenzene | 5.0 | 10.0 | ND | ND | | | |
| p-Isopropyltoluene | 5.0 | 10.0 | 7.71J | ND | | | |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | ND | | | |
| Methylene chloride (DCM) | 25 | 50 | ND | ND | | | |
| Naphthalene | 5.0 | 10.0 | ND | ND | | | |
| n-Propylbenzene | 5.0 | 10.0 | 5.19J | ND | | | |
| Styrene | 5.0 | 10.0 | ND | ND | | | |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | ND | | | |
| Tetrachloroethene | 2.0 | 10.0 | ND | ND | | | |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | ND | | | |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | ND | | | |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | ND | | | |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | ND | | | |
| Trichloroethene | 1.5 | 10.0 | ND | ND | | | |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | ND | | | |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | ND | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | 89089.43 | 89089.44 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5D | Tt-WMS39-2.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 5035A | 5035A | | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| 1,2,4-Trimethylbenzene | 5.0 | 10.0 | 13.7 | ND | | | |
| 1,3,5-Trimethylbenzene | 5.0 | 10.0 | 7.10J | ND | | | |
| Vinyl Acetate | 25 | 50 | ND | ND | | | |
| Vinyl chloride (Chloroethene) | 5.0 | 10.0 | ND | ND | | | |
| o-Xylene | 1.0 | 10.0 | ND | ND | | | |
| m,p-Xylenes | 1.0 | 20.0 | 1.27J | ND | | | |
| tert-Butyl alcohol (TBA) | 20 | 500 | ND | ND | | | |
| Diisopropyl ether (DIPE) | 2.0 | 10.0 | ND | ND | | | |
| Ethyl alcohol (Ethanol) | 100 | 500 | ND | ND | | | |
| Ethyl-tert-butyl ether (ETBE) | 2.0 | 10.0 | ND | ND | | | |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | ND | | | |
| tert-Amyl methyl ether (TAME) | 2.0 | 10.0 | ND | ND | | | |
| **Our Lab I.D.** | | | **89089.43** | **89089.44** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | 75-125 | | 113 | 86.5 | | | |
| Dibromofluoromethane | 75-125 | | 124 | 113 | | | |
| Toluene-d8 | 75-125 | | 103 | 102 | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 8

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Acetone | 25 | 50 | ND | | | | |
| Benzene | 1.0 | 10.0 | ND | | | | |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | | | | |
| Bromochloromethane | 5.0 | 10.0 | ND | | | | |
| Bromodichloromethane | 5.0 | 10.0 | ND | | | | |
| Bromoform (Tribromomethane) | 25 | 50 | ND | | | | |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | | | | |
| 2-Butanone (MEK) | 25 | 50 | ND | | | | |
| n-Butylbenzene | 5.0 | 10.0 | ND | | | | |
| sec-Butylbenzene | 5.0 | 10.0 | ND | | | | |
| tert-Butylbenzene | 5.0 | 10.0 | ND | | | | |
| Carbon Disulfide | 25 | 50 | ND | | | | |
| Carbon tetrachloride | 5.0 | 10.0 | ND | | | | |
| Chlorobenzene | 5.0 | 10.0 | ND | | | | |
| Chloroethane | 15 | 30 | ND | | | | |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | | | | |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | | | | |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | | | | |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | | | | |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | | | | |
| Dibromochloromethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | | | | |
| Dibromomethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |
| Dichlorodifluoromethane | 15 | 30 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| Our Lab I.D. | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | | | | |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| Ethylbenzene | 1.0 | 10.0 | ND | | | | |
| Hexachlorobutadiene | 15 | 30 | ND | | | | |
| 2-Hexanone | 25 | 50 | ND | | | | |
| Isopropylbenzene | 5.0 | 10.0 | ND | | | | |
| p-Isopropyltoluene | 5.0 | 10.0 | ND | | | | |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | | | | |
| Methylene chloride (DCM) | 25 | 50 | ND | | | | |
| Naphthalene | 5.0 | 10.0 | ND | | | | |
| n-Propylbenzene | 5.0 | 10.0 | ND | | | | |
| Styrene | 5.0 | 10.0 | ND | | | | |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | | | | |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | | | | |
| Tetrachloroethene | 2.0 | 10.0 | ND | | | | |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | | | | |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | | | | |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | | | | |
| Trichloroethene | 1.5 | 10.0 | ND | | | | |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | | | | |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | | | | |
| 1,2,4-Trimethylbenzene | 5.0 | 10.0 | ND | | | | |
| 1,3,5-Trimethylbenzene | 5.0 | 10.0 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Vinyl Acetate | 25 | 50 | ND | | | | |
| Vinyl chloride (Chloroethene) | 5.0 | 10.0 | ND | | | | |
| o-Xylene | 1.0 | 10.0 | ND | | | | |
| m,p-Xylenes | 1.0 | 20.0 | ND | | | | |
| tert-Butyl alcohol (TBA) | 20 | 500 | ND | | | | |
| Diisopropyl ether (DIPE) | 2.0 | 10.0 | ND | | | | |
| Ethyl alcohol (Ethanol) | 100 | 500 | ND | | | | |
| Ethyl-tert-butyl ether (ETBE) | 2.0 | 10.0 | ND | | | | |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | | | | |
| tert-Amyl methyl ether (TAME) | 2.0 | 10.0 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 94.3 | | | | |
| Dibromofluoromethane | 75-125 | | 109 | | | | |
| Toluene-d8 | 75-125 | | 103 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 11

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| Our Lab I.D. | | | 89089.45 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 43 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Acetone | 1075 | 2150 | ND | | | | |
| Benzene | 43 | 430 | ND | | | | |
| Bromobenzene (Phenyl bromide) | 215 | 430 | ND | | | | |
| Bromochloromethane | 215 | 430 | ND | | | | |
| Bromodichloromethane | 215 | 430 | ND | | | | |
| Bromoform (Tribromomethane) | 1075 | 2150 | ND | | | | |
| Bromomethane (Methyl bromide) | 645 | 1290 | ND | | | | |
| 2-Butanone (MEK) | 1075 | 2150 | ND | | | | |
| n-Butylbenzene | 215 | 430 | ND | | | | |
| sec-Butylbenzene | 215 | 430 | ND | | | | |
| tert-Butylbenzene | 215 | 430 | ND | | | | |
| Carbon Disulfide | 1075 | 2150 | ND | | | | |
| Carbon tetrachloride | 215 | 430 | ND | | | | |
| Chlorobenzene | 215 | 430 | ND | | | | |
| Chloroethane | 645 | 1290 | ND | | | | |
| 2-Chloroethyl vinyl ether | 2150 | 2150 | ND | | | | |
| Chloroform (Trichloromethane) | 215 | 430 | ND | | | | |
| Chloromethane (Methyl chloride) | 645 | 1290 | ND | | | | |
| 2-Chlorotoluene | 215 | 430 | ND | | | | |
| 4-Chlorotoluene | 215 | 430 | ND | | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 1075 | 2150 | ND | | | | |
| Dibromochloromethane | 215 | 430 | ND | | | | |
| 1,2-Dibromoethane (EDB) | 215 | 430 | ND | | | | |
| Dibromomethane | 215 | 430 | ND | | | | |
| 1,2-Dichlorobenzene | 215 | 430 | ND | | | | |
| 1,3-Dichlorobenzene | 215 | 430 | ND | | | | |
| 1,4-Dichlorobenzene | 215 | 430 | ND | | | | |

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## ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| Our Lab I.D. | | | 89089.45 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 43 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Dichlorodifluoromethane | 645 | 1290 | ND | | | | |
| 1,1-Dichloroethane | 215 | 430 | ND | | | | |
| 1,2-Dichloroethane (EDC) | 215 | 430 | ND | | | | |
| 1,1-Dichloroethene | 215 | 430 | ND | | | | |
| cis-1,2-Dichloroethene | 215 | 430 | ND | | | | |
| trans-1,2-Dichloroethene | 215 | 430 | ND | | | | |
| 1,2-Dichloropropane | 215 | 430 | ND | | | | |
| 1,3-Dichloropropane | 215 | 430 | ND | | | | |
| 2,2-Dichloropropane | 215 | 430 | ND | | | | |
| 1,1-Dichloropropene | 215 | 430 | ND | | | | |
| cis-1,3-Dichloropropene | 215 | 430 | ND | | | | |
| trans-1,3-Dichloropropene | 215 | 430 | ND | | | | |
| Ethylbenzene | 43 | 430 | ND | | | | |
| Hexachlorobutadiene | 645 | 1290 | ND | | | | |
| 2-Hexanone | 1075 | 2150 | ND | | | | |
| Isopropylbenzene | 215 | 430 | ND | | | | |
| p-Isopropyltoluene | 215 | 430 | ND | | | | |
| 4-Methyl-2-pentanone (MIBK) | 1075 | 2150 | ND | | | | |
| Methylene chloride (DCM) | 1075 | 2150 | ND | | | | |
| Naphthalene | 215 | 430 | 255J | | | | |
| n-Propylbenzene | 215 | 430 | ND | | | | |
| Styrene | 215 | 430 | ND | | | | |
| 1,1,1,2-Tetrachloroethane | 215 | 430 | ND | | | | |
| 1,1,2,2-Tetrachloroethane | 215 | 430 | ND | | | | |
| Tetrachloroethene | 86 | 430 | ND | | | | |
| Toluene (Methyl benzene) | 43 | 430 | ND | | | | |
| 1,2,3-Trichlorobenzene | 215 | 430 | ND | | | | |
| 1,2,4-Trichlorobenzene | 215 | 430 | ND | | | | |
| 1,1,1-Trichloroethane | 215 | 430 | ND | | | | |
| 1,1,2-Trichloroethane | 215 | 430 | ND | | | | |
| Trichloroethene | 64 | 430 | ND | | | | |
| Trichlorofluoromethane | 215 | 430 | ND | | | | |
| 1,2,3-Trichloropropane | 215 | 430 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1**

| **Our Lab I.D.** | | | **89089.45** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 43 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| 1,2,4-Trimethylbenzene | 215 | 430 | ND | | | | |
| 1,3,5-Trimethylbenzene | 215 | 430 | ND | | | | |
| Vinyl Acetate | 1075 | 2150 | ND | | | | |
| Vinyl chloride (Chloroethene) | 215 | 430 | ND | | | | |
| o-Xylene | 43 | 430 | ND | | | | |
| m,p-Xylenes | 43 | 860 | ND | | | | |
| tert-Butyl alcohol (TBA) | 860 | 21500 | ND | | | | |
| Diisopropyl ether (DIPE) | 86 | 430 | ND | | | | |
| Ethyl alcohol (Ethanol) | 4300 | 21500 | ND | | | | |
| Ethyl-tert-butyl ether (ETBE) | 86 | 430 | ND | | | | |
| Methyl-tert-butyl ether (MTBE) | 86 | 430 | ND | | | | |
| tert-Amyl methyl ether (TAME) | 86 | 430 | ND | | | | |
| **Our Lab I.D.** | | | **89089.45** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 86.7 | | | | |
| Dibromofluoromethane | 75-125 | | 107 | | | | |
| Toluene-d8 | 75-125 | | 107 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 14

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | 89089.46 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-1 0.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/22/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/23/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Acetone | 25 | 50 | ND | | | | |
| Benzene | 1.0 | 10.0 | ND | | | | |
| Bromobenzene (Phenyl bromide) | 5.0 | 10.0 | ND | | | | |
| Bromochloromethane | 5.0 | 10.0 | ND | | | | |
| Bromodichloromethane | 5.0 | 10.0 | ND | | | | |
| Bromoform (Tribromomethane) | 25 | 50 | ND | | | | |
| Bromomethane (Methyl bromide) | 15 | 30 | ND | | | | |
| 2-Butanone (MEK) | 25 | 50 | ND | | | | |
| n-Butylbenzene | 5.0 | 10.0 | ND | | | | |
| sec-Butylbenzene | 5.0 | 10.0 | 6.36J | | | | |
| tert-Butylbenzene | 5.0 | 10.0 | ND | | | | |
| Carbon Disulfide | 25 | 50 | ND | | | | |
| Carbon tetrachloride | 5.0 | 10.0 | ND | | | | |
| Chlorobenzene | 5.0 | 10.0 | ND | | | | |
| Chloroethane | 15 | 30 | ND | | | | |
| 2-Chloroethyl vinyl ether | 50 | 50 | ND | | | | |
| Chloroform (Trichloromethane) | 5.0 | 10.0 | ND | | | | |
| Chloromethane (Methyl chloride) | 15 | 30 | ND | | | | |
| 2-Chlorotoluene | 5.0 | 10.0 | ND | | | | |
| 4-Chlorotoluene | 5.0 | 10.0 | ND | | | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 25 | 50 | ND | | | | |
| Dibromochloromethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dibromoethane (EDB) | 5.0 | 10.0 | ND | | | | |
| Dibromomethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,3-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,4-Dichlorobenzene | 5.0 | 10.0 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| Our Lab I.D. | | | 89089.46 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-1 0.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/22/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/23/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Dichlorodifluoromethane | 15 | 30 | ND | | | | |
| 1,1-Dichloroethane | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichloroethane (EDC) | 5.0 | 10.0 | ND | | | | |
| 1,1-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| cis-1,2-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| trans-1,2-Dichloroethene | 5.0 | 10.0 | ND | | | | |
| 1,2-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 1,3-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 2,2-Dichloropropane | 5.0 | 10.0 | ND | | | | |
| 1,1-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| cis-1,3-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| trans-1,3-Dichloropropene | 5.0 | 10.0 | ND | | | | |
| Ethylbenzene | 1.0 | 10.0 | ND | | | | |
| Hexachlorobutadiene | 15 | 30 | ND | | | | |
| 2-Hexanone | 25 | 50 | ND | | | | |
| Isopropylbenzene | 5.0 | 10.0 | 6.90J | | | | |
| p-Isopropyltoluene | 5.0 | 10.0 | ND | | | | |
| 4-Methyl-2-pentanone (MIBK) | 25 | 50 | ND | | | | |
| Methylene chloride (DCM) | 25 | 50 | ND | | | | |
| Naphthalene | 5.0 | 10.0 | 11.6 | | | | |
| n-Propylbenzene | 5.0 | 10.0 | 8.94J | | | | |
| Styrene | 5.0 | 10.0 | ND | | | | |
| 1,1,1,2-Tetrachloroethane | 5.0 | 10.0 | ND | | | | |
| 1,1,2,2-Tetrachloroethane | 5.0 | 10.0 | ND | | | | |
| Tetrachloroethene | 2.0 | 10.0 | ND | | | | |
| Toluene (Methyl benzene) | 1.0 | 10.0 | ND | | | | |
| 1,2,3-Trichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,2,4-Trichlorobenzene | 5.0 | 10.0 | ND | | | | |
| 1,1,1-Trichloroethane | 5.0 | 10.0 | ND | | | | |
| 1,1,2-Trichloroethane | 5.0 | 10.0 | ND | | | | |
| Trichloroethene | 1.5 | 10.0 | ND | | | | |
| Trichlorofluoromethane | 5.0 | 10.0 | ND | | | | |
| 1,2,3-Trichloropropane | 5.0 | 10.0 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1**

| **Our Lab I.D.** | | | **89089.46** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-1 0.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/22/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/23/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| 1,2,4-Trimethylbenzene | 5.0 | 10.0 | ND | | | | |
| 1,3,5-Trimethylbenzene | 5.0 | 10.0 | ND | | | | |
| Vinyl Acetate | 25 | 50 | ND | | | | |
| Vinyl chloride (Chloroethene) | 5.0 | 10.0 | ND | | | | |
| o-Xylene | 1.0 | 10.0 | ND | | | | |
| m,p-Xylenes | 1.0 | 20.0 | ND | | | | |
| tert-Butyl alcohol (TBA) | 20 | 500 | ND | | | | |
| Diisopropyl ether (DIPE) | 2.0 | 10.0 | ND | | | | |
| Ethyl alcohol (Ethanol) | 100 | 500 | ND | | | | |
| Ethyl-tert-butyl ether (ETBE) | 2.0 | 10.0 | ND | | | | |
| Methyl-tert-butyl ether (MTBE) | 2.0 | 10.0 | ND | | | | |
| tert-Amyl methyl ether (TAME) | 2.0 | 10.0 | ND | | | | |
| **Our Lab I.D.** | | | **89089.46** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 88.0 | | | | |
| Dibromofluoromethane | 75-125 | | 112 | | | | |
| Toluene-d8 | 75-125 | | 109 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 17

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317OB1**

| **Our Lab I.D.** | | | Method Blank | **89089.05** | **89089.06** | **89089.07** | **89089.10** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS29-0.5 | Tt-WMS29-2.0 | Tt-WMS29-2.0D | Tt-WMS32-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89089.05** | **89089.06** | **89089.07** | **89089.10** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 104 | 107 | 108 | 108 | 101 |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 18

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317OB1**

| Our Lab I.D. | | | 89089.11 | 89089.12 | 89089.15 | 89089.16 | 89089.17 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS32-2.0 | Tt-WMS32-2.0D | Tt-WMS33-0.5 | Tt-WMS33-2.0 | Tt-WMS33-2.0D |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5035A | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/23/2017 | 08/24/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | **89089.11** | **89089.12** | **89089.15** | **89089.16** | **89089.17** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 106 | 100 | 105 | 104 | 108 |

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**Site**

Wilmington Marine Services

Page: 19

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317OB1**

| **Our Lab I.D.** | | | **89089.25** | **89089.26** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS15-0.5 | Tt-WMS15-2.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 5035A | 5035A | | | |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | | | |
| **Our Lab I.D.** | | | **89089.25** | **89089.26** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | 75-125 | | 104 | 108 | | | |

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**Site**

Wilmington Marine Services

Page: 20

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB1**

| **Our Lab I.D.** | | | Method Blank | **89089.29** | **89089.30** | **89089.31** | **89089.34** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS34-3.0 | Tt-WMS35-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/24/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Preparation Method | | | 5030 | 5035A | 5035A | 5035A | 5035A |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 | 08/24/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | ND | ND | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89089.29** | **89089.30** | **89089.31** | **89089.34** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Bromofluorobenzene | 75-125 | | 107 | 110 | 111 | 109 | 108 |

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**Site**

Wilmington Marine Services

Page: 21

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB1**

| Our Lab I.D. | | | 89089.35 | 89089.38 | 89089.39 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS35-3.0 | Tt-WMS38-0.5 | Tt-WMS38-2.0 | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Preparation Method | | | 5035A | 5035A | 5035A | | |
| Date Analyzed | | | 08/24/2017 | 08/24/2017 | 08/24/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | 1.34 | 0.407J | | |
| **Our Lab I.D.** | | | **89089.35** | **89089.38** | **89089.39** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 111 | 102 | 112 | | |

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**Site**

Wilmington Marine Services

Page: 22

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB2**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 112 | | | | |

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**Site**

Wilmington Marine Services

Page: 23

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB2**

| **Our Lab I.D.** | | | **89089.42** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 5 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.500 | 5 | 7.43 | | | | |
| **Our Lab I.D.** | | | **89089.42** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 108 | | | | |

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**Site**

Wilmington Marine Services

Page: 24

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB2**

| **Our Lab I.D.** | | | **89089.43** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5D | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/24/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/25/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 50 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 5 | 50 | 170 | | | | |
| **Our Lab I.D.** | | | **89089.43** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 108 | | | | |

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**Site**

Wilmington Marine Services

Page: 25

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB1**

| **Our Lab I.D.** | | | **89089.44** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-2.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/22/2017 | | | | |
| Preparation Method | | | 5035A | | | | |
| Date Analyzed | | | 08/24/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | | | | |
| **Our Lab I.D.** | | | **89089.44** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 104 | | | | |

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**Site**

Wilmington Marine Services

Page: 26

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 083017OB1**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/30/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 110 | | | | |

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**Site**

Wilmington Marine Services

Page: 27

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 083017OB1**

| **Our Lab I.D.** | | | **89089.45** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/30/2017 | | | | |
| Preparation Method | | | 5030 | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 5 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.500 | 5 | 15.3 | | | | |
| **Our Lab I.D.** | | | **89089.45** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Bromofluorobenzene | 75-125 | | 108 | | | | |

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**Site**

Wilmington Marine Services

Page: 28

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082917OB1**

| **Our Lab I.D.** | | | Method Blank | **89089.46** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS39-1 0.0 | | | |
| Date Sampled | | | | 08/22/2017 | | | |
| Date Prepared | | | 08/29/2017 | 08/22/2017 | | | |
| Preparation Method | | | 5030 | 5035A | | | |
| Date Analyzed | | | 08/29/2017 | 08/29/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.100 | 1.000 | ND | 1.14 | | | |
| **Our Lab I.D.** | | | Method Blank | **89089.46** | | | |
| **Surrogates** | %Rec.Limit | | **% Rec.** | **% Rec.** | | | |
| Bromofluorobenzene | 75-125 | | 109 | 89.6 | | | |

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**Site**

Wilmington Marine Services

Page: 29

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB1**

| **Our Lab I.D.** | | | Method Blank | **89089.05** | **89089.06** | **89089.07** | **89089.10** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS29-0.5 | Tt-WMS29-2.0 | Tt-WMS29-2.0D | Tt-WMS32-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | 6.60 | ND | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | 6.60 | ND | ND |
| **Our Lab I.D.** | | | Method Blank | **89089.05** | **89089.06** | **89089.07** | **89089.10** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 116 | 121 | 104 | 104 | 105 |

# American Environmental Testing Laboratory Inc.

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Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com


## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 30

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB1**

| Our Lab I.D. | | | 89089.11 | 89089.12 | 89089.15 | 89089.16 | 89089.17 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS32-2.0 | Tt-WMS32-2.0D | Tt-WMS33-0.5 | Tt-WMS33-2.0 | Tt-WMS33-2.0D |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | ND | ND | 30.9 |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | ND | ND | 191 |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | ND | ND | 222 |
| **Our Lab I.D.** | | | **89089.11** | **89089.12** | **89089.15** | **89089.16** | **89089.17** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 112 | 105 | 105 | 112 | 118 |

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**Site**

Wilmington Marine Services

Page: 31

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB1**

| Our Lab I.D. | | | 89089.25 | 89089.26 | 89089.29 | 89089.30 | 89089.31 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS15-0.5 | Tt-WMS15-2.0 | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS34-3.0 |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | ND | 31.2 | ND |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | ND | 109 | 237 | ND |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | ND | 109 | 268 | ND |
| **Our Lab I.D.** | | | **89089.25** | **89089.26** | **89089.29** | **89089.30** | **89089.31** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 109 | 111 | 117 | 112 | 110 |

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**Site**

Wilmington Marine Services

Page: 32

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB1**

| **Our Lab I.D.** | | | **89089.34** | **89089.35** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS35-0.5 | Tt-WMS35-3.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | | | |
| Preparation Method | | | 3550B | 3550B | | | |
| Date Analyzed | | | 08/25/2017 | 08/26/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | ND | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | 83.7 | ND | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | 83.7 | ND | | | |
| **Our Lab I.D.** | | | **89089.34** | **89089.35** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Chlorobenzene | 75-125 | | 115 | 113 | | | |

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**Site**

Wilmington Marine Services

Page: 33

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB2**

| **Our Lab I.D.** | | | Method Blank | **89089.38** | **89089.39** | **89089.42** | **89089.43** |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS38-0.5 | Tt-WMS38-2.0 | Tt-WMS39-0.5 | Tt-WMS39-0.5D |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3550B | 3550B | 3550B | 3550B | 3550B |
| Date Analyzed | | | 08/26/2017 | 08/26/2017 | 08/26/2017 | 08/26/2017 | 08/26/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | 1,050 | ND | 688 | 3,460 |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | 1,990 | 2.50J | 390 | 1,800 |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | 3,040 | 2.50J | 1,080 | 5,260 |
| **Our Lab I.D.** | | | Method Blank | **89089.38** | **89089.39** | **89089.42** | **89089.43** |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** | **% Rec.** |
| Chlorobenzene | 75-125 | | 121 | 118 | 111 | 110 | 117 |

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**Site**

Wilmington Marine Services

Page: 34

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB2**

| **Our Lab I.D.** | | | **89089.44** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-2.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/25/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/26/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | | | | |
| **Our Lab I.D.** | | | **89089.44** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Chlorobenzene | 75-125 | | 110 | | | | |

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Wilmington Marine Services

Page: 35

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082917DB1**

| **Our Lab I.D.** | | | Method Blank | **89089.45** | **89089.46** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS39-5.0 | Tt-WMS39-10.0 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/29/2017 | 08/29/2017 | 08/29/2017 | | |
| Preparation Method | | | 3550B | 3550B | 3550B | | |
| Date Analyzed | | | 08/29/2017 | 08/29/2017 | 08/29/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| TPH as Diesel (C13-C22) | 1.0 | 5.0 | ND | 688 | ND | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 1.0 | 5.0 | ND | 37.8 | ND | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 1.0 | 5.0 | ND | 726 | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89089.45** | **89089.46** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Chlorobenzene | 75-125 | | 98.2 | 113 | 98.1 | | |

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**Site**

Wilmington Marine Services

Page: 36

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | Method Blank | 89089.31 | 89089.35 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-3.0 | Tt-WMS35-3.0 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/29/2017 | 08/29/2017 | 08/29/2017 | | |
| Preparation Method | | | 3550B | 3550B | 3550B | | |
| Date Analyzed | | | 08/30/2017 | 08/30/2017 | 08/30/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Acenaphthene | 0.25 | 0.50 | ND | ND | ND | | |
| Acenaphthylene | 0.25 | 0.50 | ND | ND | ND | | |
| Anthracene | 0.25 | 0.50 | ND | ND | ND | | |
| Azobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzidine | 0.25 | 0.50 | ND | ND | ND | | |
| Benzo(a)anthracene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzo(a)pyrene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzo(b)fluoranthene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzo(g,h,i)perylene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzo(k)fluoranthene | 0.25 | 0.50 | ND | ND | ND | | |
| Benzoic Acid | 0.25 | 0.50 | ND | ND | ND | | |
| Benzyl Alcohol | 0.25 | 0.50 | ND | ND | ND | | |
| Bis(2-Chloroethoxy)methane | 0.25 | 0.50 | ND | ND | ND | | |
| Bis(2-Chloroethyl)ether | 0.25 | 0.50 | ND | ND | ND | | |
| Bis(2-chloroisopropyl) ether | 0.25 | 0.50 | ND | ND | ND | | |
| Bis(2-ethylhexyl) phthalate | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Bromophenyl phenyl ether | 0.25 | 0.50 | ND | ND | ND | | |
| Butyl benzyl phthalate | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Chloro-3-methylphenol | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Chloroaniline | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Chloronaphthalene | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Chlorophenol | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Chlorophenyl phenyl ether | 0.25 | 0.50 | ND | ND | ND | | |
| Chrysene | 0.25 | 0.50 | ND | ND | ND | | |
| Di-n-butyl phthalate | 0.25 | 0.50 | ND | ND | ND | | |
| Di-n-octyl phthalate (Dioctyl ester) | 0.25 | 0.50 | ND | ND | ND | | |
| Dibenzo(a,h)anthracene | 0.25 | 0.50 | ND | ND | ND | | |

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## ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| **Our Lab I.D.** | | | Method Blank | **89089.31** | **89089.35** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-3.0 | Tt-WMS35-3.0 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/29/2017 | 08/29/2017 | 08/29/2017 | | |
| Preparation Method | | | 3550B | 3550B | 3550B | | |
| Date Analyzed | | | 08/30/2017 | 08/30/2017 | 08/30/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Dibenzofuran | 0.25 | 0.50 | ND | ND | ND | | |
| 1,2-Dichlorobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| 1,3-Dichlorobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| 1,4-Dichlorobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| 3,3'-Dichlorobenzidine | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4-Dichlorophenol | 0.25 | 0.50 | ND | ND | ND | | |
| Diethyl phthalate (Diethyl ester) | 0.25 | 0.50 | ND | ND | ND | | |
| Dimethyl phthalate (Dimethyl ester) | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4-Dimethylphenol | 0.25 | 0.50 | ND | ND | ND | | |
| 4,6-Dinitro-2-methylphenol | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4-Dinitrophenol | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4-Dinitrotoluene | 0.25 | 0.50 | ND | ND | ND | | |
| 2,6-Dinitrotoluene (2,6-DNT) | 0.25 | 0.50 | ND | ND | ND | | |
| Fluoranthene | 0.25 | 0.50 | ND | ND | ND | | |
| Fluorene | 0.25 | 0.50 | ND | ND | ND | | |
| Hexachlorobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| Hexachlorobutadiene | 0.25 | 0.50 | ND | ND | ND | | |
| Hexachlorocyclopentadiene | 0.25 | 0.50 | ND | ND | ND | | |
| Hexachloroethane | 0.25 | 0.50 | ND | ND | ND | | |
| Indeno(1,2,3-cd)pyrene | 0.25 | 0.50 | ND | ND | ND | | |
| Isophorone | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Methylnaphthalene | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Methylphenol | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Methylphenol (2-Cresol) | 0.25 | 0.50 | ND | ND | ND | | |
| 3-Methylphenol (3-Cresol) | 0.25 | 0.50 | ND | ND | ND | | |
| N-Nitroso-Di-n-propylamine | 0.25 | 0.50 | ND | ND | ND | | |
| Naphthalene | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Nitroaniline | 0.25 | 0.50 | ND | ND | ND | | |
| 3-Nitroaniline | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Nitroaniline | 0.25 | 0.50 | ND | ND | ND | | |
| Nitrobenzene (NB) | 0.25 | 0.50 | ND | ND | ND | | |
| 4-Nitrophenol | 0.25 | 0.50 | ND | ND | ND | | |
| 2-Nitrophenol (o-Nitrophenol) | 0.25 | 0.50 | ND | ND | ND | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| **Our Lab I.D.** | | | Method Blank | **89089.31** | **89089.35** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-3.0 | Tt-WMS35-3.0 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/29/2017 | 08/29/2017 | 08/29/2017 | | |
| Preparation Method | | | 3550B | 3550B | 3550B | | |
| Date Analyzed | | | 08/30/2017 | 08/30/2017 | 08/30/2017 | | |
| Matrix | | | Soil | Soil | Soil | | |
| Units | | | mg/Kg | mg/Kg | mg/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| N-nitrosodiphenylamine | 0.25 | 0.50 | ND | ND | ND | | |
| Pentachlorophenol | 0.25 | 0.50 | ND | ND | ND | | |
| Phenanthrene | 0.25 | 0.50 | ND | ND | ND | | |
| Phenol | 0.25 | 0.50 | ND | ND | ND | | |
| Pyrene | 0.25 | 0.50 | ND | ND | ND | | |
| 1,2,4-Trichlorobenzene | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4,5-Trichlorophenol | 0.25 | 0.50 | ND | ND | ND | | |
| 2,4,6-Trichlorophenol | 0.25 | 0.50 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89089.31** | **89089.35** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| 2-Fluorophenol | 25-121 | | 68.5 | 50.0 | 47.8 | | |
| 2-Fluorobiphenyl | 30-115 | | 86.1 | 73.4 | 77.2 | | |
| Nitrobenzene-d5 | 23-120 | | 70.1 | 62.2 | 61.8 | | |
| Phenol-d6 | 21-113 | | 67.5 | 47.6 | 50.9 | | |
| p-Terphenyl-D14 | 18-137 | | 133 | 105 | 106 | | |
| 2,4,6-Tribromophenol | 19-122 | | 81.9 | 58.1 | 69.5 | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 39

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS38-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 8 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Acenaphthene | 2.00 | 4.00 | ND | | | | |
| Acenaphthylene | 2.00 | 4.00 | ND | | | | |
| Anthracene | 2.00 | 4.00 | ND | | | | |
| Azobenzene | 2.00 | 4.00 | ND | | | | |
| Benzidine | 2.00 | 4.00 | ND | | | | |
| Benzo(a)anthracene | 2.00 | 4.00 | ND | | | | |
| Benzo(a)pyrene | 2.00 | 4.00 | ND | | | | |
| Benzo(b)fluoranthene | 2.00 | 4.00 | ND | | | | |
| Benzo(g,h,i)perylene | 2.00 | 4.00 | ND | | | | |
| Benzo(k)fluoranthene | 2.00 | 4.00 | ND | | | | |
| Benzoic Acid | 2.00 | 4.00 | ND | | | | |
| Benzyl Alcohol | 2.00 | 4.00 | ND | | | | |
| Bis(2-Chloroethoxy)methane | 2.00 | 4.00 | ND | | | | |
| Bis(2-Chloroethyl)ether | 2.00 | 4.00 | ND | | | | |
| Bis(2-chloroisopropyl) ether | 2.00 | 4.00 | ND | | | | |
| Bis(2-ethylhexyl) phthalate | 2.00 | 4.00 | ND | | | | |
| 4-Bromophenyl phenyl ether | 2.00 | 4.00 | ND | | | | |
| Butyl benzyl phthalate | 2.00 | 4.00 | ND | | | | |
| 4-Chloro-3-methylphenol | 2.00 | 4.00 | ND | | | | |
| 4-Chloroaniline | 2.00 | 4.00 | ND | | | | |
| 2-Chloronaphthalene | 2.00 | 4.00 | ND | | | | |
| 2-Chlorophenol | 2.00 | 4.00 | ND | | | | |
| 4-Chlorophenyl phenyl ether | 2.00 | 4.00 | ND | | | | |
| Chrysene | 2.00 | 4.00 | ND | | | | |
| Di-n-butyl phthalate | 2.00 | 4.00 | ND | | | | |
| Di-n-octyl phthalate (Dioctyl ester) | 2.00 | 4.00 | ND | | | | |
| Dibenzo(a,h)anthracene | 2.00 | 4.00 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS38-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 8 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Dibenzofuran | 2.00 | 4.00 | ND | | | | |
| 1,2-Dichlorobenzene | 2.00 | 4.00 | ND | | | | |
| 1,3-Dichlorobenzene | 2.00 | 4.00 | ND | | | | |
| 1,4-Dichlorobenzene | 2.00 | 4.00 | ND | | | | |
| 3,3'-Dichlorobenzidine | 2.00 | 4.00 | ND | | | | |
| 2,4-Dichlorophenol | 2.00 | 4.00 | ND | | | | |
| Diethyl phthalate (Diethyl ester) | 2.00 | 4.00 | ND | | | | |
| Dimethyl phthalate (Dimethyl ester) | 2.00 | 4.00 | ND | | | | |
| 2,4-Dimethylphenol | 2.00 | 4.00 | ND | | | | |
| 4,6-Dinitro-2-methylphenol | 2.00 | 4.00 | ND | | | | |
| 2,4-Dinitrophenol | 2.00 | 4.00 | ND | | | | |
| 2,4-Dinitrotoluene | 2.00 | 4.00 | ND | | | | |
| 2,6-Dinitrotoluene (2,6-DNT) | 2.00 | 4.00 | ND | | | | |
| Fluoranthene | 2.00 | 4.00 | ND | | | | |
| Fluorene | 2.00 | 4.00 | ND | | | | |
| Hexachlorobenzene | 2.00 | 4.00 | ND | | | | |
| Hexachlorobutadiene | 2.00 | 4.00 | ND | | | | |
| Hexachlorocyclopentadiene | 2.00 | 4.00 | ND | | | | |
| Hexachloroethane | 2.00 | 4.00 | ND | | | | |
| Indeno(1,2,3-cd)pyrene | 2.00 | 4.00 | ND | | | | |
| Isophorone | 2.00 | 4.00 | ND | | | | |
| 2-Methylnaphthalene | 2.00 | 4.00 | ND | | | | |
| 4-Methylphenol | 2.00 | 4.00 | ND | | | | |
| 2-Methylphenol (2-Cresol) | 2.00 | 4.00 | ND | | | | |
| 3-Methylphenol (3-Cresol) | 2.00 | 4.00 | ND | | | | |
| N-Nitroso-Di-n-propylamine | 2.00 | 4.00 | ND | | | | |
| Naphthalene | 2.00 | 4.00 | ND | | | | |
| 2-Nitroaniline | 2.00 | 4.00 | ND | | | | |
| 3-Nitroaniline | 2.00 | 4.00 | ND | | | | |
| 4-Nitroaniline | 2.00 | 4.00 | ND | | | | |
| Nitrobenzene (NB) | 2.00 | 4.00 | ND | | | | |
| 4-Nitrophenol | 2.00 | 4.00 | ND | | | | |
| 2-Nitrophenol (o-Nitrophenol) | 2.00 | 4.00 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS38-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 8 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| N-nitrosodiphenylamine | 2.00 | 4.00 | ND | | | | |
| Pentachlorophenol | 2.00 | 4.00 | ND | | | | |
| Phenanthrene | 2.00 | 4.00 | ND | | | | |
| Phenol | 2.00 | 4.00 | ND | | | | |
| Pyrene | 2.00 | 4.00 | ND | | | | |
| 1,2,4-Trichlorobenzene | 2.00 | 4.00 | ND | | | | |
| 2,4,5-Trichlorophenol | 2.00 | 4.00 | ND | | | | |
| 2,4,6-Trichlorophenol | 2.00 | 4.00 | ND | | | | |

*Comment(s):*
*89089.38: Analyzed under dilution due to matrix interference*

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| 2-Fluorophenol | 25-121 | | 23.2 S6 | | | | |
| 2-Fluorobiphenyl | 30-115 | | 62.0 | | | | |
| Nitrobenzene-d5 | 23-120 | | 53.4 | | | | |
| Phenol-d6 | 21-113 | | 3.6 S6 | | | | |
| p-Terphenyl-D14 | 18-137 | | 84.4 | | | | |
| 2,4,6-Tribromophenol | 19-122 | | 44.0 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 42

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | 89089.45 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Acenaphthene | 0.25 | 0.50 | ND | | | | |
| Acenaphthylene | 0.25 | 0.50 | ND | | | | |
| Anthracene | 0.25 | 0.50 | ND | | | | |
| Azobenzene | 0.25 | 0.50 | ND | | | | |
| Benzidine | 0.25 | 0.50 | ND | | | | |
| Benzo(a)anthracene | 0.25 | 0.50 | ND | | | | |
| Benzo(a)pyrene | 0.25 | 0.50 | ND | | | | |
| Benzo(b)fluoranthene | 0.25 | 0.50 | ND | | | | |
| Benzo(g,h,i)perylene | 0.25 | 0.50 | ND | | | | |
| Benzo(k)fluoranthene | 0.25 | 0.50 | ND | | | | |
| Benzoic Acid | 0.25 | 0.50 | ND | | | | |
| Benzyl Alcohol | 0.25 | 0.50 | ND | | | | |
| Bis(2-Chloroethoxy)methane | 0.25 | 0.50 | ND | | | | |
| Bis(2-Chloroethyl)ether | 0.25 | 0.50 | ND | | | | |
| Bis(2-chloroisopropyl) ether | 0.25 | 0.50 | ND | | | | |
| Bis(2-ethylhexyl) phthalate | 0.25 | 0.50 | ND | | | | |
| 4-Bromophenyl phenyl ether | 0.25 | 0.50 | ND | | | | |
| Butyl benzyl phthalate | 0.25 | 0.50 | ND | | | | |
| 4-Chloro-3-methylphenol | 0.25 | 0.50 | ND | | | | |
| 4-Chloroaniline | 0.25 | 0.50 | ND | | | | |
| 2-Chloronaphthalene | 0.25 | 0.50 | ND | | | | |
| 2-Chlorophenol | 0.25 | 0.50 | ND | | | | |
| 4-Chlorophenyl phenyl ether | 0.25 | 0.50 | ND | | | | |
| Chrysene | 0.25 | 0.50 | ND | | | | |
| Di-n-butyl phthalate | 0.25 | 0.50 | ND | | | | |
| Di-n-octyl phthalate (Dioctyl ester) | 0.25 | 0.50 | ND | | | | |
| Dibenzo(a,h)anthracene | 0.25 | 0.50 | ND | | | | |

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## ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| Our Lab I.D. | | | 89089.45 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Dibenzofuran | 0.25 | 0.50 | ND | | | | |
| 1,2-Dichlorobenzene | 0.25 | 0.50 | ND | | | | |
| 1,3-Dichlorobenzene | 0.25 | 0.50 | ND | | | | |
| 1,4-Dichlorobenzene | 0.25 | 0.50 | ND | | | | |
| 3,3'-Dichlorobenzidine | 0.25 | 0.50 | ND | | | | |
| 2,4-Dichlorophenol | 0.25 | 0.50 | ND | | | | |
| Diethyl phthalate (Diethyl ester) | 0.25 | 0.50 | ND | | | | |
| Dimethyl phthalate (Dimethyl ester) | 0.25 | 0.50 | ND | | | | |
| 2,4-Dimethylphenol | 0.25 | 0.50 | ND | | | | |
| 4,6-Dinitro-2-methylphenol | 0.25 | 0.50 | ND | | | | |
| 2,4-Dinitrophenol | 0.25 | 0.50 | ND | | | | |
| 2,4-Dinitrotoluene | 0.25 | 0.50 | ND | | | | |
| 2,6-Dinitrotoluene (2,6-DNT) | 0.25 | 0.50 | ND | | | | |
| Fluoranthene | 0.25 | 0.50 | ND | | | | |
| Fluorene | 0.25 | 0.50 | ND | | | | |
| Hexachlorobenzene | 0.25 | 0.50 | ND | | | | |
| Hexachlorobutadiene | 0.25 | 0.50 | ND | | | | |
| Hexachlorocyclopentadiene | 0.25 | 0.50 | ND | | | | |
| Hexachloroethane | 0.25 | 0.50 | ND | | | | |
| Indeno(1,2,3-cd)pyrene | 0.25 | 0.50 | ND | | | | |
| Isophorone | 0.25 | 0.50 | ND | | | | |
| 2-Methylnaphthalene | 0.25 | 0.50 | 0.500 | | | | |
| 4-Methylphenol | 0.25 | 0.50 | ND | | | | |
| 2-Methylphenol (2-Cresol) | 0.25 | 0.50 | ND | | | | |
| 3-Methylphenol (3-Cresol) | 0.25 | 0.50 | ND | | | | |
| N-Nitroso-Di-n-propylamine | 0.25 | 0.50 | ND | | | | |
| Naphthalene | 0.25 | 0.50 | 0.550 | | | | |
| 2-Nitroaniline | 0.25 | 0.50 | ND | | | | |
| 3-Nitroaniline | 0.25 | 0.50 | ND | | | | |
| 4-Nitroaniline | 0.25 | 0.50 | ND | | | | |
| Nitrobenzene (NB) | 0.25 | 0.50 | ND | | | | |
| 4-Nitrophenol | 0.25 | 0.50 | ND | | | | |
| 2-Nitrophenol (o-Nitrophenol) | 0.25 | 0.50 | ND | | | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917**

| **Our Lab I.D.** | | | **89089.45** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-5.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/29/2017 | | | | |
| Preparation Method | | | 3550B | | | | |
| Date Analyzed | | | 08/30/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| N-nitrosodiphenylamine | 0.25 | 0.50 | 0.290J | | | | |
| Pentachlorophenol | 0.25 | 0.50 | ND | | | | |
| Phenanthrene | 0.25 | 0.50 | ND | | | | |
| Phenol | 0.25 | 0.50 | ND | | | | |
| Pyrene | 0.25 | 0.50 | ND | | | | |
| 1,2,4-Trichlorobenzene | 0.25 | 0.50 | ND | | | | |
| 2,4,5-Trichlorophenol | 0.25 | 0.50 | ND | | | | |
| 2,4,6-Trichlorophenol | 0.25 | 0.50 | ND | | | | |
| **Our Lab I.D.** | | | **89089.45** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| 2-Fluorophenol | 25-121 | | 64.0 | | | | |
| 2-Fluorobiphenyl | 30-115 | | 80.4 | | | | |
| Nitrobenzene-d5 | 23-120 | | 64.5 | | | | |
| Phenol-d6 | 21-113 | | 63.0 | | | | |
| p-Terphenyl-D14 | 18-137 | | 111 | | | | |
| 2,4,6-Tribromophenol | 19-122 | | 88.9 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 45

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/30/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 09/01/2017 | | | | |
| Matrix | | | Solid | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 91.0 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 71.2 | | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 46

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4**

| Our Lab I.D. | | | 89089.20 | 89089.21 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS28-CC | Tt-WMS30-CC | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/30/2017 | 08/30/2017 | | | |
| Preparation Method | | | 3540C | 3540C | | | |
| Date Analyzed | | | 09/01/2017 | 09/01/2017 | | | |
| Matrix | | | Solid | Solid | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 5 | 5 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Aroclor-1016 (PCB-1016) | 125 | 250 | ND | ND | | | |
| Aroclor-1221 (PCB-1221) | 125 | 250 | ND | ND | | | |
| Aroclor-1232 (PCB-1232) | 125 | 250 | ND | ND | | | |
| Aroclor-1242 (PCB-1242) | 125 | 250 | ND | ND | | | |
| Aroclor-1248 (PCB-1248) | 125 | 250 | 510 | ND | | | |
| Aroclor-1254 (PCB-1254) | 125 | 250 | 744 | 228J | | | |
| Aroclor-1260 (PCB-1260) | 125 | 250 | ND | ND | | | |
| Aroclor-1262 (PCB-1262) | 125 | 250 | ND | ND | | | |
| Aroclor-1268 (PCB-1268) | 125 | 250 | ND | ND | | | |
| **Our Lab I.D.** | | | **89089.20** | **89089.21** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Decachlorobiphenyl | 30-150 | | 53.2 | 77.7 | | | |
| Tetrachloro-m-xylene | 30-150 | | 49.7 | 63.0 | | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 47

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4**

| Our Lab I.D. | | | 89089.22 | 89089.23 | 89089.24 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS31-CC | Tt-WMS32-CC | Tt-WMS33-CC | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/30/2017 | 08/30/2017 | 08/30/2017 | | |
| Preparation Method | | | 3540C | 3540C | 3540C | | |
| Date Analyzed | | | 09/01/2017 | 09/01/2017 | 09/01/2017 | | |
| Matrix | | | Solid | Solid | Solid | | |
| Units | | | ug/Kg | ug/Kg | ug/Kg | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | 83.0 | 65.0 | ND | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | ND | ND | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | ND | ND | | |
| **Our Lab I.D.** | | | **89089.22** | **89089.23** | **89089.24** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Decachlorobiphenyl | 30-150 | | 101 | 84.6 | 97.0 | | |
| Tetrachloro-m-xylene | 30-150 | | 108 | 101 | 95.2 | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 48

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4**

| **Our Lab I.D.** | | | Method Blank | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | | | | |
| Date Sampled | | | | | | | |
| Date Prepared | | | 08/28/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 08/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | | | | |
| **Our Lab I.D.** | | | Method Blank | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 81.2 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 58.4 | | | | |

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**Site**

Wilmington Marine Services

Page: 49

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4**

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS38-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/28/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 08/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 5 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 125 | 250 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 125 | 250 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 125 | 250 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 125 | 250 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 125 | 250 | ND | | | | |
| Aroclor-1254 (PCB-1254) | 125 | 250 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 125 | 250 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 125 | 250 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 125 | 250 | ND | | | | |

*Comment(s):*
*89089.38: Analyzed under dilution due to matrix interference*

| Our Lab I.D. | | | 89089.38 | | | | |
|---|---|---|---|---|---|---|---|
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 102 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 77.4 | | | | |

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**Site**

Wilmington Marine Services

Page: 50

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4**

| **Our Lab I.D.** | | | **89089.42** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/28/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 08/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | 397 | | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | | | | |
| **Our Lab I.D.** | | | **89089.42** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 73.8 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 81.5 | | | | |

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**Site**

Wilmington Marine Services

Page: 51

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4**

| **Our Lab I.D.** | | | **89089.43** | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-0.5D | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/28/2017 | | | | |
| Preparation Method | | | 3540C | | | | |
| Date Analyzed | | | 08/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | ug/Kg | | | | |
| Dilution Factor | | | 5 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Aroclor-1016 (PCB-1016) | 125 | 250 | ND | | | | |
| Aroclor-1221 (PCB-1221) | 125 | 250 | ND | | | | |
| Aroclor-1232 (PCB-1232) | 125 | 250 | ND | | | | |
| Aroclor-1242 (PCB-1242) | 125 | 250 | ND | | | | |
| Aroclor-1248 (PCB-1248) | 125 | 250 | 1,220 | | | | |
| Aroclor-1254 (PCB-1254) | 125 | 250 | ND | | | | |
| Aroclor-1260 (PCB-1260) | 125 | 250 | ND | | | | |
| Aroclor-1262 (PCB-1262) | 125 | 250 | ND | | | | |
| Aroclor-1268 (PCB-1268) | 125 | 250 | ND | | | | |
| **Our Lab I.D.** | | | **89089.43** | | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | | | | |
| Decachlorobiphenyl | 30-150 | | 81.2 | | | | |
| Tetrachloro-m-xylene | 30-150 | | 78.5 | | | | |

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**Site**

Wilmington Marine Services

Page: 52

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4**

| Our Lab I.D. | | | 89089.44 | 89089.45 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-2.0 | Tt-WMS39-5.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/28/2017 | 08/28/2017 | | | |
| Preparation Method | | | 3540C | 3540C | | | |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | ug/Kg | ug/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Aroclor-1016 (PCB-1016) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1221 (PCB-1221) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1232 (PCB-1232) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1242 (PCB-1242) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1248 (PCB-1248) | 25.0 | 50.0 | ND | 427 | | | |
| Aroclor-1254 (PCB-1254) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1260 (PCB-1260) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1262 (PCB-1262) | 25.0 | 50.0 | ND | ND | | | |
| Aroclor-1268 (PCB-1268) | 25.0 | 50.0 | ND | ND | | | |
| **Our Lab I.D.** | | | **89089.44** | **89089.45** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Decachlorobiphenyl | 30-150 | | 72.2 | 89.8 | | | |
| Tetrachloro-m-xylene | 30-150 | | 66.5 | 76.8 | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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**Site**

Wilmington Marine Services

Page: 53

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C3**

| Our Lab I.D. | | | Method Blank | 89089.05 | 89089.06 | 89089.07 | 89089.10 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS29-0.5 | Tt-WMS29-2.0 | Tt-WMS29-2.0D | Tt-WMS32-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Barium | 2.5 | 5.0 | ND | 44.0 | 77.9 | 98.8 | 75.7 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 8.57 | 14.8 | 21.7 | 15.5 |
| Cobalt | 2.5 | 5.0 | ND | 4.46J | 8.03 | 10.6 | 7.43 |
| Copper | 2.5 | 5.0 | ND | 21.9 | 14.1 | 22.4 | 17.4 |
| Lead | 2.5 | 5.0 | ND | 8.62 | 3.32J | 4.48J | 4.66J |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | ND | ND | ND |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 7.75 | 10.4 | 14.9 | 10.2 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 18.1 | 27.7 | 39.7 | 28.6 |
| Zinc | 2.5 | 5.0 | ND | 149 | 44.4 | 64.5 | 45.8 |

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## ANALYTICAL RESULTS

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**Site**

Wilmington Marine Services

Page: 54

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C3**

| Our Lab I.D. | | | 89089.11 | 89089.12 | 89089.15 | 89089.16 | 89089.17 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS32-2.0 | Tt-WMS32-2.0D | Tt-WMS33-0.5 | Tt-WMS33-2.0 | Tt-WMS33-2.0D |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | ND | 3.45J | 5.00 | 14.4 |
| Barium | 2.5 | 5.0 | 48.5 | 30.5 | 112 | 172 | 187 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 9.32 | 7.68 | 20.1 | 24.3 | 23.7 |
| Cobalt | 2.5 | 5.0 | 4.84J | 3.81J | 8.26 | 6.38 | 6.47 |
| Copper | 2.5 | 5.0 | 12.6 | 7.27 | 20.7 | 72.7 | 183 |
| Lead | 2.5 | 5.0 | 8.06 | ND | 9.03 | 74.8 | 219 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | 0.183J | 5.96 | 8.72 |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | 6.18 | 4.22J | 13.8 | 18.0 | 25.6 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 20.1 | 20.1 | 31.7 | 50.3 | 61.4 |
| Zinc | 2.5 | 5.0 | 44.7 | 24.4 | 57.1 | 402 | 534 |

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## ANALYTICAL RESULTS

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Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 55

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C3**

| Our Lab I.D. | | | 89089.25 | 89089.26 | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS15-0.5 | Tt-WMS15-2.0 | | | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | | | |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | | | |
| Preparation Method | | | 3050B | 3050B | | | |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | | | |
| Matrix | | | Soil | Soil | | | |
| Units | | | mg/Kg | mg/Kg | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| Antimony | 1.0 | 5.0 | ND | ND | | | |
| Arsenic | 1.0 | 5.0 | ND | ND | | | |
| Barium | 2.5 | 5.0 | 83.7 | 63.2 | | | |
| Beryllium | 1.3 | 2.5 | ND | ND | | | |
| Cadmium | 1.3 | 2.5 | ND | ND | | | |
| Chromium | 2.5 | 5.0 | 23.3 | 14.4 | | | |
| Cobalt | 2.5 | 5.0 | 5.83 | 6.89 | | | |
| Copper | 2.5 | 5.0 | 6.59 | 12.1 | | | |
| Lead | 2.5 | 5.0 | ND | 2.63J | | | |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | ND | | | |
| Molybdenum | 2.5 | 5.0 | ND | ND | | | |
| Nickel | 2.5 | 5.0 | 10.4 | 9.46 | | | |
| Selenium | 1.0 | 5.0 | ND | ND | | | |
| Silver | 2.5 | 5.0 | ND | ND | | | |
| Thallium | 1.0 | 5.0 | ND | ND | | | |
| Vanadium | 2.5 | 5.0 | 32.2 | 26.8 | | | |
| Zinc | 2.5 | 5.0 | 29.6 | 36.6 | | | |

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## ANALYTICAL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 56

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C4**

| Our Lab I.D. | | | Method Blank | 89089.29 | 89089.30 | 89089.31 | 89089.34 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | Tt-WMS34-0.5 | Tt-WMS34-0.5D | Tt-WMS34-3.0 | Tt-WMS35-0.5 |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | 4.97J | 4.51J | 4.01J | 6.48 |
| Barium | 2.5 | 5.0 | ND | 92.0 | 92.1 | 93.8 | 194 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | ND | 16.0 | 15.4 | 23.5 | 17.2 |
| Cobalt | 2.5 | 5.0 | ND | 7.23 | 7.68 | 8.64 | 7.29 |
| Copper | 2.5 | 5.0 | ND | 85.1 | 88.7 | 52.3 | 127 |
| Lead | 2.5 | 5.0 | ND | 23.4 | 25.7 | 23.2 | 121 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | ND | 4.47 | 4.22 | 2.32 | 4.59 |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | ND | 11.2 | 14.0 | 14.3 | 13.6 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | ND | 28.3 | 30.2 | 40.1 | 24.3 |
| Zinc | 2.5 | 5.0 | ND | 87.8 | 88.7 | 107 | 123 |

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## ANALYTICAL RESULTS

**Ordered By**

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**Site**

Wilmington Marine Services

Page: 57

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C4**

| Our Lab I.D. | | | 89089.35 | 89089.38 | 89089.39 | 89089.42 | 89089.43 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS35-3.0 | Tt-WMS38-0.5 | Tt-WMS38-2.0 | Tt-WMS39-0.5 | Tt-WMS39-0.5D |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | 3050B | 3050B | 3050B | 3050B | 3050B |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | mg/Kg | mg/Kg | mg/Kg | mg/Kg | mg/Kg |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Antimony | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Arsenic | 1.0 | 5.0 | ND | 4.15J | 9.72 | 2.18J | ND |
| Barium | 2.5 | 5.0 | 109 | 158 | 87.4 | 113 | 135 |
| Beryllium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Cadmium | 1.3 | 2.5 | ND | ND | ND | ND | ND |
| Chromium | 2.5 | 5.0 | 17.8 | 23.6 | 17.3 | 25.7 | 25.7 |
| Cobalt | 2.5 | 5.0 | 9.96 | 12.0 | 9.30 | 12.1 | 12.8 |
| Copper | 2.5 | 5.0 | 17.4 | 25.8 | 26.9 | 33.0 | 34.6 |
| Lead | 2.5 | 5.0 | ND | 3.20J | 33.9 | 5.67 | 5.34 |
| Mercury (By EPA 7471) | 0.1 | 0.2 | 0.100J | ND | 0.124J | 0.195J | 0.229 |
| Molybdenum | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Nickel | 2.5 | 5.0 | 12.8 | 29.6 | 16.4 | 20.4 | 23.0 |
| Selenium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Silver | 2.5 | 5.0 | ND | ND | ND | ND | ND |
| Thallium | 1.0 | 5.0 | ND | ND | ND | ND | ND |
| Vanadium | 2.5 | 5.0 | 33.2 | 36.9 | 37.5 | 44.8 | 44.8 |
| Zinc | 2.5 | 5.0 | 57.5 | 46.9 | 104 | 62.2 | 62.9 |

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**Site**

Wilmington Marine Services

Page: 58

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C4**

| Our Lab I.D. | | | 89089.44 | | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS39-2.0 | | | | |
| Date Sampled | | | 08/22/2017 | | | | |
| Date Prepared | | | 08/25/2017 | | | | |
| Preparation Method | | | 3050B | | | | |
| Date Analyzed | | | 08/28/2017 | | | | |
| Matrix | | | Soil | | | | |
| Units | | | mg/Kg | | | | |
| Dilution Factor | | | 1 | | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | | | | |
| Antimony | 1.0 | 5.0 | ND | | | | |
| Arsenic | 1.0 | 5.0 | 5.84 | | | | |
| Barium | 2.5 | 5.0 | 134 | | | | |
| Beryllium | 1.3 | 2.5 | ND | | | | |
| Cadmium | 1.3 | 2.5 | ND | | | | |
| Chromium | 2.5 | 5.0 | 30.0 | | | | |
| Cobalt | 2.5 | 5.0 | 16.7 | | | | |
| Copper | 2.5 | 5.0 | 40.6 | | | | |
| Lead | 2.5 | 5.0 | 8.14 | | | | |
| Mercury (By EPA 7471) | 0.1 | 0.2 | 0.264 | | | | |
| Molybdenum | 2.5 | 5.0 | ND | | | | |
| Nickel | 2.5 | 5.0 | 24.9 | | | | |
| Selenium | 1.0 | 5.0 | ND | | | | |
| Silver | 2.5 | 5.0 | ND | | | | |
| Thallium | 1.0 | 5.0 | ND | | | | |
| Vanadium | 2.5 | 5.0 | 47.9 | | | | |
| Zinc | 2.5 | 5.0 | 73.5 | | | | |

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**Site**

Wilmington Marine Services

Page: 59

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-1**

| Our Lab I.D. | | | 89089.05 | 89089.06 | 89089.07 | 89089.10 | 89089.11 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS29-0.5 | Tt-WMS29-2.0 | Tt-WMS29-2.0D | Tt-WMS32-0.5 | Tt-WMS32-2.0 |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 8.00 | 19.7 | 27.4 | 13.2 | 11.6 |

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**Site**

Wilmington Marine Services

Page: 60

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-1**

| Our Lab I.D. | | | 89089.12 | 89089.15 | 89089.16 | 89089.17 | 89089.25 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS32-2.0D | Tt-WMS33-0.5 | Tt-WMS33-2.0 | Tt-WMS33-2.0D | Tt-WMS15-0.5 |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 6.20 | 12.5 | 11.9 | 13.5 | 12.8 |

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**Site**

Wilmington Marine Services

Page: 61

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-2**

| Our Lab I.D. | | | 89089.26 | 89089.31 | 89089.34 | 89089.35 | 89089.38 |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS15-2.0 | Tt-WMS34-3.0 | Tt-WMS35-0.5 | Tt-WMS35-3.0 | Tt-WMS38-0.5 |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 |
| Matrix | | | Soil | Soil | Soil | Soil | Soil |
| Units | | | % wt | % wt | % wt | % wt | % wt |
| Dilution Factor | | | 1 | 1 | 1 | 1 | 1 |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | **Results** |
| Moisture Content | 0.1 | 0.1 | 25.2 | 22.6 | 10.4 | 24.8 | 15.9 |

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**Site**

Wilmington Marine Services

Page: 62

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-2**

| Our Lab I.D. | | | 89089.39 | 89089.42 | 89089.43 | 89089.44 | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | Tt-WMS38-2.0 | Tt-WMS39-0.5 | Tt-WMS39-0.5D | Tt-WMS39-2.0 | |
| Date Sampled | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | 08/22/2017 | |
| Date Prepared | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | 08/25/2017 | |
| Preparation Method | | | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | ASTM-D2216 | |
| Date Analyzed | | | 08/28/2017 | 08/28/2017 | 08/28/2017 | 08/28/2017 | |
| Matrix | | | Soil | Soil | Soil | Soil | |
| Units | | | % wt | % wt | % wt | % wt | |
| Dilution Factor | | | 1 | 1 | 1 | 1 | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | **Results** | |
| Moisture Content | 0.1 | 0.1 | 22.4 | 21.0 | 18.3 | 23.1 | |

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**Site**

Wilmington Marine Services

Page: 63

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A2**

| Our Lab I.D. | | | Method Blank | 89089.01 | 89089.47 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08222017 | EB08222017 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| Acetone | 10 | 10 | ND | ND | ND | | |
| Benzene | 0.5 | 1.0 | ND | ND | ND | | |
| Bromobenzene (Phenyl bromide) | 0.5 | 1.0 | ND | ND | ND | | |
| Bromochloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| Bromodichloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| Bromoform (Tribromomethane) | 2.5 | 5.0 | ND | ND | ND | | |
| Bromomethane (Methyl bromide) | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Butanone (MEK) | 5.0 | 5.0 | ND | ND | ND | | |
| n-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| sec-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| tert-Butylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Carbon Disulfide | 0.5 | 1.0 | ND | ND | ND | | |
| Carbon tetrachloride | 0.5 | 1.0 | ND | ND | ND | | |
| Chlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Chloroethane | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Chloroethyl vinyl ether | 2.5 | 5.0 | ND | ND | ND | | |
| Chloroform (Trichloromethane) | 0.5 | 1.0 | ND | ND | ND | | |
| Chloromethane (Methyl chloride) | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Chlorotoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 4-Chlorotoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dibromo-3-chloropropane (DBCP) | 2.5 | 5.0 | ND | ND | ND | | |
| Dibromochloromethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dibromoethane (EDB) | 0.5 | 1.0 | ND | ND | ND | | |
| Dibromomethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,3-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,4-Dichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Dichlorodifluoromethane | 1.5 | 3.0 | ND | ND | ND | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A2**

| Our Lab I.D. | | | Method Blank | 89089.01 | 89089.47 | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08222017 | EB08222017 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| 1,1-Dichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichloroethane (EDC) | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| cis-1,2-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| trans-1,2-Dichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,3-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 2,2-Dichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| cis-1,3-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| trans-1,3-Dichloropropene | 0.5 | 1.0 | ND | ND | ND | | |
| Ethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Hexachlorobutadiene | 1.5 | 3.0 | ND | ND | ND | | |
| 2-Hexanone | 2.5 | 5.0 | ND | ND | ND | | |
| Iodomethane | 0.5 | 1.0 | ND | ND | ND | | |
| Isopropylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| p-Isopropyltoluene | 0.5 | 1.0 | ND | ND | ND | | |
| 4-Methyl-2-pentanone (MIBK) | 2.5 | 5.0 | ND | ND | ND | | |
| Methylene chloride (DCM) | 2.0 | 4.0 | ND | ND | ND | | |
| Naphthalene | 0.5 | 1.0 | ND | ND | ND | | |
| n-Propylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Styrene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,1,2-Tetrachloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,2,2-Tetrachloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| Tetrachloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| Toluene (Methyl benzene) | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,3-Trichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,4-Trichlorobenzene | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,1-Trichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,1,2-Trichloroethane | 0.5 | 1.0 | ND | ND | ND | | |
| Trichloroethene | 0.5 | 1.0 | ND | ND | ND | | |
| Trichlorofluoromethane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,3-Trichloropropane | 0.5 | 1.0 | ND | ND | ND | | |
| 1,2,4-Trimethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |

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# ANALYTICAL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A2**

| **Our Lab I.D.** | | | Method Blank | **89089.01** | **89089.47** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08222017 | EB08222017 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/23/2017 | 08/22/2017 | 08/22/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/23/2017 | 08/23/2017 | 08/23/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | ug/L | ug/L | ug/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| 1,3,5-Trimethylbenzene | 0.5 | 1.0 | ND | ND | ND | | |
| Vinyl Acetate | 0.5 | 5.0 | ND | ND | ND | | |
| Vinyl chloride (Chloroethene) | 0.5 | 3.0 | ND | ND | ND | | |
| o-Xylene | 0.5 | 1.0 | ND | ND | ND | | |
| m,p-Xylenes | 1.0 | 2.0 | ND | ND | ND | | |
| tert-Butyl alcohol (TBA) | 10 | 50 | ND | ND | ND | | |
| Diisopropyl ether (DIPE) | 0.5 | 1.0 | ND | ND | ND | | |
| Ethyl alcohol (Ethanol) | 250 | 500 | ND | ND | ND | | |
| Ethyl-tert-butyl ether (ETBE) | 0.5 | 1.0 | ND | ND | ND | | |
| Methyl-tert-butyl ether (MTBE) | 0.5 | 1.0 | ND | ND | ND | | |
| tert-Amyl methyl ether (TAME) | 0.5 | 1.0 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89089.01** | **89089.47** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 120 | 122 | 123 | | |
| Dibromofluoromethane | 75-125 | | 106 | 107 | 106 | | |
| Toluene-d8 | 75-125 | | 118 | 120 | 120 | | |

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## ANALYTICAL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 66

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: M8015G, TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417NB2**

| **Our Lab I.D.** | | | Method Blank | **89089.01** | **89089.47** | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | TB08222017 | EB08222017 | | |
| Date Sampled | | | | 08/22/2017 | 08/22/2017 | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | 08/22/2017 | | |
| Preparation Method | | | 5030B | 5030B | 5030B | | |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | 08/25/2017 | | |
| Matrix | | | Aqueous | Aqueous | Aqueous | | |
| Units | | | mg/L | mg/L | mg/L | | |
| Dilution Factor | | | 1 | 1 | 1 | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | **Results** | | |
| TPH as Gasoline and Light HC. (C4-C12) | 0.005 | 0.010 | ND | ND | ND | | |
| **Our Lab I.D.** | | | Method Blank | **89089.01** | **89089.47** | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | **% Rec.** | | |
| Bromofluorobenzene | 75-125 | | 112 | 105 | 109 | | |

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**Site**

Wilmington Marine Services

Page: 67

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

### Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082217DB1**

| **Our Lab I.D.** | | | Method Blank | **89089.47** | | | |
|---|---|---|---|---|---|---|---|
| Client Sample I.D. | | | | EB08222017 | | | |
| Date Sampled | | | | 08/22/2017 | | | |
| Date Prepared | | | 08/22/2017 | 08/22/2017 | | | |
| Preparation Method | | | 3510C | 3510C | | | |
| Date Analyzed | | | 08/25/2017 | 08/25/2017 | | | |
| Matrix | | | Aqueous | Aqueous | | | |
| Units | | | mg/L | mg/L | | | |
| Dilution Factor | | | 1 | 1 | | | |
| **Analytes** | **MDL** | **PQL** | **Results** | **Results** | | | |
| TPH as Diesel (C13-C22) | 0.1 | 0.5 | ND | ND | | | |
| TPH as Heavy Hydrocarbons (C23-C40) | 0.1 | 0.5 | ND | ND | | | |
| TPH Total as Diesel and Heavy HC.C13-C40 | 0.1 | 0.5 | ND | ND | | | |
| **Our Lab I.D.** | | | Method Blank | **89089.47** | | | |
| **Surrogates** | **%Rec.Limit** | | **% Rec.** | **% Rec.** | | | |
| Chlorobenzene | 60-125 | | 103 | 94.5 | | | |

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## QUALITY CONTROL RESULTS

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**Site**

Wilmington Marine Services

Page: 68

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A2; Dup or Spiked Sample: B0823171A2; LCS: Clean Water; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: ug/L**

| Analytes | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 53.1 | 106 | 50.0 | 52.3 | 105 | <1 | 75-125 | <20 | |
| Carbon tetrachloride | 50.0 | 49.9 | 99.8 | 50.0 | 51.3 | 103 | 3.16 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 54.9 | 110 | 50.0 | 54.6 | 109 | <1 | 75-125 | <20 | |
| Chloroform (Trichloromethane) | 50.0 | 55.3 | 111 | 50.0 | 53.4 | 107 | 3.67 | 75-125 | <20 | |
| 1,2-Dichlorobenzene | 50.0 | 51.2 | 102 | 50.0 | 51.6 | 103 | <1 | 75-125 | <20 | |
| 1,1-Dichloroethane | 50.0 | 51.0 | 102 | 50.0 | 49.1 | 98.2 | 3.80 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 49.1 | 98.2 | 50.0 | 56.1 | 112 | 13.1 | 75-125 | <20 | |
| cis-1,2-Dichloroethene | 50.0 | 54.9 | 110 | 50.0 | 53.1 | 106 | 3.70 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 56.0 | 112 | 50.0 | 54.6 | 109 | 2.71 | 75-125 | <20 | |
| n-Propylbenzene | 50.0 | 47.7 | 95.4 | 50.0 | 48.0 | 96.0 | <1 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 56.2 | 112 | 50.0 | 55.1 | 110 | 1.80 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 52.4 | 105 | 50.0 | 52.6 | 105 | <1 | 75-125 | <20 | |
| 1,1,2-Trichloroethane | 50.0 | 54.9 | 110 | 50.0 | 53.1 | 106 | 3.70 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 62.7 | 125 | 50.0 | 60.8 | 122 | 2.43 | 75-125 | <20 | |
| 1,2,4-Trimethylbenzene | 50.0 | 52.7 | 105 | 50.0 | 52.5 | 105 | <1 | 75-125 | <20 | |
| 1,3,5-Trimethylbenzene | 50.0 | 50.0 | 100 | 50.0 | 49.9 | 99.8 | <1 | 75-125 | <20 | |
| o-Xylene | 50.0 | 56.6 | 113 | 50.0 | 55.4 | 111 | 1.79 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 112 | 112 | 100 | 109 | 109 | 2.71 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 55.8 | 112 | 50.0 | 51.6 | 103 | 8.37 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 48.1 | 96.3 | 50.0 | 48.7 | 97.4 | 1.14 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 52.4 | 105 | 50.0 | 52.5 | 105 | <1 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 56.7 | 113 | 50.0 | 56.8 | 114 | <1 | 75-125 | <20 | |

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# QUALITY CONTROL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: 8260B, Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823171A2; Dup or Spiked Sample: B0823171A2; LCS: Clean Water; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: ug/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 50.2 | 100 | 50.0 | 54.7 | 109 | 8.61 | 75-125 | <20 | |
| Carbon tetrachloride | 50.0 | 62.0 | 124 | 50.0 | 62.5 | 125 | <1 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 52.3 | 105 | 50.0 | 56.3 | 113 | 7.34 | 75-125 | <20 | |
| Chloroform (Trichloromethane) | 50.0 | 49.4 | 98.8 | 50.0 | 54.3 | 109 | 9.82 | 75-125 | <20 | |
| 1,2-Dichlorobenzene | 50.0 | 49.0 | 98.0 | 50.0 | 53.2 | 106 | 7.84 | 75-125 | <20 | |
| 1,1-Dichloroethane | 50.0 | 46.7 | 93.4 | 50.0 | 51.0 | 102 | 8.80 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 57.2 | 114 | 50.0 | 58.1 | 116 | 1.74 | 75-125 | <20 | |
| cis-1,2-Dichloroethene | 50.0 | 49.3 | 98.6 | 50.0 | 53.9 | 108 | 9.10 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 57.3 | 115 | 50.0 | 59.9 | 120 | 4.26 | 75-125 | <20 | |
| n-Propylbenzene | 50.0 | 52.4 | 105 | 50.0 | 54.6 | 109 | 3.74 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 54.5 | 109 | 50.0 | 58.5 | 117 | 7.08 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 59.4 | 119 | 50.0 | 62.2 | 124 | 4.12 | 75-125 | <20 | |
| 1,1,2-Trichloroethane | 50.0 | 47.5 | 95.0 | 50.0 | 53.2 | 106 | 10.9 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 58.7 | 117 | 50.0 | 62.5 | 125 | 6.61 | 75-125 | <20 | |
| 1,2,4-Trimethylbenzene | 50.0 | 53.7 | 107 | 50.0 | 56.1 | 112 | 4.57 | 75-125 | <20 | |
| 1,3,5-Trimethylbenzene | 50.0 | 51.9 | 104 | 50.0 | 54.1 | 108 | 3.77 | 75-125 | <20 | |
| o-Xylene | 50.0 | 54.3 | 109 | 50.0 | 57.9 | 116 | 6.22 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 112 | 112 | 100 | 118 | 118 | 5.22 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 48.2 | 96.4 | 50.0 | 53.9 | 108 | 11.4 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 53.0 | 106 | 50.0 | 48.3 | 96.5 | 8.96 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 51.7 | 103 | 50.0 | 52.5 | 105 | 1.94 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 56.8 | 114 | 50.0 | 56.3 | 113 | <1 | 75-125 | <20 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

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**Site**

Wilmington Marine Services

Page: 70

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: M8015D, TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082217DB1; Dup or Spiked Sample: 89068.04; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 5.00 | 5.60 | 112 | 5.00 | 5.80 | 116 | 3.5 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 2.00 | 1.57 | 78.5 | 2.00 | 1.89 | 94.5 | 18.5 | 60-125 | <20 |

**QC Batch No: 082217DB1; Dup or Spiked Sample: 89068.04; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS/LCSD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 5.00 | 5.25 | 105 | 75-125 | | | | | | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 2.00 | 2.04 | 102 | 60-125 | | | | | | |

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## QUALITY CONTROL RESULTS

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**Site**

Wilmington Marine Services

Page: 71

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: M8015G, TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417NB2; Dup or Spiked Sample: 89089.47; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 0.500 | 0.500 | 100 | 0.500 | 0.499 | 99.8 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0550 | 110 | 0.0500 | 0.0560 | 112 | 1.8 | 75-125 | <20 |

**QC Batch No: 082417NB2; Dup or Spiked Sample: 89089.47; LCS: Clean Water; QC Prepared: 08/22/2017; QC Analyzed: 08/25/2017; Units: mg/L**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.500 | 0.499 | 99.8 | 0.500 | 0.493 | 98.6 | 1.2 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0550 | 110 | 0.0500 | 0.0590 | 118 | 7.0 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 72

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C3; Dup or Spiked Sample: 89089.05; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 47.3 | 94.6 | 50.0 | 47.9 | 95.8 | 1.3 | 75-125 | <15 |
| Arsenic | 1.27 | 50.0 | 47.5 | 92.5 | 50.0 | 48.1 | 93.7 | 1.3 | 75-125 | <15 |
| Barium | 44.0 | 50.0 | 81.3 # | 74.6 | 50.0 | 80.8 # | 73.6 | 1.3 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 49.8 | 99.6 | 50.0 | 49.8 | 99.6 | <1 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 42.8 | 85.6 | 50.0 | 43.1 | 86.2 | <1 | 75-125 | <15 |
| Chromium | 8.57 | 50.0 | 50.9 | 84.7 | 50.0 | 51.0 | 84.9 | <1 | 75-125 | <15 |
| Cobalt | 4.46 | 50.0 | 44.8 | 80.7 | 50.0 | 45.0 | 81.1 | <1 | 75-125 | <15 |
| Copper | 21.9 | 50.0 | 61.9 | 80.0 | 50.0 | 61.5 | 79.2 | 1.0 | 75-125 | <15 |
| Lead | 8.62 | 50.0 | 43.7 # | 70.2 | 50.0 | 44.3 # | 71.4 | 1.7 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.00 | 0.500 | 0.660# | 132 | 0.500 | 0.660# | 132 | <1 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 43.4 | 86.8 | 50.0 | 43.7 | 87.4 | <1 | 75-125 | <15 |
| Nickel | 7.75 | 50.0 | 45.6 | 75.7 | 50.0 | 45.8 | 76.1 | <1 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 42.4 | 84.8 | 50.0 | 42.0 | 84.0 | <1 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 46.9 | 93.8 | 50.0 | 46.9 | 93.8 | <1 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 35.0 # | 70.0 | 50.0 | 35.4 # | 70.8 | 1.1 | 75-125 | <15 |
| Vanadium | 18.1 | 50.0 | 62.4 | 88.6 | 50.0 | 62.1 | 88.0 | <1 | 75-125 | <15 |
| Zinc | 149 | 50.0 | 182 # | 66.0 | 50.0 | 181 # | 64.0 | 3.1 | 75-125 | <15 |

**QC Batch No: 0825172C3; Dup or Spiked Sample: 89089.05; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 50.2 | 100 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 | |
| Arsenic | 50.0 | 49.4 | 98.8 | 50.0 | 49.5 | 99.0 | <1 | 75-125 | <15 | |
| Barium | 50.0 | 50.6 | 101 | 50.0 | 50.2 | 100 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 55.3 | 111 | 50.0 | 54.5 | 109 | 1.8 | 75-125 | <15 | |
| Cadmium | 50.0 | 50.6 | 101 | 50.0 | 50.2 | 100 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 51.3 | 103 | 50.0 | 49.0 | 98.0 | 5.0 | 75-125 | <15 | |
| Cobalt | 50.0 | 50.5 | 101 | 50.0 | 50.1 | 100 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 50.3 | 101 | 50.0 | 50.6 | 101 | <1 | 75-125 | <15 | |
| Lead | 50.0 | 48.9 | 97.8 | 50.0 | 48.8 | 97.6 | <1 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C3; Dup or Spiked Sample: 89089.05; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (By EPA 7471) | 0.500 | 0.500 | 100 | 0.500 | 0.500 | 100 | <1 | 75-125 | <15 | |
| Molybdenum | 50.0 | 49.6 | 99.2 | 50.0 | 49.4 | 98.8 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 49.0 | 98.0 | 50.0 | 48.7 | 97.4 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 49.9 | 99.8 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 | |
| Silver | 50.0 | 50.7 | 101 | 50.0 | 50.8 | 102 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 51.2 | 102 | 50.0 | 51.1 | 102 | <1 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.4 | 101 | 50.0 | 50.2 | 100 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 52.9 | 106 | 50.0 | 52.8 | 106 | <1 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: **74**

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C4; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 0.00 | 50.0 | 48.4 | 96.8 | 50.0 | 48.8 | 97.6 | <1 | 75-125 | <15 |
| Arsenic | 5.84 | 50.0 | 50.8 | 89.9 | 50.0 | 50.6 | 89.5 | <1 | 75-125 | <15 |
| Barium | 134 | 50.0 | 160 # | 52.0 | 50.0 | 163 # | 58.0 | 10.9 | 75-125 | <15 |
| Beryllium | 0.00 | 50.0 | 47.8 | 95.6 | 50.0 | 47.8 | 95.6 | <1 | 75-125 | <15 |
| Cadmium | 0.00 | 50.0 | 46.0 | 92.0 | 50.0 | 45.9 | 91.8 | <1 | 75-125 | <15 |
| Chromium | 30.0 | 50.0 | 70.6 | 81.2 | 50.0 | 70.6 | 81.2 | <1 | 75-125 | <15 |
| Cobalt | 16.7 | 50.0 | 60.6 | 87.8 | 50.0 | 60.3 | 87.2 | <1 | 75-125 | <15 |
| Copper | 40.6 | 50.0 | 84.0 | 86.8 | 50.0 | 85.3 | 89.4 | 3.0 | 75-125 | <15 |
| Lead | 8.14 | 50.0 | 45.7 | 75.1 | 50.0 | 45.8 | 75.3 | <1 | 75-125 | <15 |
| Mercury (By EPA 7471) | 0.264 | 0.500 | 0.744 | 96.0 | 0.500 | 0.747 | 96.6 | <1 | 75-125 | <15 |
| Molybdenum | 0.00 | 50.0 | 43.5 | 87.0 | 50.0 | 43.7 | 87.4 | <1 | 75-125 | <15 |
| Nickel | 24.9 | 50.0 | 63.1 | 76.4 | 50.0 | 62.9 | 76.0 | <1 | 75-125 | <15 |
| Selenium | 0.00 | 50.0 | 31.5 # | 63.0 | 50.0 | 33.0 # | 66.0 | 4.7 | 75-125 | <15 |
| Silver | 0.00 | 50.0 | 44.2 | 88.4 | 50.0 | 44.9 | 89.8 | 1.6 | 75-125 | <15 |
| Thallium | 0.00 | 50.0 | 33.5 # | 67.0 | 50.0 | 33.7 # | 67.4 | <1 | 75-125 | <15 |
| Vanadium | 47.9 | 50.0 | 90.1 | 84.4 | 50.0 | 91.4 | 87.0 | 3.0 | 75-125 | <15 |
| Zinc | 73.5 | 50.0 | 110 # | 73.0 | 50.0 | 112 # | 77.0 | 5.3 | 75-125 | <15 |

**QC Batch No: 0825172C4; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 50.0 | 49.9 | 99.8 | 50.0 | 50.4 | 101 | 1.2 | 75-125 | <15 | |
| Arsenic | 50.0 | 49.9 | 99.8 | 50.0 | 49.9 | 99.8 | <1 | 75-125 | <15 | |
| Barium | 50.0 | 50.5 | 101 | 50.0 | 50.4 | 101 | <1 | 75-125 | <15 | |
| Beryllium | 50.0 | 55.1 | 110 | 50.0 | 54.8 | 110 | <1 | 75-125 | <15 | |
| Cadmium | 50.0 | 50.6 | 101 | 50.0 | 50.5 | 101 | <1 | 75-125 | <15 | |
| Chromium | 50.0 | 49.4 | 98.8 | 50.0 | 49.4 | 98.8 | <1 | 75-125 | <15 | |
| Cobalt | 50.0 | 50.3 | 101 | 50.0 | 50.4 | 101 | <1 | 75-125 | <15 | |
| Copper | 50.0 | 49.8 | 99.6 | 50.0 | 50.3 | 101 | 1.4 | 75-125 | <15 | |
| Lead | 50.0 | 48.9 | 97.8 | 50.0 | 49.3 | 98.6 | <1 | 75-125 | <15 | |

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# QUALITY CONTROL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (6010B/7000CAM), Title 22 Metals (SW-846)

**QC Batch No: 0825172C4; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/28/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury (By EPA 7471) | 0.500 | 0.525 | 105 | 0.500 | 0.525 | 105 | <1 | 75-125 | <15 | |
| Molybdenum | 50.0 | 49.8 | 99.6 | 50.0 | 50.0 | 100 | <1 | 75-125 | <15 | |
| Nickel | 50.0 | 48.9 | 97.8 | 50.0 | 48.9 | 97.8 | <1 | 75-125 | <15 | |
| Selenium | 50.0 | 49.1 | 98.2 | 50.0 | 49.5 | 99.0 | <1 | 75-125 | <15 | |
| Silver | 50.0 | 50.6 | 101 | 50.0 | 50.8 | 102 | <1 | 75-125 | <15 | |
| Thallium | 50.0 | 52.0 | 104 | 50.0 | 52.1 | 104 | <1 | 75-125 | <15 | |
| Vanadium | 50.0 | 50.3 | 101 | 50.0 | 50.3 | 101 | <1 | 75-125 | <15 | |
| Zinc | 50.0 | 50.9 | 102 | 50.0 | 53.7 | 107 | 4.8 | 75-125 | <15 | |

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## QUALITY CONTROL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 76

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 082517-4; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/28/2017; QC Analyzed: 08/28/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 500 | 480 | 96.0 | 500 | 560 | 112 | 15.4 | 50-150 | <20 |
| Aroclor-1260 (PCB-1260) | 0.00 | 500 | 695 | 139 | 500 | 705 | 141 | 1.4 | 50-150 | <20 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 50.0 | 71.5 | 143 | 50.0 | 75.0 | 150 | 4.8 | 30-150 | <20 |
| Tetrachloro-m-xylene | 0.00 | 50.0 | 65.0 | 130 | 50.0 | 59.0 | 118 | 9.7 | 30-150 | <20 |

**QC Batch No: 082517-4; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/28/2017; QC Analyzed: 08/28/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 500 | 520 | 104 | 500 | 625 | 125 | 18.3 | 50-150 | <20 | |
| Aroclor-1260 (PCB-1260) | 500 | 540 | 108 | 500 | 505 | 101 | 6.7 | 50-150 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 50.0 | 58.0 | 116 | 50.0 | 55.0 | 110 | 5.3 | 30-150 | <20 | |
| Tetrachloro-m-xylene | 50.0 | 59.0 | 118 | 50.0 | 61.0 | 122 | 3.3 | 30-150 | <20 | |

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 77

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0823172A1; Dup or Spiked Sample: 89069.44; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/23/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00 | 50.0 | 36.1 | 72.2 | 50.0 | 37.7 | 75.4 | 4.34 | 75-125 | <20 |
| Chlorobenzene | 0.00 | 50.0 | 41.0 | 82.0 | 50.0 | 40.5 | 81.0 | 1.23 | 75-125 | <20 |
| 1,1-Dichloroethene | 0.00 | 50.0 | 36.9 | 73.8 | 50.0 | 35.8 | 71.6 | 3.03 | 75-125 | <20 |
| Toluene (Methyl benzene) | 0.00 | 50.0 | 39.3 | 78.6 | 50.0 | 40.3 | 80.6 | 2.51 | 75-125 | <20 |
| Trichloroethene | 0.00 | 50.0 | 44.4 | 88.8 | 50.0 | 44.3 | 88.6 | <1 | 75-125 | <20 |
| Methyl-tert-butyl ether (MTBE) | 0.00 | 50.0 | 42.7 | 85.4 | 50.0 | 41.3 | 82.6 | 3.33 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 50.0 | 46.8 | 93.6 | 50.0 | 46.9 | 93.8 | <1 | 75-125 | <20 |
| Dibromofluoromethane | 0.00 | 50.0 | 47.4 | 94.7 | 50.0 | 47.8 | 95.5 | <1 | 75-125 | <20 |
| Toluene-d8 | 0.00 | 50.0 | 49.3 | 98.6 | 50.0 | 49.4 | 98.8 | <1 | 75-125 | <20 |

**QC Batch No: 0823172A1; Dup or Spiked Sample: 89069.44; LCS: Clean Sand; QC Prepared: 08/23/2017; QC Analyzed: 08/23/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 46.0 | 92.0 | 50.0 | 44.0 | 88.0 | 4.44 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 49.9 | 99.8 | 50.0 | 48.0 | 96.0 | 3.88 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 43.5 | 87.0 | 50.0 | 40.5 | 81.0 | 7.14 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 49.9 | 99.8 | 50.0 | 47.5 | 95.0 | 4.93 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 53.0 | 106 | 50.0 | 53.0 | 106 | <1 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 45.7 | 91.4 | 50.0 | 44.5 | 89.0 | 2.66 | 75-125 | <20 | |
| **LCS** | | | | | | | | | | |
| Chloroform (Trichloromethane) | 50.0 | 51.5 | 103 | 50.0 | 49.0 | 98.0 | 4.98 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 53.5 | 107 | 50.0 | 51.0 | 102 | 4.78 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 53.0 | 106 | 50.0 | 53.0 | 106 | <1 | 75-125 | <20 | |
| o-Xylene | 50.0 | 50.0 | 100 | 50.0 | 47.0 | 94.0 | 6.19 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 102 | 102 | 100 | 97.6 | 97.6 | 4.41 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 49.7 | 99.4 | 50.0 | 48.8 | 97.6 | 1.81 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 45.6 | 91.1 | 50.0 | 45.9 | 91.8 | <1 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 50.5 | 101 | 50.0 | 49.1 | 98.2 | 2.77 | 75-125 | <20 | |

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## QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 78

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

**QC Batch No: 0824172A1; Dup or Spiked Sample: 89108.01; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00 | 50.0 | 40.9 | 81.8 | 50.0 | 39.8 | 79.6 | 2.73 | 75-125 | <20 |
| Chlorobenzene | 0.00 | 50.0 | 45.1 | 90.2 | 50.0 | 42.8 | 85.6 | 5.23 | 75-125 | <20 |
| 1,1-Dichloroethene | 0.00 | 50.0 | 52.0 | 104 | 50.0 | 61.5 | 123 | 16.7 | 75-125 | <20 |
| Toluene (Methyl benzene) | 0.00 | 50.0 | 45.7 | 91.4 | 50.0 | 42.6 | 85.2 | 7.02 | 75-125 | <20 |
| Trichloroethene | 0.00 | 50.0 | 73.5 # | 147 | 50.0 | 71.0 # | 142 | 3.46 | 75-125 | <20 |
| Methyl-tert-butyl ether (MTBE) | 0.00 | 50.0 | 36.0 # | 72.0 | 50.0 | 36.9 # | 73.8 | 2.47 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 50.0 | 47.3 | 94.6 | 50.0 | 49.0 | 97.9 | 3.49 | 75-125 | <20 |
| Dibromofluoromethane | 0.00 | 50.0 | 42.0 | 84.0 | 50.0 | 44.2 | 88.3 | 5.12 | 75-125 | <20 |
| Toluene-d8 | 0.00 | 50.0 | 49.6 | 99.1 | 50.0 | 48.6 | 97.1 | 2.02 | 75-125 | <20 |

**QC Batch No: 0824172A1; Dup or Spiked Sample: 89108.01; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 40.6 | 81.2 | 50.0 | 40.0 | 80.0 | 1.49 | 75-125 | <20 | |
| Chlorobenzene | 50.0 | 44.9 | 89.8 | 50.0 | 43.4 | 87.0 | 3.17 | 75-125 | <20 | |
| 1,1-Dichloroethene | 50.0 | 39.8 | 79.6 | 50.0 | 41.0 | 82.0 | 2.97 | 75-125 | <20 | |
| Toluene (Methyl benzene) | 50.0 | 43.2 | 86.4 | 50.0 | 41.2 | 82.0 | 5.23 | 75-125 | <20 | |
| Trichloroethene | 50.0 | 48.7 | 97.4 | 50.0 | 48.7 | 97.0 | <1 | 75-125 | <20 | |
| Methyl-tert-butyl ether (MTBE) | 50.0 | 43.8 | 87.6 | 50.0 | 43.0 | 86.0 | 1.84 | 75-125 | <20 | |
| **LCS** | | | | | | | | | | |
| Chloroform (Trichloromethane) | 50.0 | 45.7 | 91.4 | 50.0 | 45.1 | 90.0 | 1.54 | 75-125 | <20 | |
| Ethylbenzene | 50.0 | 46.3 | 92.6 | 50.0 | 44.5 | 89.0 | 3.96 | 75-125 | <20 | |
| 1,1,1-Trichloroethane | 50.0 | 47.5 | 95.0 | 50.0 | 48.1 | 96.0 | 1.05 | 75-125 | <20 | |
| o-Xylene | 50.0 | 44.5 | 89.0 | 50.0 | 43.3 | 87.0 | 2.27 | 75-125 | <20 | |
| m,p-Xylenes | 100 | 88.9 | 88.9 | 100 | 85.8 | 85.8 | 3.55 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 50.0 | 47.7 | 95.3 | 50.0 | 46.5 | 93.0 | 2.41 | 75-125 | <20 | |
| Dibromofluoromethane | 50.0 | 44.5 | 88.9 | 50.0 | 44.8 | 89.7 | <1 | 75-125 | <20 | |
| Toluene-d8 | 50.0 | 48.3 | 96.7 | 50.0 | 47.1 | 94.2 | 2.59 | 75-125 | <20 | |

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# QUALITY CONTROL RESULTS

**Ordered By**

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Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 79

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917; Dup or Spiked Sample: 89089.35; LCS: Clean Sand; QC Prepared: 08/29/2017; QC Analyzed: 08/30/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 0.00 | 2.50 | 2.06 | 82.4 | 2.50 | 1.93 | 77.2 | 6.5 | 46-118 | <20 |
| 4-Chloro-3-methylphenol | 0.00 | 5.00 | 3.93 | 78.5 | 5.00 | 3.90 | 77.9 | <1 | 39-98 | <20 |
| 2-Chlorophenol | 0.00 | 5.00 | 3.74 | 74.8 | 5.00 | 3.57 | 71.3 | 4.8 | 27-123 | <20 |
| 1,4-Dichlorobenzene | 0.00 | 2.50 | 2.04 | 81.7 | 2.50 | 1.90 | 76.0 | 7.2 | 36-97 | <20 |
| 2,4-Dinitrotoluene | 0.00 | 2.50 | 1.90 | 75.9 | 2.50 | 2.02 | 80.6 | 6.0 | 24-96 | <20 |
| N-Nitroso-Di-n-propylamine | 0.00 | 2.50 | 2.00 | 79.8 | 2.50 | 1.98 | 79.0 | 1.0 | 41-116 | <20 |
| 4-Nitrophenol | 0.00 | 5.00 | 1.53 | 30.6 | 5.00 | 2.28 | 45.6 | 39.4 | 10-110 | <20 |
| Pentachlorophenol | 0.00 | 5.00 | 3.25 | 65.0 | 5.00 | 3.44 | 68.7 | 5.5 | 40-125 | <20 |
| Phenol | 0.00 | 5.00 | 3.30 | 65.9 | 5.00 | 3.17 | 63.3 | 4.0 | 12-89 | <20 |
| Pyrene | 0.00 | 2.50 | 3.05 | 122 | 2.50 | 3.08 | 123 | <1 | 26-127 | <20 |
| 1,2,4-Trichlorobenzene | 0.00 | 2.50 | 2.51 | 100 | 2.50 | 2.31 | 92.2 | 8.5 | 39-98 | <20 |
| **Surrogates** | | | | | | | | | | |
| 2-Fluorophenol | 0.00 | 5.00 | 3.03 | 60.5 | 5.00 | 2.78 | 55.6 | 8.4 | 25-121 | <20 |
| 2-Fluorobiphenyl | 0.00 | 2.50 | 2.11 | 84.4 | 2.50 | 1.93 | 77.0 | 9.2 | 30-115 | <20 |
| Nitrobenzene-d5 | 0.00 | 2.50 | 1.82 | 72.9 | 2.50 | 1.66 | 66.4 | 9.3 | 23-120 | <20 |
| p-Terphenyl-D14 | 0.00 | 2.50 | 3.01 | 120 | 2.50 | 3.34 | 134 | 10.6 | 18-137 | <20 |
| Phenol-d6 | 0.00 | 5.00 | 3.14 | 62.7 | 5.00 | 3.00 | 60.0 | 4.4 | 24-113 | <20 |
| 2,4,6-Tribromophenol | 0.00 | 5.00 | 4.69 | 93.8 | 5.00 | 4.24 | 84.8 | 10.1 | 19-122 | <20 |

**QC Batch No: 082917; Dup or Spiked Sample: 89089.35; LCS: Clean Sand; QC Prepared: 08/29/2017; QC Analyzed: 08/30/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 2.50 | 1.95 | 77.8 | 2.50 | 2.05 | 81.8 | 5.0 | 31-137 | <20 | |
| 4-Chloro-3-methylphenol | 5.00 | 3.94 | 78.8 | 5.00 | 4.03 | 80.5 | 2.1 | 40-99 | <20 | |
| 2-Chlorophenol | 5.00 | 3.53 | 70.5 | 5.00 | 3.69 | 73.8 | 4.6 | 25-102 | <20 | |
| 1,4-Dichlorobenzene | 2.50 | 1.76 | 70.5 | 2.50 | 1.85 | 73.8 | 4.6 | 28-104 | <20 | |
| 2,4-Dinitrotoluene | 2.50 | 1.85 | 73.8 | 2.50 | 1.98 | 79.2 | 7.1 | 28-89 | <20 | |
| N-Nitroso-Di-n-propylamine | 2.50 | 1.87 | 74.6 | 2.50 | 1.85 | 73.8 | 1.1 | 41-126 | <20 | |
| 4-Nitrophenol | 5.00 | 2.05 | 41.0 | 5.00 | 2.36 | 47.2 | 14.1 | 11-114 | <20 | |
| Pentachlorophenol | 5.00 | 3.41 | 68.2 | 5.00 | 3.52 | 70.4 | 3.2 | 17-125 | <20 | |

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# QUALITY CONTROL RESULTS



Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8270C), Semivolatile Organic Compounds by GC/MS (SW-846)

**QC Batch No: 082917; Dup or Spiked Sample: 89089.35; LCS: Clean Sand; QC Prepared: 08/29/2017; QC Analyzed: 08/30/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Phenol | 5.00 | 3.22 | 64.4 | 5.00 | 3.35 | 66.9 | 3.8 | 26-90 | <20 | |
| Pyrene | 2.50 | 3.00 | 120 | 2.50 | 2.88 | 115 | 4.3 | 35-142 | <20 | |
| 1,2,4-Trichlorobenzene | 2.50 | 2.37 | 94.6 | 2.50 | 2.47 | 98.8 | 4.3 | 38-107 | <20 | |
| **Surrogates** | | | | | | | | | | |
| 2-Fluorophenol | 5.00 | 3.10 | 62.0 | 5.00 | 3.12 | 62.3 | <1 | 25-121 | <20 | |
| 2-Fluorobiphenyl | 2.50 | 2.06 | 82.2 | 2.50 | 2.09 | 83.6 | 1.7 | 30-115 | <20 | |
| Nitrobenzene-d5 | 2.50 | 1.71 | 68.4 | 2.50 | 1.78 | 71.2 | 4.0 | 23-120 | <20 | |
| p-Terphenyl-D14 | 2.50 | 2.99 | 119 | 2.50 | 2.78 | 111 | 7.3 | 18-137 | <20 | |
| Phenol-d6 | 5.00 | 3.11 | 62.1 | 5.00 | 3.22 | 64.4 | 3.6 | 24-113 | <20 | |
| 2,4,6-Tribromophenol | 5.00 | 4.56 | 91.2 | 5.00 | 4.40 | 87.9 | 3.7 | 19-122 | <20 | |

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**Site**

Wilmington Marine Services

Page: 81

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB1; Dup or Spiked Sample: 89089.05; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 500 | 474 | 94.8 | 500 | 458 | 91.6 | 3.43 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 104 | 104 | 100 | 101 | 101 | 2.88 | 75-125 | <20 |

**QC Batch No: 082517PB1; Dup or Spiked Sample: 89089.05; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 556 | 111 | 500 | 548 | 110 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 114 | 114 | 100 | 112 | 112 | 1.75 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 82

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082517PB2; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/26/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 0.00 | 500 | 464 | 92.8 | 500 | 472 | 94.4 | 1.71 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 108 | 108 | 100 | 111 | 111 | 2.78 | 75-125 | <20 |

**QC Batch No: 082517PB2; Dup or Spiked Sample: 89089.44; LCS: Clean Sand; QC Prepared: 08/25/2017; QC Analyzed: 08/26/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 577 | 115 | 500 | 575 | 115 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 115 | 115 | 100 | 115 | 115 | <1 | 75-125 | <20 | |

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Wilmington Marine Services

Page: 83

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

**QC Batch No: 082917DB1; Dup or Spiked Sample: 89125.12; LCS: Clean Sand; QC Prepared: 08/29/2017;MS Analyzed: 08/30/2017; LCS Analyzed: 08/29/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 212 | 500 | 735 | 105 | 500 | 739 | 105 | <1 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 0.00 | 100 | 100 | 100 | 100 | 100 | 100 | <1 | 75-125 | <20 |

**QC Batch No: 082917DB1; Dup or Spiked Sample: 89125.12; LCS: Clean Sand; QC Prepared: 08/29/2017;MS Analyzed: 08/30/2017; LCS Analyzed: 08/29/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel (C13-C22) | 500 | 449 | 89.8 | 500 | 481 | 96.2 | 6.88 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Chlorobenzene | 100 | 96.9 | 96.9 | 100 | 94.5 | 94.5 | 2.48 | 75-125 | <20 | |

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Wilmington Marine Services

Page: 84

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082317OB1; Dup or Spiked Sample: 89089.05AGA; LCS: Clean Sand; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.810 | 81.1 | 1.00 | 0.860 | 86.0 | 5.86 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0518 | 104 | 0.0500 | 0.0508 | 102 | 1.92 | 75-125 | <20 |

**QC Batch No: 082317OB1; Dup or Spiked Sample: 89089.05AGA; LCS: Clean Sand; QC Prepared: 08/23/2017;MS Analyzed: 08/24/2017; LCS Analyzed: 08/23/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 1.00 | 99.5 | 1.00 | 0.920 | 92.1 | 7.72 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0533 | 107 | 0.0500 | 0.0531 | 106 | <1 | 75-125 | <20 | |

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Wilmington Marine Services

Page: 85

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB1; Dup or Spiked Sample: 89089.44EGA; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.980 | 97.7 | 1.00 | 0.950 | 95.3 | 2.49 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0549 | 110 | 0.0500 | 0.0531 | 106 | 3.64 | 75-125 | <20 |

**QC Batch No: 082417OB1; Dup or Spiked Sample: 89089.44EGA; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/24/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 1.02 | 102 | 1.00 | 1.01 | 101 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0522 | 104 | 0.0500 | 0.0526 | 105 | <1 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 86

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082417OB2; Dup or Spiked Sample: 89064.25AGA; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.830 | 82.8 | 1.00 | 0.810 | 81.1 | 2.07 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0525 | 105 | 0.0500 | 0.0521 | 104 | <1 | 75-125 | <20 |

**QC Batch No: 082417OB2; Dup or Spiked Sample: 89064.25AGA; LCS: Clean Sand; QC Prepared: 08/24/2017; QC Analyzed: 08/25/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 0.850 | 85.2 | 1.00 | 0.830 | 82.7 | 2.98 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0543 | 109 | 0.0500 | 0.0547 | 109 | <1 | 75-125 | <20 | |

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Wilmington Marine Services

Page: 87

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 082917OB1; LCS: Clean Sand; LCS Prepared: 08/29/2017; LCS Analyzed: 08/29/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 0.970 | 97.2 | 1.00 | 0.900 | 89.5 | 8.25 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0565 | 113 | 0.0500 | 0.0550 | 110 | 2.65 | 75-125 | <20 | |

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Wilmington Marine Services

Page: 88

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

**QC Batch No: 083017OB1; Dup or Spiked Sample: 89162.04AGA; LCS: Clean Sand; QC Prepared: 08/30/2017; QC Analyzed: 08/30/2017; Units: mg/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 0.00 | 1.00 | 0.810 | 81.0 | 1.00 | 0.820 | 81.9 | 1.10 | 75-125 | <20 |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.00 | 0.0500 | 0.0550 | 110 | 0.0500 | 0.0559 | 112 | 1.82 | 75-125 | <20 |

**QC Batch No: 083017OB1; Dup or Spiked Sample: 89162.04AGA; LCS: Clean Sand; QC Prepared: 08/30/2017; QC Analyzed: 08/30/2017; Units: mg/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline and Light HC. (C4-C12) | 1.00 | 0.860 | 85.7 | 1.00 | 0.850 | 85.0 | <1 | 75-125 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Bromofluorobenzene | 0.0500 | 0.0546 | 109 | 0.0500 | 0.0562 | 112 | 2.75 | 75-125 | <20 | |

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**Site**

Wilmington Marine Services

Page: 89

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-1; Dup or Spiked Sample: 89089.05; Units: % wt**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture Content | 8.00 | 8.10 | 1.2 | <20 | | | | | | |

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# QUALITY CONTROL RESULTS

**Ordered By**

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, CA 91107-6024

Telephone: (626)351-4664
Attn: Maclyn O'Donnell

**Site**

Wilmington Marine Services

Page: 90

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: ASTM-D2216, Moisture Content

**QC Batch No: MO082517-2; Dup or Spiked Sample: 89089.44; Units: % wt**

| Analytes | SM Result | SM DUP Result | RPD % | SM RPD % Limit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture Content | 23.1 | 23.4 | 1.3 | <20 | | | | | | |

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# QUALITY CONTROL RESULTS

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**Site**

Wilmington Marine Services

Page: 91

Project ID: T73479.17
Project Name: Wilmington Marine Services

| AETL Job Number | Submitted | Client |
|---|---|---|
| 89089 | 08/22/2017 | T/T |

## Method: (8082), Polychlorinated Biphenyls (PCBs) by GC

**QC Batch No: 083017-4; Dup or Spiked Sample: 89089.24; LCS: Blank; QC Prepared: 08/30/2017; QC Analyzed: 09/01/2017; Units: ug/Kg**

| Analytes | Sample Result | MS Concen | MS Recov | MS % REC | MS DUP Concen | MS DUP Recov | MS DUP % REC | RPD % | MS/MSD % Limit | MS RPD % Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 0.00 | 500 | 540 | 108 | 500 | 441 | 88.2 | 20.2 | 50-150 | <20 |
| Aroclor-1260 (PCB-1260) | 0.00 | 500 | 695 | 139 | 500 | 675 | 135 | 2.9 | 50-150 | <20 |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 0.00 | 50.0 | 57.0 | 114 | 50.0 | 57.0 | 114 | <1 | 30-150 | <20 |
| Tetrachloro-m-xylene | 0.00 | 50.0 | 50.5 | 101 | 50.0 | 48.5 | 97.0 | 4.0 | 30-150 | <20 |

**QC Batch No: 083017-4; Dup or Spiked Sample: 89089.24; LCS: Blank; QC Prepared: 08/30/2017; QC Analyzed: 09/01/2017; Units: ug/Kg**

| Analytes | LCS Concen | LCS Recov | LCS % REC | LCS DUP Concen | LCS DUP Recov | LCS DUP % REC | LCS RPD % REC | LCS/LCSD % Limit | LCS RPD % Limit | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 (PCB-1016) | 500 | 600 | 120 | 500 | 433 | 86.6 | 32.3 | 50-150 | <20 | |
| Aroclor-1260 (PCB-1260) | 500 | 730 | 146 | 500 | 710 | 142 | 2.8 | 50-150 | <20 | |
| **Surrogates** | | | | | | | | | | |
| Decachlorobiphenyl | 50.0 | 54.5 | 109 | 50.0 | 61.5 | 123 | 12.1 | 30-150 | <20 | |
| Tetrachloro-m-xylene | 50.0 | 59.5 | 119 | 50.0 | 63.5 | 127 | 6.5 | 30-150 | <20 | |

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# Data Qualifiers and Descriptors

## *Data Qualifier:*

| | |
|---|---|
| #: | Recovery is not within acceptable control limits. |
| *: | In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied. |
| B: | Analyte was present in the Method Blank. |
| D: | Result is from a diluted analysis. |
| E: | Result is beyond calibration limits and is estimated. |
| H: | Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control. |
| J: | Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). |
| M: | Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable. |
| MCL: | Maximum Contaminant Level |
| NS: | No Standard Available |
| S6: | Surrogate recovery is outside control limits due to matrix interference. |
| S8: | The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria. |
| X: | Results represent LCS and LCSD data. |

## *Definition:*

| | |
|---|---|
| %Limi: | Percent acceptable limits. |
| %REC: | Percent recovery. |
| Con.L: | Acceptable Control Limits |
| Conce: | Added concentration to the sample. |
| LCS: | Laboratory Control Sample |
| MDL: | Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability. |

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# Data Qualifiers and Descriptors

| | |
|---|---|
| MS: | Matrix Spike |
| MS DU: | Matrix Spike Duplicate |
| ND: | Analyte was not detected in the sample at or above MDL. |
| PQL: | Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice. |
| Recov: | Recovered concentration in the sample. |
| RPD: | Relative Percent Difference |