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## Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/10/16
Work Order: 16-02-0869
Preparation: EPA 3005A Filt.
Method: EPA 1640
Page 1 of 2

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| NB-39-021016 | Sample | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 06:15 | 160211S01 |
| NB-39-021016 | Matrix Spike | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 06:31 | 160211S01 |
| NB-39-021016 | Matrix Spike Duplicate | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 07:09 | 160211S01 |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 4.857 | 0.5000 | 5.086 | 4X | 5.586 | 4X | 50-150 | 4X | 0-20 | Q |

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RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/10/16
Work Order: 16-02-0869
Preparation: EPA 3005A Filt.
Method: EPA 1640



| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| NB-24-021016 | Sample | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 06:23 | 160211S02 |
| NB-24-021016 | Matrix Spike | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 07:17 | 160211S02 |
| NB-24-021016 | Matrix Spike Duplicate | Aqueous | ICP/MS 05 | 02/11/16 | 02/17/16 07:25 | 160211S02 |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 1.644 | 0.5000 | 2.558 | 183 | 2.701 | 211 | 50-150 | 5 | 0-20 | 3 |

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RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - LCS/LCSD

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/10/16
Work Order: 16-02-0869
Preparation: EPA 3005A Filt.
Method: EPA 1640
Page 1 of 2

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| 099-15-823-183 | LCS | Aqueous | ICP/MS 05 | 02/11/16 | 02/11/16 19:05 | 160211L01F |
| 099-15-823-183 | LCSD | Aqueous | ICP/MS 05 | 02/11/16 | 02/11/16 19:13 | 160211L01F |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Copper | 0.5000 | 0.5374 | 107 | 0.5279 | 106 | 70-130 | 2 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - LCS/LCSD

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/10/16
Work Order: 16-02-0869
Preparation: EPA 3005A Filt.
Method: EPA 1640


| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| 099-15-823-184 | LCS | Aqueous | ICP/MS 05 | 02/11/16 | 02/11/16 19:21 | 160211L02F |
| 099-15-823-184 | LCSD | Aqueous | ICP/MS 05 | 02/11/16 | 02/11/16 19:29 | 160211L02F |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Copper | 0.5000 | 0.5178 | 104 | 0.5230 | 105 | 70-130 | 1 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Glossary of Terms and Qualifiers

Work Order: 16-02-0869 Page 1 of 1

| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| CI | See case narrative. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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# CHAIN OF CUSTODY RECORD

WO #: / LAB USE ONLY
**16-02-0869**

DATE: 2/10/16
PAGE: 1 OF 4

| | |
|---|---|
| LABORATORY CLIENT: **Anchor QEA** | CLIENT PROJECT NAME / NUMBER: Newport Bay Metals TMDL WQ |
| ADDRESS: **27201 Puerta Real, Suite 350** | P.O. NO.: 150243-01.04 |
| CITY: **Mission Viejo** STATE: **CA** ZIP: **92691** | PROJECT CONTACT: Chris Osuch |
| TEL: **949.347.2780** E-MAIL: cosuch@anchorqea.com | SAMPLER(S): (PRINT) C. Dolphin, N. Kennedy |

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF | GLOBAL ID: | LOG CODE:

SPECIAL INSTRUCTIONS:
Report down to the MDL
Filter at laboratory upon receipt

**REQUESTED ANALYSES**
Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | EPA 1640 Dissolved Cu | MS/MSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ND-22-021016 | 2/10/16 | 1157 | WAT | 1 | X | | | X | |
| 2 | NB-01-021016 | | 1155 | | 1 | X | | | X | |
| 3 | NB-34-021016 | | 1202 | | 1 | X | | | X | |
| 4 | NB-37-021016 | | ~~1205~~ 1200 | | 1 | X | | | X | |
| 5 | NB-32-021016 | | 1220 | | 1 | X | | | X | |
| 6 | NB-30-021016 | | 1229 | | 1 | X | | | X | |
| 7 | NB-15-021016 | | 1342 | | 1 | X | | | X | |
| 8 | NB-13-021016 | | 1350 | | 1 | X | | | X | |
| 9 | NB-39-021016 | | 1430 | | 2 | X | | | X | X |
| 10 | NB-18-021016 | | 1439 | | 1 | X | | | X | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: 2/10/16 | Time: 1720 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |



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# CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 16-02-0869

DATE: 2/10/16

PAGE: 2 OF 4

LABORATORY CLIENT: Anchor QEA

ADDRESS: 27201 Puerta Real, Suite 350

CITY: Mission Viejo STATE: CA ZIP: 92691

TEL: 949.347.2780 E-MAIL: cosuch@anchorqea.com

CLIENT PROJECT NAME / NUMBER: Newport Bay Metals TMDL WQ

P.O. NO.: 150243-01.04

PROJECT CONTACT: Chris Osuch

SAMPLER(S): (PRINT) C. Dolphin, N. Kennedy

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:
Report down to the MDL
Filter at laboratory upon receipt

## REQUESTED ANALYSES

Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | EPA 1640 Dissolved Cu | MS/MSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 | NB-RD BC124-01-021016 | 2/11/16 | 1020 | WAT | 1 | X | | | X | |
| 12 | NB-RD BC124-02-021016 | | 1020 | | 1 | X | | | X | |
| 13 | NB-RD BC124-03-021016 | | 1020 | | 1 | X | | | X | |
| 14 | NB-RD BC124-04-021016 | | 1020 | | 1 | X | | | X | |
| 15 | NB-RD BC124-05-021016 | | 1020 | | 1 | X | | | X | |
| 16 | NB-RD BC124-06-021016 | | 1020 | | 1 | X | | | X | |
| 17 | NB-RD BC124-07-021016 | | 1020 | | 1 | X | | | X | |
| 18 | NB-27-021016 | | 1147 | | 1 | X | | | X | |
| 19 | NB-08-021016 | | 1120 | | 1 | X | | | X | |
| 20 | NB-35-021016 | | 1131 | | 1 | X | | | X | |

| | | | |
|---|---|---|---|
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: 2/10/16 | Time: 1726 |
| Relinquished by: (Signature) 2/10/16 | Received by: (Signature/Affiliation) | Date: | Time: 15 2/10/16 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |



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WO#/LAB USE ONLY: 16-02-0869

DATE: 2/10/16

PAGE: 3 OF 4

LABORATORY CLIENT: Anchor QEA

ADDRESS: 27201 Puerta Real, Suite 350

CITY: Mission Viejo STATE: CA ZIP: 92691

TEL: 949.347.2780 E-MAIL: cosuch@anchorqea.com

CLIENT PROJECT NAME / NUMBER: Newport Bay Metals TMDL WQ

P.O. NO.: 150243-01.04

PROJECT CONTACT: Chris Osuch

SAMPLER(S): (PRINT) C. Dolphin, N. Kennedy

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☑ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:
Report down to the MDL
Filter at laboratory upon receipt

## REQUESTED ANALYSES

Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | EPA 1640 Dissolved Cu | MS/MSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | NB-24-021016 | 2/10/16 | 0822 | WAT | 2 | | | | X | X |
| 22 | NB-17-021016 | | 0901 | | 1 | | | | X | |
| 23 | NB-04-021016 | | 0925 | | 1 | | | | X | |
| 24 | NB-BL15401-021016 | | 0945 | | 1 | | | | X | |
| 25 | NB-BL15402-021016 | | 0945 | | 1 | | | | X | |
| 26 | NB-BL15403-021016 | | 0945 | | 1 | | | | X | |
| 27 | NB-BL15404-021016 | | 0945 | | 1 | | | | X | |
| 28 | NB-BL15405-021016 | | 0945 | | 1 | | | | X | |
| 29 | NB-BL15406-021016 | | 0945 | | 1 | | | | X | |
| 30 | NB-BL15407-021016 | ↓ | 0945 | ↓ | 1 | | | | X | |

| | | | |
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| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: 2/10/16 | Time: 1722 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |



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WO # / LAB USE ONLY: 16-02-0869

DATE: 2/10/16

PAGE: 4 OF 4

LABORATORY CLIENT: Anchor QEA

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TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

☐ COELT EDF GLOBAL ID: LOG CODE:

SPECIAL INSTRUCTIONS:

Report down to the MDL

Filter at laboratory upon receipt

## REQUESTED ANALYSES

Please check box or fill in blank as needed.

| LAB USE ONLY | SAMPLE ID | SAMPLING DATE | SAMPLING TIME | MATRIX | NO. OF CONT. | Unpreserved | Preserved | Field Filtered | EPA 1640 Dissolved Cu | MS/MSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 | N13-26-021016 | 2/10/16 | 1450 | WAT | 1 | Y | | | X | |
| | | | | | | | | | | |
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| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
|---|---|---|---|
| | CEY | 2/10/16 | 1722 |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |
| Relinquished by: (Signature) | Received by: (Signature/Affiliation) | Date: | Time: |



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WORK ORDER NUMBER: 16-02- 0869

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Anchor QEA

DATE: 02 / 10 / 2016

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC4B (CF: +0.3°C); Temperature (w/o CF): 2.7 °C (w/ CF): 3.0 °C; ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 836

**CUSTODY SEAL:**

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 836

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 836

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☐ | ☑ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☑ | ☐ | ☐ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☑ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (____) ☐ EnCores® (____) ☐ TerraCores® (____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **znna** = $Zn(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 836

Reviewed by: 1054

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WORK ORDER NUMBER: 16-02- 0809

# SAMPLE ANOMALY REPORT

DATE: 02 / 10 / 2016

## SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☑ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☐ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☐ Client sample ID
  - ☐ Sampling date and/or time
  - ☐ Number of container(s)
  - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags*)
  - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

**Comments**

(-32) Received 1-250ml plastic container, labeled as WB-16-021016, 2/10/16@1139 (not on COC)

**MISCELLANEOUS:** (Describe)

**Comments**

## HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

| ECI Sample ID | ECI Container ID | Total Number** | ECI Sample ID | ECI Container ID | Total Number** |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

(Containers with bubble for other analysis)

| ECI Sample ID | ECI Container ID | Total Number** | Requested Analysis |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

Comments: _____

Reported by: 1054

Reviewed by: SS6

** Record the total number of containers (i.e., vials or bottles) for the affected sample.



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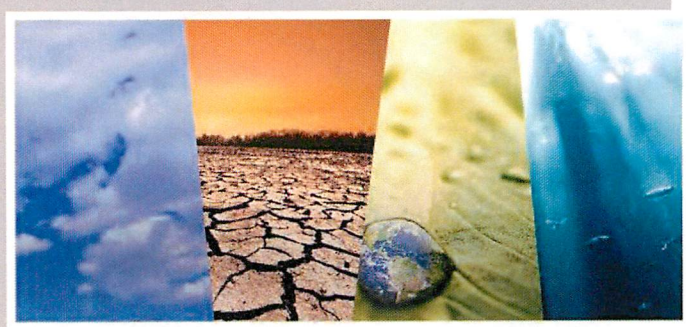
# WORK ORDER NUMBER: 16-02-0975

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** ANCHOR QEA, LLC

**Client Project Name:** Newport Bay Metals TMDL WQ

**Attention:** Chris Osuch
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Approved for release on 02/24/2016 by:
Carla Hollowell
Project Manager

ResultLink ▸

Email your PM ▸

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# Contents

Client Project Name: Newport Bay Metals TMDL WQ
Work Order Number: 16-02-0975

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# Work Order Narrative

Work Order: 16-02-0975 Page 1 of 1

**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 02/11/16. They were assigned to Work Order 16-02-0975.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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# Sample Summary

Client: ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Work Order: 16-02-0975
Project Name: Newport Bay Metals TMDL WQ
PO Number:
Date/Time Received: 02/11/16 14:34
Number of Containers: 23

Attn: Chris Osuch

| Sample Identification | Lab Number | Collection Date and Time | Number of Containers | Matrix |
|---|---|---|---|---|
| NB-07-021116 | 16-02-0975-1 | 02/11/16 08:52 | 1 | Aqueous |
| NB-21-021116 | 16-02-0975-2 | 02/11/16 08:58 | 1 | Aqueous |
| NB-02-021116 | 16-02-0975-3 | 02/11/16 09:20 | 1 | Aqueous |
| NB-33-021116 | 16-02-0975-4 | 02/11/16 09:30 | 1 | Aqueous |
| NB-05-021116 | 16-02-0975-5 | 02/11/16 09:40 | 1 | Aqueous |
| NB-20-021116 | 16-02-0975-6 | 02/11/16 09:49 | 1 | Aqueous |
| NB-36-021116 | 16-02-0975-7 | 02/11/16 10:00 | 2 | Aqueous |
| NB-14-021116 | 16-02-0975-8 | 02/11/16 10:10 | 1 | Aqueous |
| NB-23-021116 | 16-02-0975-9 | 02/11/16 10:18 | 1 | Aqueous |
| NB-31-021116 | 16-02-0975-10 | 02/11/16 10:33 | 1 | Aqueous |
| NB-25-021116 | 16-02-0975-11 | 02/11/16 11:55 | 1 | Aqueous |
| NB-11-021116 | 16-02-0975-12 | 02/11/16 12:00 | 1 | Aqueous |
| NB-29-021116 | 16-02-0975-13 | 02/11/16 10:29 | 1 | Aqueous |
| NB-40-021116 | 16-02-0975-14 | 02/11/16 10:40 | 1 | Aqueous |
| NB-19-021116 | 16-02-0975-15 | 02/11/16 10:50 | 1 | Aqueous |
| NB-28-021116 | 16-02-0975-16 | 02/11/16 10:52 | 1 | Aqueous |
| NB-06-021116 | 16-02-0975-17 | 02/11/16 11:03 | 1 | Aqueous |
| NB-03-021116 | 16-02-0975-18 | 02/11/16 11:07 | 1 | Aqueous |
| NB-12-021116 | 16-02-0975-19 | 02/11/16 11:17 | 1 | Aqueous |
| NB-09-021116 | 16-02-0975-20 | 02/11/16 11:25 | 1 | Aqueous |
| NB-10-021116 | 16-02-0975-21 | 02/11/16 11:30 | 1 | Aqueous |
| NB-30-021116 | 16-02-0975-22 | 02/11/16 11:49 | 1 | Aqueous |

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# Analytical Report

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640
Units: ug/L

Project: Newport Bay Metals TMDL WQ



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-07-021116 | 16-02-0975-1-A | 02/11/16 08:52 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 18:32 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 6.53 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-21-021116 | 16-02-0975-2-A | 02/11/16 08:58 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:10 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 5.91 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-02-021116 | 16-02-0975-3-A | 02/11/16 09:20 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:18 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 12.7 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-33-021116 | 16-02-0975-4-A | 02/11/16 09:30 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:26 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 8.19 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-05-021116 | 16-02-0975-5-A | 02/11/16 09:40 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:33 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 5.42 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-20-021116 | 16-02-0975-6-A | 02/11/16 09:49 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:41 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 7.54 | 0.0300 | 0.00898 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640
Units: ug/L

Project: Newport Bay Metals TMDL WQ



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-36-021116 | 16-02-0975-7-B | 02/11/16 10:00 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 17:45 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 5.02 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-14-021116 | 16-02-0975-8-A | 02/11/16 10:10 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:49 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 3.99 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-23-021116 | 16-02-0975-9-A | 02/11/16 10:18 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 19:57 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 3.28 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-31-021116 | 16-02-0975-10-A | 02/11/16 10:33 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 20:04 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.77 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-25-021116 | 16-02-0975-11-A | 02/11/16 11:55 | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 20:12 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 1.94 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-11-021116 | 16-02-0975-12-A | 02/11/16 12:00 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 00:27 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.31 | 0.0300 | 0.00898 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640
Units: ug/L

Project: Newport Bay Metals TMDL WQ



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-29-021116 | 16-02-0975-13-A | 02/11/16 10:29 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 00:34 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.81 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-40-021116 | 16-02-0975-14-A | 02/11/16 10:40 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 00:42 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 3.09 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-19-021116 | 16-02-0975-15-A | 02/11/16 10:50 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 01:21 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.09 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-28-021116 | 16-02-0975-16-A | 02/11/16 10:52 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 01:29 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.52 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-06-021116 | 16-02-0975-17-A | 02/11/16 11:03 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 01:36 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 1.66 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| NB-03-021116 | 16-02-0975-18-A | 02/11/16 11:07 | Aqueous | ICP/MS 05 | 02/17/16 | 02/19/16 01:44 | 160217L02F |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 1.84 | 0.0300 | 0.00898 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640
Units: ug/L

Project: Newport Bay Metals TMDL WQ



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **NB-12-021116** | **16-02-0975-19-A** | **02/11/16 11:17** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/19/16 01:52** | **160217L02F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 3.05 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **NB-09-021116** | **16-02-0975-20-A** | **02/11/16 11:25** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/19/16 01:59** | **160217L02F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 2.17 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **NB-10-021116** | **16-02-0975-21-A** | **02/11/16 11:30** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/19/16 02:07** | **160217L01F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 1.08 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **NB-30-021116** | **16-02-0975-22-A** | **02/11/16 11:49** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/19/16 02:15** | **160217L01F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | 1.87 | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-15-823-188** | **N/A** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/18/16 16:05** | **160217L01F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | ND | 0.0300 | 0.00898 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-15-823-187** | **N/A** | **Aqueous** | **ICP/MS 05** | **02/17/16** | **02/18/16 16:20** | **160217L02F** |

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

| Parameter | Result | RL | MDL | DF | Qualifiers |
|---|---|---|---|---|---|
| Copper | ND | 0.0300 | 0.00898 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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## Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640



| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| 16-02-1063-1 | Sample | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 17:38 | 160217S01 |
| 16-02-1063-1 | Matrix Spike | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 17:53 | 160217S01 |
| 16-02-1063-1 | Matrix Spike Duplicate | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 18:01 | 160217S01 |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 1.789 | 0.5000 | 2.279 | 98 | 2.386 | 119 | 50-150 | 5 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640
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| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| NB-36-021116 | Sample | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 17:45 | 160217S02 |
| NB-36-021116 | Matrix Spike | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 18:09 | 160217S02 |
| NB-36-021116 | Matrix Spike Duplicate | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 18:16 | 160217S02 |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Copper | 5.020 | 0.5000 | 5.230 | 4X | 5.430 | 4X | 50-150 | 4X | 0-20 | Q |

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RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - LCS/LCSD

ANCHOR QEA, LLC
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691-8306

Project: Newport Bay Metals TMDL WQ

Date Received: 02/11/16
Work Order: 16-02-0975
Preparation: EPA 3005A Filt.
Method: EPA 1640



| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| 099-15-823-188 | LCS | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 16:28 | 160217L01F |
| 099-15-823-188 | LCSD | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 16:36 | 160217L01F |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Copper | 0.5000 | 0.5768 | 115 | 0.5827 | 117 | 70-130 | 1 | 0-20 | |

RPD: Relative Percent Difference. CL: Control Limits

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## Quality Control - LCS/LCSD

| | |
|---|---|
| ANCHOR QEA, LLC | Date Received: 02/11/16 |
| 27201 Puerta Real, Suite 350 | Work Order: 16-02-0975 |
| Mission Viejo, CA 92691-8306 | Preparation: EPA 3005A Filt. |
| | Method: EPA 1640 |
| Project: Newport Bay Metals TMDL WQ | Page 2 of 2 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS/LCSD Batch Number |
|---|---|---|---|---|---|---|
| 099-15-823-187 | LCS | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 16:44 | 160217L02F |
| 099-15-823-187 | LCSD | Aqueous | ICP/MS 05 | 02/17/16 | 02/18/16 16:51 | 160217L02F |

| Parameter | Spike Added | LCS Conc. | LCS %Rec. | LCSD Conc. | LCSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| Copper | 0.5000 | 0.5802 | 116 | 0.5394 | 108 | 70-130 | 7 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Glossary of Terms and Qualifiers

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| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| CI | See case narrative. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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