

**metals**  
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**MATRIX SPIKE SUMMARY**

|                                             |                                     |                                                   |
|---------------------------------------------|-------------------------------------|---------------------------------------------------|
| <b>client:</b> <u>AECOM</u>                 | <b>level:</b> <u>low</u>            | <b>sdg no.:</b> <u>Q3434</u>                      |
| <b>contract:</b> <u>AECO02</u>              |                                     | <b>lab code:</b> <u>ACE</u>                       |
| <b>matrix:</b> <u>Water</u>                 | <b>sample id:</b> <u>Q3420-05</u>   | <b>client id:</b> <u>COMPOSITEMS</u>              |
| <b>Percent Solids for Sample:</b> <u>NA</u> | <b>Spiked ID:</b> <u>Q3420-05MS</u> | <b>Percent Solids for Spike Sample:</b> <u>NA</u> |

| Analyte   | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|-----------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | ug/L  | 75 - 125               | 2560             |   | 1360             |   | 1000           | 120           |      | P |
| Antimony  | ug/L  | 75 - 125               | 507              |   | 25.0             | U | 400            | 127           | N    | P |
| Arsenic   | ug/L  | 75 - 125               | 563              |   | 51.5             |   | 400            | 128           | N    | P |
| Barium    | ug/L  | 75 - 125               | 111              |   | 50.0             | U | 100            | 111           |      | P |
| Beryllium | ug/L  | 75 - 125               | 96.0             |   | 3.00             | U | 100            | 96            |      | P |
| Cadmium   | ug/L  | 75 - 125               | 108              |   | 3.00             | U | 100            | 108           |      | P |
| Calcium   | ug/L  | 75 - 125               | 1360             |   | 809              | J | 500            | 110           |      | P |
| Chromium  | ug/L  | 75 - 125               | 221              |   | 15.9             |   | 200            | 103           |      | P |
| Cobalt    | ug/L  | 75 - 125               | 108              |   | 15.0             | U | 100            | 108           |      | P |
| Copper    | ug/L  | 75 - 125               | 149              |   | 7.37             | J | 150            | 94            |      | P |
| Iron      | ug/L  | 75 - 125               | 2550             |   | 473              |   | 1500           | 138           | N    | P |
| Lead      | ug/L  | 75 - 125               | 492              |   | 1.84             | J | 500            | 98            |      | P |
| Magnesium | ug/L  | 75 - 125               | 1640             |   | 642              | J | 1000           | 100           |      | P |
| Manganese | ug/L  | 75 - 125               | 112              |   | 10.1             |   | 100            | 102           |      | P |
| Nickel    | ug/L  | 75 - 125               | 282              |   | 15.0             | J | 250            | 107           |      | P |
| Potassium | ug/L  | 75 - 125               | 30200            |   | 11400            |   | 5000           | 378           | N    | P |
| Selenium  | ug/L  | 75 - 125               | 1880             |   | 492              |   | 1000           | 139           | N    | P |
| Silver    | ug/L  | 75 - 125               | 55.1             |   | 5.00             | U | 37.5           | 147           | N    | P |
| Sodium    | ug/L  | 75 - 125               | 5870000          | D | 6230000          | D | 1500           | -24427        |      | P |
| Thallium  | ug/L  | 75 - 125               | 1020             |   | 20.0             | U | 1000           | 102           |      | P |
| Vanadium  | ug/L  | 75 - 125               | 161              |   | 20.0             | U | 150            | 107           |      | P |
| Zinc      | ug/L  | 75 - 125               | 413              |   | 266              |   | 100            | 146           | N    | P |

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**MATRIX SPIKE DUPLICATE SUMMARY**

|                                             |                                      |                                                   |
|---------------------------------------------|--------------------------------------|---------------------------------------------------|
| <b>client:</b> <u>AECOM</u>                 | <b>level:</b> <u>low</u>             | <b>sdg no.:</b> <u>Q3434</u>                      |
| <b>contract:</b> <u>AECO02</u>              |                                      | <b>lab code:</b> <u>ACE</u>                       |
| <b>matrix:</b> <u>Water</u>                 | <b>sample id:</b> <u>Q3420-05</u>    | <b>client id:</b> <u>COMPOSITEMSD</u>             |
| <b>Percent Solids for Sample:</b> <u>NA</u> | <b>Spiked ID:</b> <u>Q3420-05MSD</u> | <b>Percent Solids for Spike Sample:</b> <u>NA</u> |

| Analyte   | Units | Acceptance<br>Limit %R | MSD<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|-----------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | ug/L  | 75 - 125               | 2410          |   | 1360             |   | 1000           | 105           |      | P |
| Antimony  | ug/L  | 75 - 125               | 460           |   | 25.0             | U | 400            | 115           |      | P |
| Arsenic   | ug/L  | 75 - 125               | 513           |   | 51.5             |   | 400            | 115           |      | P |
| Barium    | ug/L  | 75 - 125               | 99.6          |   | 50.0             | U | 100            | 100           |      | P |
| Beryllium | ug/L  | 75 - 125               | 81.9          |   | 3.00             | U | 100            | 82            |      | P |
| Cadmium   | ug/L  | 75 - 125               | 97.2          |   | 3.00             | U | 100            | 97            |      | P |
| Calcium   | ug/L  | 75 - 125               | 1300          |   | 809              | J | 500            | 97            |      | P |
| Chromium  | ug/L  | 75 - 125               | 200           |   | 15.9             |   | 200            | 92            |      | P |
| Cobalt    | ug/L  | 75 - 125               | 97.6          |   | 15.0             | U | 100            | 98            |      | P |
| Copper    | ug/L  | 75 - 125               | 135           |   | 7.37             | J | 150            | 85            |      | P |
| Iron      | ug/L  | 75 - 125               | 2420          |   | 473              |   | 1500           | 130           | N    | P |
| Lead      | ug/L  | 75 - 125               | 441           |   | 1.84             | J | 500            | 88            |      | P |
| Magnesium | ug/L  | 75 - 125               | 1500          |   | 642              | J | 1000           | 86            |      | P |
| Manganese | ug/L  | 75 - 125               | 101           |   | 10.1             |   | 100            | 91            |      | P |
| Nickel    | ug/L  | 75 - 125               | 255           |   | 15.0             | J | 250            | 96            |      | P |
| Potassium | ug/L  | 75 - 125               | 32500         |   | 11400            |   | 5000           | 422           | N    | P |
| Selenium  | ug/L  | 75 - 125               | 1760          |   | 492              |   | 1000           | 127           | N    | P |
| Silver    | ug/L  | 75 - 125               | 49.9          |   | 5.00             | U | 37.5           | 133           | N    | P |
| Sodium    | ug/L  | 75 - 125               | 5840000       | D | 6230000          | D | 1500           | -26205        |      | P |
| Thallium  | ug/L  | 75 - 125               | 931           |   | 20.0             | U | 1000           | 93            |      | P |
| Vanadium  | ug/L  | 75 - 125               | 144           |   | 20.0             | U | 150            | 96            |      | P |
| Zinc      | ug/L  | 75 - 125               | 401           |   | 266              |   | 100            | 134           | N    | P |

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**MATRIX SPIKE SUMMARY**

**client:** AECOM **level:** low **sdg no.:** Q3434  
**contract:** AECO02 **lab code:** ACE  
**matrix:** Water **sample id:** Q3434-02 **client id:** PR132-WC2-20251022MS  
**Percent Solids for Sample:** NA **Spiked ID:** Q3434-02MS **Percent Solids for Spike Sample:** NA

| Analyte | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M  |
|---------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|----|
| Mercury | ug/L  | 75 - 125               | 4.65             |   | 1.03             |   | 4.0            | 91            |      | CV |

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**MATRIX SPIKE DUPLICATE SUMMARY**

**client:** AECOM **level:** low **sdg no.:** Q3434  
**contract:** AECO02 **lab code:** ACE  
**matrix:** Water **sample id:** Q3434-02 **client id:** PR132-WC2-20251022MSD  
**Percent Solids for Sample:** NA **Spiked ID:** Q3434-02MSD **Percent Solids for Spike Sample:** NA

| Analyte | Units | Acceptance<br>Limit %R | MSD<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M  |
|---------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|----|
| Mercury | ug/L  | 75 - 125               | 4.62          |   | 1.03             |   | 4.0            | 90            |      | CV |