

**metals**  
**- 5a -**  
**MATRIX SPIKE SUMMARY**

**client:** Portal Partners Tri-Venture      **level:** low      **sdg no.:** Q1488  
**contract:** PORT06      **lab code:** CHEM      **case no.:** Q1488      **sas no.:** Q1488  
**matrix:** Solid      **sample id:** Q1482-01      **client id:** OR-03-030425MS  
**Percent Solids for Sample:** 90.8      **Spiked ID:** Q1482-01MS      **Percent Solids for Spike Sample:** 90.8

| Analyte   | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|-----------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | mg/Kg | 75 - 125               | 7400             |   | 6780             |   | 97.0           | 638           |      | P |
| Antimony  | mg/Kg | 75 - 125               | 14.1             |   | 2.39             | U | 38.8           | 36            | N    | P |
| Arsenic   | mg/Kg | 75 - 125               | 35.2             |   | 2.23             |   | 38.8           | 85            |      | P |
| Barium    | mg/Kg | 75 - 125               | 40.0             |   | 28.9             |   | 9.7            | 115           |      | P |
| Beryllium | mg/Kg | 75 - 125               | 8.56             |   | 0.40             |   | 9.7            | 84            |      | P |
| Cadmium   | mg/Kg | 75 - 125               | 8.89             |   | 0.29             | U | 9.7            | 92            |      | P |
| Calcium   | mg/Kg | 75 - 125               | 1110             |   | 807              |   | 48.5           | 630           |      | P |
| Chromium  | mg/Kg | 75 - 125               | 27.2             |   | 9.62             |   | 19.4           | 91            |      | P |
| Cobalt    | mg/Kg | 75 - 125               | 14.6             |   | 4.92             |   | 9.7            | 100           |      | P |
| Copper    | mg/Kg | 75 - 125               | 25.8             |   | 13.3             |   | 14.6           | 86            |      | P |
| Iron      | mg/Kg | 75 - 125               | 11300            |   | 12100            |   | 150            | -519          |      | P |
| Lead      | mg/Kg | 75 - 125               | 57.1             |   | 9.00             |   | 48.5           | 99            |      | P |
| Magnesium | mg/Kg | 75 - 125               | 1920             |   | 1710             |   | 97.0           | 222           |      | P |
| Manganese | mg/Kg | 75 - 125               | 162              |   | 144              |   | 9.7            | 183           |      | P |
| Nickel    | mg/Kg | 75 - 125               | 32.8             |   | 9.43             |   | 24.3           | 96            |      | P |
| Potassium | mg/Kg | 75 - 125               | 930              |   | 453              |   | 490            | 97            |      | P |
| Selenium  | mg/Kg | 75 - 125               | 76.5             |   | 0.42             | J | 97.0           | 78            |      | P |
| Silver    | mg/Kg | 75 - 125               | 4.47             |   | 1.44             |   | 3.6            | 84            |      | P |
| Sodium    | mg/Kg | 75 - 125               | 531              |   | 332              |   | 150            | 133           | N    | P |
| Thallium  | mg/Kg | 75 - 125               | 87.7             |   | 0.50             | J | 97.0           | 90            |      | P |
| Vanadium  | mg/Kg | 75 - 125               | 30.2             |   | 18.5             |   | 14.6           | 80            |      | P |
| Zinc      | mg/Kg | 75 - 125               | 30.3             |   | 20.5             |   | 9.7            | 101           |      | P |

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**- 5a -**  
**MATRIX SPIKE DUPLICATE SUMMARY**

**client:** Portal Partners Tri-Venture      **level:** low      **sdg no.:** Q1488  
**contract:** PORT06      **lab code:** CHEM      **case no.:** Q1488      **sas no.:** Q1488  
**matrix:** Solid      **sample id:** Q1482-01      **client id:** OR-03-030425MSD  
**Percent Solids for Sample:** 90.8      **Spiked ID:** Q1482-01MSD      **Percent Solids for Spike Sample:** 90.8

| Analyte   | Units | Acceptance<br>Limit %R | MSD<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M |
|-----------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | mg/Kg | 75 - 125               | 7320          |   | 6780             |   | 96.2           | 562           |      | P |
| Antimony  | mg/Kg | 75 - 125               | 14.2          |   | 2.39             | U | 38.5           | 37            | N    | P |
| Arsenic   | mg/Kg | 75 - 125               | 35.7          |   | 2.23             |   | 38.5           | 87            |      | P |
| Barium    | mg/Kg | 75 - 125               | 39.3          |   | 28.9             |   | 9.6            | 109           |      | P |
| Beryllium | mg/Kg | 75 - 125               | 8.48          |   | 0.40             |   | 9.6            | 84            |      | P |
| Cadmium   | mg/Kg | 75 - 125               | 8.98          |   | 0.29             | U | 9.6            | 94            |      | P |
| Calcium   | mg/Kg | 75 - 125               | 1100          |   | 807              |   | 48.1           | 610           |      | P |
| Chromium  | mg/Kg | 75 - 125               | 26.9          |   | 9.62             |   | 19.2           | 90            |      | P |
| Cobalt    | mg/Kg | 75 - 125               | 14.6          |   | 4.92             |   | 9.6            | 101           |      | P |
| Copper    | mg/Kg | 75 - 125               | 26.2          |   | 13.3             |   | 14.4           | 89            |      | P |
| Iron      | mg/Kg | 75 - 125               | 11100         |   | 12100            |   | 140            | -703          |      | P |
| Lead      | mg/Kg | 75 - 125               | 57.5          |   | 9.00             |   | 48.1           | 101           |      | P |
| Magnesium | mg/Kg | 75 - 125               | 1910          |   | 1710             |   | 96.2           | 210           |      | P |
| Manganese | mg/Kg | 75 - 125               | 160           |   | 144              |   | 9.6            | 169           |      | P |
| Nickel    | mg/Kg | 75 - 125               | 32.9          |   | 9.43             |   | 24.0           | 98            |      | P |
| Potassium | mg/Kg | 75 - 125               | 910           |   | 453              |   | 480            | 95            |      | P |
| Selenium  | mg/Kg | 75 - 125               | 77.5          |   | 0.42             | J | 96.2           | 80            |      | P |
| Silver    | mg/Kg | 75 - 125               | 4.38          |   | 1.44             |   | 3.6            | 82            |      | P |
| Sodium    | mg/Kg | 75 - 125               | 518           |   | 332              |   | 140            | 133           | N    | P |
| Thallium  | mg/Kg | 75 - 125               | 87.8          |   | 0.50             | J | 96.2           | 91            |      | P |
| Vanadium  | mg/Kg | 75 - 125               | 30.1          |   | 18.5             |   | 14.4           | 80            |      | P |
| Zinc      | mg/Kg | 75 - 125               | 29.9          |   | 20.5             |   | 9.6            | 98            |      | P |

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**- 5a -**  
**MATRIX SPIKE SUMMARY**

**client:** Portal Partners Tri-Venture      **level:** low      **sdg no.:** Q1488  
**contract:** PORT06      **lab code:** CHEM      **case no.:** Q1488      **sas no.:** Q1488  
**matrix:** Water      **sample id:** Q1488-14      **client id:** ENV-104-GW01MS  
**Percent Solids for Sample:** NA      **Spiked ID:** Q1488-14MS      **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               | 3.90             |   | 0.49             |   | 4.0            | 85            |      | CV |

**metals**  
**- 5a -**  
**MATRIX SPIKE DUPLICATE SUMMARY**

|                                                   |                                      |                                                            |
|---------------------------------------------------|--------------------------------------|------------------------------------------------------------|
| <b>client:</b> <u>Portal Partners Tri-Venture</u> | <b>level:</b> <u>low</u>             | <b>sdg no.:</b> <u>Q1488</u>                               |
| <b>contract:</b> <u>PORT06</u>                    | <b>lab code:</b> <u>CHEM</u>         | <b>case no.:</b> <u>Q1488</u> <b>sas no.:</b> <u>Q1488</u> |
| <b>matrix:</b> <u>Water</u>                       | <b>sample id:</b> <u>Q1488-14</u>    | <b>client id:</b> <u>ENV-104-GW01MSD</u>                   |
| <b>Percent Solids for Sample:</b> <u>NA</u>       | <b>Spiked ID:</b> <u>Q1488-14MSD</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  |
|---------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|----|
| Mercury | ug/L  | 75 - 125               | 3.93          |   | 0.49             |   | 4.0            | 86            |      | CV |

**metals**  
**- 5a -**  
**MATRIX SPIKE SUMMARY**

**client:** Portal Partners Tri-Venture **level:** low **sdg no.:** Q1488  
**contract:** PORT06 **lab code:** CHEM **case no.:** Q1488 **sas no.:** Q1488  
**matrix:** Water **sample id:** Q1494-01 **client id:** PURGE-WATERMS  
**Percent Solids for Sample:** NA **Spiked ID:** Q1494-01MS **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 |
|-----------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | ug/L  | 75 - 125               | 1170             |   | 217              |   | 1000           | 95            |      | P |
| Antimony  | ug/L  | 75 - 125               | 402              |   | 25.0             | U | 400            | 100           |      | P |
| Arsenic   | ug/L  | 75 - 125               | 403              |   | 10.0             | U | 400            | 101           |      | P |
| Barium    | ug/L  | 75 - 125               | 135              |   | 39.0             | J | 100            | 96            |      | P |
| Beryllium | ug/L  | 75 - 125               | 91.2             |   | 3.00             | U | 100            | 91            |      | P |
| Cadmium   | ug/L  | 75 - 125               | 94.6             |   | 3.00             | U | 100            | 95            |      | P |
| Calcium   | ug/L  | 75 - 125               | 25500            |   | 24600            |   | 500            | 177           |      | P |
| Chromium  | ug/L  | 75 - 125               | 197              |   | 1.05             | J | 200            | 98            |      | P |
| Cobalt    | ug/L  | 75 - 125               | 98.0             |   | 0.75             | J | 100            | 97            |      | P |
| Copper    | ug/L  | 75 - 125               | 150              |   | 10.0             | U | 150            | 100           |      | P |
| Iron      | ug/L  | 75 - 125               | 6390             |   | 4880             |   | 1500           | 101           |      | P |
| Lead      | ug/L  | 75 - 125               | 464              |   | 6.00             | U | 500            | 93            |      | P |
| Magnesium | ug/L  | 75 - 125               | 7710             |   | 6670             |   | 1000           | 103           |      | P |
| Manganese | ug/L  | 75 - 125               | 1000             |   | 891              |   | 100            | 114           |      | P |
| Nickel    | ug/L  | 75 - 125               | 244              |   | 4.29             | J | 250            | 96            |      | P |
| Potassium | ug/L  | 75 - 125               | 10200            |   | 4820             |   | 5000           | 107           |      | P |
| Selenium  | ug/L  | 75 - 125               | 939              |   | 10.0             | U | 1000           | 94            |      | P |
| Silver    | ug/L  | 75 - 125               | 15.0             |   | 5.00             | U | 37.5           | 40            | N    | P |
| Sodium    | ug/L  | 75 - 125               | 46500            |   | 43200            |   | 1500           | 220           |      | P |
| Thallium  | ug/L  | 75 - 125               | 922              |   | 20.0             | U | 1000           | 92            |      | P |
| Vanadium  | ug/L  | 75 - 125               | 146              |   | 20.0             | U | 150            | 97            |      | P |
| Zinc      | ug/L  | 75 - 125               | 103              |   | 20.0             | U | 100            | 103           |      | P |

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**- 5a -**  
**MATRIX SPIKE DUPLICATE SUMMARY**

**client:** Portal Partners Tri-Venture      **level:** low      **sdg no.:** Q1488  
**contract:** PORT06      **lab code:** CHEM      **case no.:** Q1488      **sas no.:** Q1488  
**matrix:** Water      **sample id:** Q1494-01      **client id:** PURGE-WATERMSD  
**Percent Solids for Sample:** NA      **Spiked ID:** Q1494-01MSD      **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 |
|-----------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|---|
| Aluminum  | ug/L  | 75 - 125               | 1170          |   | 217              |   | 1000           | 95            |      | P |
| Antimony  | ug/L  | 75 - 125               | 398           |   | 25.0             | U | 400            | 100           |      | P |
| Arsenic   | ug/L  | 75 - 125               | 401           |   | 10.0             | U | 400            | 100           |      | P |
| Barium    | ug/L  | 75 - 125               | 134           |   | 39.0             | J | 100            | 95            |      | P |
| Beryllium | ug/L  | 75 - 125               | 91.2          |   | 3.00             | U | 100            | 91            |      | P |
| Cadmium   | ug/L  | 75 - 125               | 94.6          |   | 3.00             | U | 100            | 95            |      | P |
| Calcium   | ug/L  | 75 - 125               | 25400         |   | 24600            |   | 500            | 166           |      | P |
| Chromium  | ug/L  | 75 - 125               | 198           |   | 1.05             | J | 200            | 98            |      | P |
| Cobalt    | ug/L  | 75 - 125               | 97.9          |   | 0.75             | J | 100            | 97            |      | P |
| Copper    | ug/L  | 75 - 125               | 150           |   | 10.0             | U | 150            | 100           |      | P |
| Iron      | ug/L  | 75 - 125               | 6400          |   | 4880             |   | 1500           | 101           |      | P |
| Lead      | ug/L  | 75 - 125               | 464           |   | 6.00             | U | 500            | 93            |      | P |
| Magnesium | ug/L  | 75 - 125               | 7670          |   | 6670             |   | 1000           | 100           |      | P |
| Manganese | ug/L  | 75 - 125               | 1000          |   | 891              |   | 100            | 112           |      | P |
| Nickel    | ug/L  | 75 - 125               | 244           |   | 4.29             | J | 250            | 96            |      | P |
| Potassium | ug/L  | 75 - 125               | 10200         |   | 4820             |   | 5000           | 107           |      | P |
| Selenium  | ug/L  | 75 - 125               | 933           |   | 10.0             | U | 1000           | 93            |      | P |
| Silver    | ug/L  | 75 - 125               | 15.1          |   | 5.00             | U | 37.5           | 40            | N    | P |
| Sodium    | ug/L  | 75 - 125               | 46900         |   | 43200            |   | 1500           | 245           |      | P |
| Thallium  | ug/L  | 75 - 125               | 941           |   | 20.0             | U | 1000           | 94            |      | P |
| Vanadium  | ug/L  | 75 - 125               | 146           |   | 20.0             | U | 150            | 97            |      | P |
| Zinc      | ug/L  | 75 - 125               | 104           |   | 20.0             | U | 100            | 104           |      | P |

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**- 5a -**  
**MATRIX SPIKE SUMMARY**

|                                                   |                                   |                                                            |
|---------------------------------------------------|-----------------------------------|------------------------------------------------------------|
| <b>client:</b> <u>Portal Partners Tri-Venture</u> | <b>level:</b> <u>low</u>          | <b>sdg no.:</b> <u>Q1488</u>                               |
| <b>contract:</b> <u>PORT06</u>                    | <b>lab code:</b> <u>CHEM</u>      | <b>case no.:</b> <u>Q1488</u> <b>sas no.:</b> <u>Q1488</u> |
| <b>matrix:</b> <u>Solid</u>                       | <b>sample id:</b> <u>Q1494-07</u> | <b>client id:</b> <u>SOIL-COMPMS</u>                       |
| <b>Percent Solids for Sample:</b> 93.6            | <b>Spiked ID:</b> Q1494-07MS      | <b>Percent Solids for Spike Sample:</b> 93.6               |

| Analyte | Units | Acceptance<br>Limit %R | Spiked<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M  |
|---------|-------|------------------------|------------------|---|------------------|---|----------------|---------------|------|----|
| Mercury | mg/Kg | 80 - 120               | 0.31             |   | 0.013            | U | 0.26           | 118           |      | CV |

metals

- 5a -

MATRIX SPIKE DUPLICATE SUMMARY

**client:** Portal Partners Tri-Venture **level:** low **sdg no.:** Q1488  
**contract:** PORT06 **lab code:** CHEM **case no.:** Q1488 **sas no.:** Q1488  
**matrix:** Solid **sample id:** Q1494-07 **client id:** SOIL-COMPMSD  
**Percent Solids for Sample:** 93.6 **Spiked ID:** Q1494-07MSD **Percent Solids for Spike Sample:** 93.6

| Analyte | Units | Acceptance<br>Limit %R | MSD<br>Result | C | Sample<br>Result | C | Spike<br>Added | %<br>Recovery | Qual | M  |
|---------|-------|------------------------|---------------|---|------------------|---|----------------|---------------|------|----|
| Mercury | mg/Kg | 80 - 120               | 0.29          |   | 0.013            | U | 0.26           | 113           |      | CV |