

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

|                                                   |                                   |                                                            |
|---------------------------------------------------|-----------------------------------|------------------------------------------------------------|
| <b>client:</b> <u>Portal Partners Tri-Venture</u> | <b>level:</b> <u>low</u>          | <b>sdg no.:</b> <u>P5299</u>                               |
| <b>contract:</b> <u>PORT06</u>                    | <b>lab code:</b> <u>CHEM</u>      | <b>case no.:</b> <u>P5299</u> <b>sas no.:</b> <u>P5299</u> |
| <b>matrix:</b> <u>Solid</u>                       | <b>sample id:</b> <u>P5299-04</u> | <b>client id:</b> <u>SB-02MS</u>                           |
| <b>Percent Solids for Sample:</b> 79.2            | <b>Spiked ID:</b> P5299-04MS      | <b>Percent Solids for Spike Sample:</b> 79.2               |

| 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               | 6830             |   | 6080             |   | 120            | 625           |      | P |
| Antimony  | mg/Kg | 75 - 125               | 16.2             |   | 2.92             | U | 47.0           | 34            | N    | P |
| Arsenic   | mg/Kg | 75 - 125               | 38.9             |   | 1.80             |   | 47.0           | 79            |      | P |
| Barium    | mg/Kg | 75 - 125               | 40.6             |   | 35.4             |   | 11.7           | 45            | N    | P |
| Beryllium | mg/Kg | 75 - 125               | 9.20             |   | 0.52             |   | 11.7           | 74            | N    | P |
| Cadmium   | mg/Kg | 75 - 125               | 11.0             |   | 0.058            | J | 11.7           | 94            |      | P |
| Calcium   | mg/Kg | 75 - 125               | 825              |   | 995              |   | 58.7           | -290          |      | P |
| Chromium  | mg/Kg | 75 - 125               | 34.5             |   | 18.6             |   | 23.5           | 67            | N    | P |
| Cobalt    | mg/Kg | 75 - 125               | 17.3             |   | 5.94             |   | 11.7           | 97            |      | P |
| Copper    | mg/Kg | 75 - 125               | 28.0             |   | 14.6             |   | 17.6           | 76            |      | P |
| Iron      | mg/Kg | 75 - 125               | 11400            |   | 13100            |   | 180            | -992          |      | P |
| Lead      | mg/Kg | 75 - 125               | 65.9             |   | 11.4             |   | 58.7           | 93            |      | P |
| Magnesium | mg/Kg | 75 - 125               | 2130             |   | 1980             |   | 120            | 121           |      | P |
| Manganese | mg/Kg | 75 - 125               | 134              |   | 136              |   | 11.7           | -16           |      | P |
| Nickel    | mg/Kg | 75 - 125               | 39.6             |   | 12.8             |   | 29.4           | 91            |      | P |
| Potassium | mg/Kg | 75 - 125               | 1180             |   | 801              |   | 590            | 64            | N    | P |
| Selenium  | mg/Kg | 75 - 125               | 83.1             |   | 1.17             | U | 120            | 69            | N    | P |
| Silver    | mg/Kg | 75 - 125               | 3.46             |   | 0.59             | U | 4.4            | 79            |      | P |
| Sodium    | mg/Kg | 75 - 125               | 261              |   | 120              |   | 180            | 79            |      | P |
| Thallium  | mg/Kg | 75 - 125               | 108              |   | 2.34             | U | 120            | 90            |      | P |
| Vanadium  | mg/Kg | 75 - 125               | 27.8             |   | 15.9             |   | 17.6           | 68            | N    | P |
| Zinc      | mg/Kg | 75 - 125               | 38.4             |   | 27.2             |   | 11.7           | 96            |      | P |

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**MATRIX SPIKE DUPLICATE SUMMARY**

|                                   |                                    |                   |                 |                                         |                 |
|-----------------------------------|------------------------------------|-------------------|-----------------|-----------------------------------------|-----------------|
| <b>client:</b>                    | <u>Portal Partners Tri-Venture</u> | <b>level:</b>     | <u>low</u>      | <b>sdg no.:</b>                         | <u>P5299</u>    |
| <b>contract:</b>                  | <u>PORT06</u>                      | <b>lab code:</b>  | <u>CHEM</u>     | <b>case no.:</b>                        | <u>P5299</u>    |
| <b>matrix:</b>                    | <u>Solid</u>                       | <b>sample id:</b> | <u>P5299-04</u> | <b>client id:</b>                       | <u>SB-02MSD</u> |
| <b>Percent Solids for Sample:</b> | 79.2                               | <b>Spiked ID:</b> | P5299-04MSD     | <b>Percent Solids for Spike Sample:</b> | 79.2            |

| 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               | 5940          |   | 6080             |   | 100            | -134          |      | P |
| Antimony  | mg/Kg | 75 - 125               | 14.4          |   | 2.92             | U | 40.9           | 35            | N    | P |
| Arsenic   | mg/Kg | 75 - 125               | 34.8          |   | 1.80             |   | 40.9           | 81            |      | P |
| Barium    | mg/Kg | 75 - 125               | 35.4          |   | 35.4             |   | 10.2           | 0             | N    | P |
| Beryllium | mg/Kg | 75 - 125               | 8.14          |   | 0.52             |   | 10.2           | 75            |      | P |
| Cadmium   | mg/Kg | 75 - 125               | 9.77          |   | 0.058            | J | 10.2           | 95            |      | P |
| Calcium   | mg/Kg | 75 - 125               | 711           |   | 995              |   | 51.1           | -557          |      | P |
| Chromium  | mg/Kg | 75 - 125               | 30.1          |   | 18.6             |   | 20.4           | 56            | N    | P |
| Cobalt    | mg/Kg | 75 - 125               | 15.2          |   | 5.94             |   | 10.2           | 91            |      | P |
| Copper    | mg/Kg | 75 - 125               | 25.1          |   | 14.6             |   | 15.3           | 68            | N    | P |
| Iron      | mg/Kg | 75 - 125               | 9860          |   | 13100            |   | 150            | -2190         |      | P |
| Lead      | mg/Kg | 75 - 125               | 58.7          |   | 11.4             |   | 51.1           | 93            |      | P |
| Magnesium | mg/Kg | 75 - 125               | 1830          |   | 1980             |   | 100            | -157          |      | P |
| Manganese | mg/Kg | 75 - 125               | 116           |   | 136              |   | 10.2           | -194          |      | P |
| Nickel    | mg/Kg | 75 - 125               | 35.1          |   | 12.8             |   | 25.6           | 87            |      | P |
| Potassium | mg/Kg | 75 - 125               | 1020          |   | 801              |   | 510            | 44            | N    | P |
| Selenium  | mg/Kg | 75 - 125               | 74.0          |   | 1.17             | U | 100            | 74            | N    | P |
| Silver    | mg/Kg | 75 - 125               | 3.02          |   | 0.59             | U | 3.8            | 80            |      | P |
| Sodium    | mg/Kg | 75 - 125               | 225           |   | 120              |   | 150            | 70            | N    | P |
| Thallium  | mg/Kg | 75 - 125               | 95.0          |   | 2.34             | U | 100            | 95            |      | P |
| Vanadium  | mg/Kg | 75 - 125               | 24.0          |   | 15.9             |   | 15.3           | 53            | N    | P |
| Zinc      | mg/Kg | 75 - 125               | 33.7          |   | 27.2             |   | 10.2           | 64            | N    | P |

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**MATRIX SPIKE SUMMARY**

**client:** Portal Partners Tri-Venture      **level:** low      **sdg no.:** P5299  
**contract:** PORT06      **lab code:** CHEM      **case no.:** P5299      **sas no.:** P5299  
**matrix:** Solid      **sample id:** P5301-03      **client id:** HR-04-121624MS  
**Percent Solids for Sample:**      89.4      **Spiked ID:**      P5301-03MS      **Percent Solids for Spike Sample:**      89.4

| 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 - 124               | 0.25             |   | 0.035            |   | 0.28           | 77            | N    | CV |

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**- 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>P5299</u>           |                              |
| <b>contract:</b>                  | <u>PORT06</u>                      | <b>lab code:</b>  | <u>CHEM</u>        | <b>case no.:</b>                        | <u>P5299</u>           | <b>sas no.:</b> <u>P5299</u> |
| <b>matrix:</b>                    | <u>Solid</u>                       | <b>sample id:</b> | <u>P5301-03</u>    | <b>client id:</b>                       | <u>HR-04-121624MSD</u> |                              |
| <b>Percent Solids for Sample:</b> | 89.4                               | <b>Spiked ID:</b> | <u>P5301-03MSD</u> | <b>Percent Solids for Spike Sample:</b> | 89.4                   |                              |

| 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 - 124               | 0.24          |   | 0.035            |   | 0.28           | 74            | N    | CV |