



U.S. Environmental Protection Agency  
Region 8  
Technical and Management Services

Laboratory Services Program

Certificate of Analysis

Ref: 8TMS-L

MEMORANDUM

Date: 09/25/14

Subject: Analytical Results--- **Park City\_Soils Seds & SW\_SEP 2014\_A064 / A-064**

From: Don Goodrich; EPA Region 8 Analytical Chemistry WAM

To: Martin McComb  
Superfund  
1595 Wynkoop Street

Received Sample Set(s), [Work Order : Date Received]:  
[ C140910 : 09/15/2014 ]

Attached are the analytical results for the samples received from the Park City\_Soils Seds & SW\_SEP 2014\_A064 sampling event, according to TDF A-064. All analyses were performed within their method specified holding times unless otherwise noted in the following narrative.

These samples were prepared, analyzed, and verified by the Environmental Services Assistance Team Laboratory (ESAT) according to the requirements of the Technical Direction Form (TDF).

Note: The laboratory herewith transmits this deliverable to the program/project partner for determination of "final data usability" which may include data validation and data quality assessment per and in accordance with EPA QA/G-8, *Guidance on Environmental Data Verification and Data Validation*, November 2002, EPA/240/R-02/004. Laboratory data qualifiers are applied based on the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004, referred to as "NFGI".

Laboratory policy is to dispose of any remaining sample 60 days after data analysis packages are delivered to EPA. If you would like the laboratory to retain the samples for a period longer than 60 days, please contact Don Goodrich within the 60 day period at (303) 312-6687.

**TDF #: A-064**

**Case Narrative**

**C140910**

Quality Assessment: Unless indicated by exception, the QA/QC associated with this sample set produced data within the TDF-specified criteria.

Holding Times: All samples were analyzed within their method-specified technical holding time(s).

1. Initial and Continuing calibration blanks (ICBs and CCBs).  
Exceptions: None.
2. Preparation (PB) / Method blanks (MB)  
Exceptions: None.
3. Interference Checks (ICSA / ICSAB) for ICP-MS and ICP-OE analyses only.  
Exceptions: None.
4. Initial and Continuing calibration verification analyses (ICVs, SCVs and CCVs).  
Exceptions: None.
5. Laboratory Control Sample (LCS) or second source analysis or SRM.  
Exceptions: None.
6. Laboratory Fortified blank (LFB) / Blank spike (BS), same source as used for the matrix spikes.  
PBS performed with analyses/methods requiring preparation or digestion prior to analysis.  
Exceptions: None.
7. Contract Reporting Detection Limit Standard, labeled as CRA, CRDL or CRL.  
Exceptions: None.
8. Laboratory Duplicate (DUP). "Source" identifies field sample duplicated in the laboratory. If either the "source" or the duplicate result is <5X the reporting limit, the %D limit of 20% does not apply.  
Exceptions: None.
9. Laboratory Matrix Spike (MS) and spike duplicate (MSD). "Source" defines original field sample fortified prior to analysis. Percent recovery (%R) limits do not apply when sample concentration(s) exceed the corresponding analyte spike level by a factor of 4 or greater.  
Exceptions: In ICP-MS batch 1409100, antimony recovered low in the MS4. No qualifiers were assigned since all other QC requirements for antimony were met.
10. Serial Dilution sample analysis (SRD). "Source" is parent field sample diluted 1:5 in the laboratory. Performed for ICP-OE and ICP-MS metals analyses. Percent difference (%D) limits do not apply when analyte concentration(s) are below 50x the source sample's MDL (or 10x it's PQL).  
Exceptions: In ICP-MS sequence 1409116, silver and thallium recovered high in the SRD. The source sample was qualified "J" as estimated for silver and thallium.
11. Internal standards, criteria specified for ICP-MS analyses only, monitored at the instrument.  
Exceptions: None.
12. Any calibration using more than two-points produced a correlation coefficient equal to or greater than 0.995.  
Exceptions: None.

TDF #: A-064

**Acronyms and Definitions:**

|      |   |
|------|---|
| ESAT | Environmental Services Assistance Team  |
| J    | Data Estimated qualifier (also applied to all data less than PQL, greater than or equal to MDL)                         |
| MDL  | Method Detection Limit  |
| PQL  | Practical Quantitation Limit, also known as reporting limit.  |
| RPD  | Relative Percent Difference (difference divided by the mean)  |
| %D   | Percent difference, serial dilution criteria unit, difference divided by the original result.                           |
| %R   | Percent recovery, analyzed (less sample contribution) divided by true value   |
| <    | Analyte NOT DETECTED at or above the Method Detection Limit (MDL)   |
| mg/L | Parts per million (milligrams per liter). Solids equivalent = mg/Kg.  |
| ug/L | Parts per billion (micrograms per liter). Solids equivalent = ug/Kg.  |
| NR   | No Recovery (matrix spike) - Often seen for calcium/magnesium when their concentration exceeds the spike level by > 4x. |
| NFGI | USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004                |
| RE   | Sample Re-analysis. Usually seen on raw data and sequences for required sample dilutions due to over-range analytes.    |
| U    | Analyte not detected at or above MDL qualifier  |
| D    | Diluted value qualifier.  |

**Method(s) Summary:**

As defined in the Technical Direction Form (TDF), some or all of the methods listed below were used for the determination of the reported target analytes.

From EPA's *Methods for the Determination of Metals in Environmental Samples*, Supplement I, May 1994, dissolved, total, and/or total recoverable metals were determined by:

- Method 200.7 / 6010B using a PE Optima ICP -OE (ICP).
- Method 200.8 / 6020 using a Perkin -Elmer Elan 6000 ICP-MS.
- Method 200.2 for total recoverable metals (only) digestion.
- Method 245.1 using a Perkin -Elmer FIMS CVAA (aqueous mercury only).

From *Standard Methods for the Examination of Water and Wastewater*, 18<sup>th</sup> Edition, 1992, Method 2340B was used for the calculated hardness determination. Hardness is reported as mg (milligram) equivalent CaCO<sub>3</sub> per liter (L) determined as follows:

$$\text{Calculated hardness} = 2.497 * (\text{Calcium, mg/L}) + 4.118 * (\text{Magnesium, mg/L}).$$

From EPA's *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846,

- Method 3015A was used for microwave assisted total metals digestion.
- Method 7473 was used for mercury in solids.

From EPA's *Determination of Inorganic Anions by Ion Chromatography*, Revision 2.1, 1993, Method 300.0 was used to determine the anions.

From EPA's *Methods for Chemical Analysis of Water and Wastes*, March 1983:

- Method 310.1 was followed for the alkalinity determination.
- Method 160.1 was followed for gravimetric total dissolved solids (TDS) determination.
- Method 160.2 was used for gravimetric total suspended solids (TSS) determination.
- Method 415.3 was used for total organic carbon (TOC) determination using either an Apollo 9000 or Phoenix 8000 Non-Dispersive IR (NDIR) system. Also known as dissolved organic carbon (DOC) when performed on the dissolved sample fraction.

The quality control procedures listed in the TDF request were utilized by ESAT to verify accuracy of the results and to evaluate any matrix interferences.

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSBSK02

Date / Time Sampled: 09/10/14 09:55

Workorder: C140910

EPA Tag No.: 8-A

Matrix: Soil

Lab Number: C140910-01 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 7.30    |           | mg/kg dry wt | 0.05 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 734000  |           | ug/kg dry wt | 492  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 1230000 |           | ug/kg dry wt | 492  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 91400   |           | ug/kg dry wt | 98.5 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 33800   |           | ug/kg dry wt | 985  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 9460    |           | ug/kg dry wt | 98.5 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 19500   |           | ug/kg dry wt | 492  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 46800   |           | ug/kg dry wt | 985  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 128000  | J         | ug/kg dry wt | 492  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 18700   | J         | ug/kg dry wt | 492  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 7500    |           | mg/kg dry wt | 19.7 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 117     |           | mg/kg dry wt | 1.97 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 4.92  | U         | mg/kg dry wt | 1.97 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 28700   |           | mg/kg dry wt | 98.5 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 1740    |           | mg/kg dry wt | 1.97 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 37300   |           | mg/kg dry wt | 98.5 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 51300   |           | mg/kg dry wt | 9.85 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 8390    |           | mg/kg dry wt | 98.5 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 1250    |           | mg/kg dry wt | 1.97 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | 14.2    | J         | mg/kg dry wt | 9.85 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 900     | J         | mg/kg dry wt | 246  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 985   | U         | mg/kg dry wt | 246  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 56.2    |           | mg/kg dry wt | 1.97 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | < 49.2  | U         | mg/kg dry wt | 9.85 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 12800   |           | mg/kg dry wt | 9.85 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSECA01  
EPA Tag No.: 8-BDate / Time Sampled: 09/11/14 15:31  
Matrix: SedimentWorkorder: C140910  
Lab Number: C140910-02 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.37    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 18400   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 151000  |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 104000  |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 13700   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 46400   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 27000   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 54800   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 42000   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 1890    |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 5760    |           | mg/kg dry wt | 20.2 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 41.3    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.06  | U         | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 6090    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 2030    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 61500   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 25300   |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 3330    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 2160    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.2  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1240    |           | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 9.54    | J         | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | < 50.6  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 36600   |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSECA01D  
EPA Tag No.: 8-BDate / Time Sampled: 09/11/14 15:32  
Matrix: SedimentWorkorder: C140910  
Lab Number: C140910-03 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.40    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 20200   |           | ug/kg dry wt | 497  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 164000  |           | ug/kg dry wt | 497  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 114000  |           | ug/kg dry wt | 99.4 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 14100   |           | ug/kg dry wt | 994  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 44500   |           | ug/kg dry wt | 99.4 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 26800   |           | ug/kg dry wt | 497  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 54300   |           | ug/kg dry wt | 994  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 40400   |           | ug/kg dry wt | 497  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 705     | J         | ug/kg dry wt | 497  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 4680    |           | mg/kg dry wt | 19.9 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 27.5    |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 4.97  | U         | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 5990    |           | mg/kg dry wt | 99.4 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 2180    |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 63100   |           | mg/kg dry wt | 99.4 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 24700   |           | mg/kg dry wt | 9.94 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 2570    |           | mg/kg dry wt | 99.4 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 1820    |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 19.9  | U         | mg/kg dry wt | 9.94 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 869     | J         | mg/kg dry wt | 248  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 994   | U         | mg/kg dry wt | 248  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 7.99    | J         | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | < 49.7  | U         | mg/kg dry wt | 9.94 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 40400   |           | mg/kg dry wt | 9.94 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSECA02

Date / Time Sampled: 09/11/14 15:42

Workorder: C140910

EPA Tag No.: 8-B

Matrix: Sediment

Lab Number: C140910-04 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.38    |           | mg/kg dry wt | 0.02 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 17800   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 243000  |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 83200   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 29000   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 100000  |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 24700   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 11700   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 5780    |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 536     | J         | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 8080    |           | mg/kg dry wt | 20.3 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 51.2    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.07  | U         | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 10900   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 3040    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 54600   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 1620    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 4440    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 8700    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.3  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1590    |           | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 21.5    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 12.9    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 16000   |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSEOM01  
EPA Tag No.: 8-BDate / Time Sampled: 09/09/14 13:45  
Matrix: SedimentWorkorder: C140910  
Lab Number: C140910-05 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.12    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 40000   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 66600   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 15800   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 11300   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 10600   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 12600   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 2320    |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 31200   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 1340    |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 2720    |           | mg/kg dry wt | 20.3 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 283     |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.07  | U         | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 21600   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 99.7    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 19300   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 804     |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 6000    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 8130    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.3  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 435     | J         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 56.5    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 12.3    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1650    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |



Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSAP06  
EPA Tag No.: 8-ADate / Time Sampled: 09/11/14 10:12  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-06 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.23    |           | mg/kg dry wt | 0.02 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 3640    |           | ug/kg dry wt | 499  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 13600   |           | ug/kg dry wt | 499  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 8850    |           | ug/kg dry wt | 99.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 10300   |           | ug/kg dry wt | 998  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 4250    |           | ug/kg dry wt | 99.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 7400    |           | ug/kg dry wt | 499  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 1220    | J         | ug/kg dry wt | 998  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 2220    |           | ug/kg dry wt | 499  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | < 998   | U         | ug/kg dry wt | 499  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 6520    |           | mg/kg dry wt | 20.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 110     |           | mg/kg dry wt | 2.00 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 4.99  | U         | mg/kg dry wt | 2.00 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 18900   |           | mg/kg dry wt | 99.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 58.8    |           | mg/kg dry wt | 2.00 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 9090    |           | mg/kg dry wt | 99.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 602     |           | mg/kg dry wt | 9.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 4200    |           | mg/kg dry wt | 99.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 981     |           | mg/kg dry wt | 2.00 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.0  | U         | mg/kg dry wt | 9.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1790    |           | mg/kg dry wt | 249  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 998   | U         | mg/kg dry wt | 249  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 50.0    |           | mg/kg dry wt | 2.00 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | < 49.9  | U         | mg/kg dry wt | 9.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1660    |           | mg/kg dry wt | 9.98 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSCA01  
EPA Tag No.: 8-ADate / Time Sampled: 09/11/14 14:54  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-07 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.64    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 78300   |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 310000  |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 37700   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 13800   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 23400   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 12700   |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 70300   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 42400   |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 993     | J         | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 5290    |           | mg/kg dry wt | 20.2 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 57.4    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.05  | U         | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 9420    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 2190    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 71700   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 13700   |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 3830    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 1230    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.2  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 2340    |           | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 25.6    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 10.8    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 8080    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSCO08  
EPA Tag No.: 8-ADate / Time Sampled: 09/11/14 15:31  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-08 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.07    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 2340    |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 34100   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 8160    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 21100   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 8890    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 12100   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | < 2030  | U         | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 2350    |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | < 1010  | U         | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 12400   |           | mg/kg dry wt | 20.3 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 140     |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.07  | U         | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 9530    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 99.4    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 19800   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 742     |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 7380    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 644     |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.3  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 3310    |           | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 43.3    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 28.4    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1370    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSCO09

Date / Time Sampled: 09/11/14 16:00

Workorder: C140910

EPA Tag No.: 8-A

Matrix: Soil

Lab Number: C140910-09 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.13    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 4460    |           | ug/kg dry wt | 495  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 73000   |           | ug/kg dry wt | 495  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 2550    |           | ug/kg dry wt | 99.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 20200   |           | ug/kg dry wt | 990  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 8810    |           | ug/kg dry wt | 99.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 12100   |           | ug/kg dry wt | 495  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 2250    |           | ug/kg dry wt | 990  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 1450    |           | ug/kg dry wt | 495  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | < 990   | U         | ug/kg dry wt | 495  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 11100   |           | mg/kg dry wt | 19.8 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 120     |           | mg/kg dry wt | 1.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 4.95  | U         | mg/kg dry wt | 1.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 5470    |           | mg/kg dry wt | 99.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 95.5    |           | mg/kg dry wt | 1.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 22300   |           | mg/kg dry wt | 99.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 514     |           | mg/kg dry wt | 9.90 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 6740    |           | mg/kg dry wt | 99.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 795     |           | mg/kg dry wt | 1.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 19.8  | U         | mg/kg dry wt | 9.90 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 2570    |           | mg/kg dry wt | 248  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 990   | U         | mg/kg dry wt | 248  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 32.6    |           | mg/kg dry wt | 1.98 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 22.2    | J         | mg/kg dry wt | 9.90 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 486     |           | mg/kg dry wt | 9.90 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSEC12  
EPA Tag No.: 8-ADate / Time Sampled: 09/12/14 13:41  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-10 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.21    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 20000   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 38200   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 8390    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 7270    |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 3130    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 4210    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | < 2010  | U         | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 4950    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 737     | J         | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 2300    |           | mg/kg dry wt | 20.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 41.7    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.03  | U         | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 32000   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 63.8    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 6680    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 1110    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 9730    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 630     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | 12.0    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 340     | J         | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 25.5    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | < 50.3  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1570    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSOM05  
EPA Tag No.: 8-ADate / Time Sampled: 09/09/14 14:33  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-11 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.23    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 1340    |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 12200   |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 2110    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 12400   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 9600    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 12500   |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | < 2020  | U         | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 1670    |           | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | < 1010  | U         | ug/kg dry wt | 505  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 12300   |           | mg/kg dry wt | 20.2 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 256     |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.05  | U         | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 4480    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 25.4    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 15300   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 126     |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 3430    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 1760    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.2  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 2230    |           | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 29.6    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 20.3    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 201     |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSOME03  
EPA Tag No.: 8-ADate / Time Sampled: 09/09/14 16:27  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-12 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.26    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 29900   |           | ug/kg dry wt | 502  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 64200   |           | ug/kg dry wt | 502  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 12300   |           | ug/kg dry wt | 100  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 15300   |           | ug/kg dry wt | 1000 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 13000   |           | ug/kg dry wt | 100  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 20500   |           | ug/kg dry wt | 502  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 2250    |           | ug/kg dry wt | 1000 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 39600   |           | ug/kg dry wt | 502  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 1880    |           | ug/kg dry wt | 502  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 8100    |           | mg/kg dry wt | 20.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 158     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.02  | U         | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 11900   |           | mg/kg dry wt | 100  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 174     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 22200   |           | mg/kg dry wt | 100  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 938     |           | mg/kg dry wt | 10.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 8330    |           | mg/kg dry wt | 100  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 4360    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.1  | U         | mg/kg dry wt | 10.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1280    |           | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1000  | U         | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 29.3    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 21.5    | J         | mg/kg dry wt | 10.0 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1790    |           | mg/kg dry wt | 10.0 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSOME04  
EPA Tag No.: 8-ADate / Time Sampled: 09/09/14 16:31  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-13 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.17    |           | mg/kg dry wt | 0.01 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 8460    |           | ug/kg dry wt | 498  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 34300   |           | ug/kg dry wt | 498  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 7860    |           | ug/kg dry wt | 99.6 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 15200   |           | ug/kg dry wt | 996  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 20000   |           | ug/kg dry wt | 99.6 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 26600   |           | ug/kg dry wt | 498  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 1150    | J         | ug/kg dry wt | 996  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 19900   |           | ug/kg dry wt | 498  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 955     | J         | ug/kg dry wt | 498  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 10200   |           | mg/kg dry wt | 19.9 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 283     |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 4.98  | U         | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 5530    |           | mg/kg dry wt | 99.6 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 103     |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 22500   |           | mg/kg dry wt | 99.6 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 479     |           | mg/kg dry wt | 9.96 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 6860    |           | mg/kg dry wt | 99.6 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 3270    |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 19.9  | U         | mg/kg dry wt | 9.96 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1730    |           | mg/kg dry wt | 249  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 996   | U         | mg/kg dry wt | 249  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 33.0    |           | mg/kg dry wt | 1.99 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 19.4    | J         | mg/kg dry wt | 9.96 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1270    |           | mg/kg dry wt | 9.96 | 10              | 09/24/2014 | SV | 1409100 |



Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSOME05  
EPA Tag No.: 8-ADate / Time Sampled: 09/09/14 16:41  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-14 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 0.20    |           | mg/kg dry wt | 0.02 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 14000   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 52600   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 8590    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 15000   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 19300   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 29100   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 1810    | J         | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 22700   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 1610    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 11500   |           | mg/kg dry wt | 20.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 308     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.03  | U         | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 6050    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 158     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 24500   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 535     |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 6470    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 3360    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.1  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1290    |           | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 252  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 35.5    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 22.1    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1680    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSOT05  
EPA Tag No.: 8-ADate / Time Sampled: 09/10/14 15:50  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-15 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 7.31    |           | mg/kg dry wt | 0.07 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 8270    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 49400   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 6600    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 13300   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 5710    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 10600   |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | < 2010  | U         | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 9230    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 1200    |           | ug/kg dry wt | 503  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 9320    |           | mg/kg dry wt | 20.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 162     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.03  | U         | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 5110    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 103     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 18000   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 1070    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 2880    |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 857     |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | < 20.1  | U         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1440    |           | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 251  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 25.3    |           | mg/kg dry wt | 2.01 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 17.8    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 1030    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSSK09

Date / Time Sampled: 09/10/14 11:57

Workorder: C140910

EPA Tag No.: 8-A

Matrix: Soil

Lab Number: C140910-16 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 1.44    |           | mg/kg dry wt | 0.02 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 99000   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 568000  |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 87200   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 26500   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 12100   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 36000   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 13100   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 53500   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 13100   |           | ug/kg dry wt | 506  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 7330    |           | mg/kg dry wt | 20.2 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 665     |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.06  | U         | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 35500   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 1120    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 19300   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 9620    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 15800   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 2070    |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | 17.0    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 1660    |           | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 253  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 115     |           | mg/kg dry wt | 2.02 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 23.2    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 17100   |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCSSTH07  
EPA Tag No.: 8-ADate / Time Sampled: 09/10/14 12:55  
Matrix: SoilWorkorder: C140910  
Lab Number: C140910-17 A

| Method            | Parameter  | Results | Qualifier | Units        | MDL  | Dilution Factor | Analyzed   | By | Batch   |
|-------------------|------------|---------|-----------|--------------|------|-----------------|------------|----|---------|
| 7473              | Mercury    | 2.43    |           | mg/kg dry wt | 0.02 | 1               | 09/24/2014 | SW | 1409092 |
| EPA 200.2 / 200.8 | Antimony   | 93000   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Arsenic    | 256000  |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cadmium    | 19200   |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Chromium   | 24700   |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Cobalt     | 7180    |           | ug/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Nickel     | 18600   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Selenium   | 5060    |           | ug/kg dry wt | 1010 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Silver     | 18500   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2 / 200.8 | Thallium   | 12700   |           | ug/kg dry wt | 507  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Aluminum   | 3690    |           | mg/kg dry wt | 20.3 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Barium     | 89.9    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Beryllium  | < 5.07  | U         | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Calcium    | 73500   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Copper     | 160     |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Iron       | 22300   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Lead       | 4220    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Magnesium  | 20300   |           | mg/kg dry wt | 101  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Manganese  | 1410    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Molybdenum | 17.6    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Potassium  | 659     | J         | mg/kg dry wt | 254  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Sodium     | < 1010  | U         | mg/kg dry wt | 254  | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Strontium  | 50.7    |           | mg/kg dry wt | 2.03 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Vanadium   | 12.4    | J         | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |
| EPA 200.2/200.7   | Zinc       | 3150    |           | mg/kg dry wt | 10.1 | 10              | 09/24/2014 | SV | 1409100 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCWACA01  
EPA Tag No.: 8-CDate / Time Sampled: 09/11/14 15:28  
Matrix: Surface WaterWorkorder: C140910  
Lab Number: C140910-18 A

| Method | Parameter  | Results | Qualifier | Units | MDL   | Dilution Factor | Analyzed   | By | Batch   |
|--------|------------|---------|-----------|-------|-------|-----------------|------------|----|---------|
| 200.7  | Aluminum   | < 50.0  | U         | ug/L  | 20.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Barium     | 3.50    | J         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Beryllium  | < 5.00  | U         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Calcium    | 102000  |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Iron       | 177     | J         | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Magnesium  | 5890    |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Manganese  | 41.8    |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Molybdenum | 16.7    | J         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Potassium  | 1700    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Sodium     | 2420    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Strontium  | 99.1    |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Vanadium   | < 50.0  | U         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Zinc       | 2240    |           | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.8  | Antimony   | 7.01    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Arsenic    | < 10.0  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cadmium    | 11.1    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Chromium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cobalt     | 0.732   | J         | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Copper     | 13.4    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Lead       | 58.1    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Nickel     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Selenium   | 5.29    | J         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Silver     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Thallium   | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCWACA01D  
EPA Tag No.: 8-CDate / Time Sampled: 09/11/14 15:29  
Matrix: Surface WaterWorkorder: C140910  
Lab Number: C140910-19 A

| Method | Parameter  | Results | Qualifier | Units | MDL   | Dilution Factor | Analyzed   | By | Batch   |
|--------|------------|---------|-----------|-------|-------|-----------------|------------|----|---------|
| 200.7  | Aluminum   | < 50.0  | U         | ug/L  | 20.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Barium     | 3.59    | J         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Beryllium  | < 5.00  | U         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Calcium    | 101000  |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Iron       | < 250   | U         | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Magnesium  | 5780    |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Manganese  | 43.1    |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Molybdenum | 12.3    | J         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Potassium  | 1610    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Sodium     | 2350    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Strontium  | 100     |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Vanadium   | < 50.0  | U         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Zinc       | 2290    |           | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.8  | Antimony   | 7.43    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Arsenic    | < 10.0  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cadmium    | 11.6    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Chromium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cobalt     | 0.719   | J         | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Copper     | 11.2    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Lead       | 50.5    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Nickel     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Selenium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Silver     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Thallium   | 6.92    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCWACA02  
EPA Tag No.: 8-CDate / Time Sampled: 09/11/14 15:40  
Matrix: Surface WaterWorkorder: C140910  
Lab Number: C140910-20 A

| Method | Parameter  | Results | Qualifier | Units | MDL   | Dilution Factor | Analyzed   | By | Batch   |
|--------|------------|---------|-----------|-------|-------|-----------------|------------|----|---------|
| 200.7  | Aluminum   | < 50.0  | U         | ug/L  | 20.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Barium     | 2.55    | J         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Beryllium  | < 5.00  | U         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Calcium    | 101000  |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Iron       | 130     | J         | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Magnesium  | 5870    |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Manganese  | 116     |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Molybdenum | 14.1    | J         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Potassium  | 1460    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Sodium     | 2300    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Strontium  | 96.2    |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Vanadium   | < 50.0  | U         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Zinc       | 4640    |           | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.8  | Antimony   | 6.57    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Arsenic    | < 10.0  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cadmium    | 14.8    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Chromium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cobalt     | 1.19    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Copper     | 23.5    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Lead       | 1.55    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Nickel     | 2.97    | J         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Selenium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Silver     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Thallium   | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

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TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods

Station ID: PCWAOM01  
EPA Tag No.: 8-CDate / Time Sampled: 09/09/14 13:45  
Matrix: Surface WaterWorkorder: C140910  
Lab Number: C140910-21 A

| Method | Parameter  | Results | Qualifier | Units | MDL   | Dilution Factor | Analyzed   | By | Batch   |
|--------|------------|---------|-----------|-------|-------|-----------------|------------|----|---------|
| 200.7  | Aluminum   | 16700   |           | ug/L  | 20.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Barium     | 209     |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Beryllium  | < 5.00  | U         | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Calcium    | 33000   |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Iron       | 12700   |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Magnesium  | 9260    |           | ug/L  | 100   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Manganese  | 265     |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Molybdenum | 10.1    | J         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Potassium  | 9510    |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Sodium     | 124000  |           | ug/L  | 250   | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Strontium  | 190     |           | ug/L  | 2.00  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Vanadium   | 18.3    | J         | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.7  | Zinc       | 287     |           | ug/L  | 10.0  | 1               | 09/25/2014 | SV | 1409099 |
| 200.8  | Antimony   | 6.88    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Arsenic    | 31.9    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cadmium    | 0.939   | J         | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Chromium   | 16.1    |           | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Cobalt     | 3.54    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Copper     | 82.8    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Lead       | 79.1    |           | ug/L  | 0.500 | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Nickel     | 8.33    |           | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Selenium   | < 10.0  | U         | ug/L  | 5.00  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Silver     | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |
| 200.8  | Thallium   | < 5.00  | U         | ug/L  | 2.50  | 5               | 09/25/2014 | SV | 1409099 |

"J" Qualifier indicates an estimated value



Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

## Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

## TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result  | Det. Limit         | Units | Spike Level                           | Source Result | %R                                    | %R Limits       | %D or RPD | %D or RPD Limit |
|-----------------------------------|---------|--------------------|-------|---------------------------------------|---------------|---------------------------------------|-----------------|-----------|-----------------|
| ICPMS-PE DRC-II                   |         |                    |       |                                       |               |                                       |                 |           |                 |
| Batch 1409099 - 200.2 - TR Metals |         |                    | Water |                                       |               |                                       | ICPMS-PE DRC-II |           |                 |
| Method Blank (1409099-BLK2)       |         | Dilution Factor: 5 |       | Prepared: 09/23/14 Analyzed: 09/25/14 |               |                                       |                 |           |                 |
| Chromium                          | < 5.00  | 10.0               | ug/L  |                                       |               |                                       |                 |           |                 |
| Cobalt                            | < 0.500 | 1.00               | "     |                                       |               |                                       |                 |           |                 |
| Nickel                            | < 2.50  | 5.00               | "     |                                       |               |                                       |                 |           |                 |
| Copper                            | < 2.50  | 5.00               | "     |                                       |               |                                       |                 |           |                 |
| Arsenic                           | < 2.50  | 10.0               | "     |                                       |               |                                       |                 |           |                 |
| Selenium                          | < 5.00  | 10.0               | "     |                                       |               |                                       |                 |           |                 |
| Silver                            | < 2.50  | 5.00               | "     |                                       |               |                                       |                 |           |                 |
| Cadmium                           | < 0.500 | 1.00               | "     |                                       |               |                                       |                 |           |                 |
| Antimony                          | < 2.50  | 5.00               | "     |                                       |               |                                       |                 |           |                 |
| Thallium                          | < 2.50  | 5.00               | "     |                                       |               |                                       |                 |           |                 |
| Lead                              | < 0.500 | 1.00               | "     |                                       |               |                                       |                 |           |                 |
| Duplicate (1409099-DUP2)          |         | Dilution Factor: 5 |       | Source: C140910-18                    |               | Prepared: 09/23/14 Analyzed: 09/25/14 |                 |           |                 |
| Chromium                          | < 5.00  | 10.0               | ug/L  |                                       | < 5.00        |                                       |                 |           | 20              |
| Cobalt                            | 0.7094  | 1.00               | "     |                                       | 0.7320        |                                       |                 | 3         | 20              |
| Nickel                            | < 2.50  | 5.00               | "     |                                       | < 2.50        |                                       |                 |           | 20              |
| Copper                            | 11.98   | 5.00               | "     |                                       | 13.41         |                                       |                 | 11        | 20              |
| Arsenic                           | < 2.50  | 10.0               | "     |                                       | < 2.50        |                                       |                 |           | 20              |
| Selenium                          | < 5.00  | 10.0               | "     |                                       | 5.292         |                                       |                 |           | 20              |
| Silver                            | < 2.50  | 5.00               | "     |                                       | < 2.50        |                                       |                 |           | 20              |
| Cadmium                           | 10.44   | 1.00               | "     |                                       | 11.15         |                                       |                 | 7         | 20              |
| Antimony                          | 6.329   | 5.00               | "     |                                       | 7.014         |                                       |                 | 10        | 20              |
| Thallium                          | < 2.50  | 5.00               | "     |                                       | < 2.50        |                                       |                 |           | 20              |
| Lead                              | 53.70   | 1.00               | "     |                                       | 58.08         |                                       |                 | 8         | 20              |
| Matrix Spike (1409099-MS2)        |         | Dilution Factor: 5 |       | Source: C140910-18                    |               | Prepared: 09/23/14 Analyzed: 09/25/14 |                 |           |                 |
| Chromium                          | 387.3   | 10.0               | ug/L  | 400                                   | < 5.00        | 97                                    | 70-130          |           |                 |
| Cobalt                            | 173.9   | 1.00               | "     | 200                                   | 0.7320        | 87                                    | 70-130          |           |                 |
| Nickel                            | 432.4   | 5.00               | "     | 500                                   | < 2.50        | 86                                    | 70-130          |           |                 |
| Copper                            | 260.3   | 5.00               | "     | 300                                   | 13.41         | 82                                    | 70-130          |           |                 |
| Arsenic                           | 711.0   | 10.0               | "     | 800                                   | < 2.50        | 89                                    | 70-130          |           |                 |
| Selenium                          | 1644    | 10.0               | "     | 2000                                  | 5.292         | 82                                    | 70-130          |           |                 |
| Silver                            | 72.76   | 5.00               | "     | 75.0                                  | < 2.50        | 97                                    | 70-130          |           |                 |
| Cadmium                           | 210.8   | 1.00               | "     | 200                                   | 11.15         | 100                                   | 70-130          |           |                 |
| Antimony                          | 845.0   | 5.00               | "     | 800                                   | 7.014         | 105                                   | 70-130          |           |                 |
| Thallium                          | 1860    | 5.00               | "     | 2000                                  | < 2.50        | 93                                    | 70-130          |           |                 |
| Lead                              | 1005    | 1.00               | "     | 1000                                  | 58.08         | 95                                    | 70-130          |           |                 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte | Result | Det. Limit | Units | Spike Level | Source Result | %R | %R Limits | %D or RPD | %D or RPD Limit |
|---------|--------|------------|-------|-------------|---------------|----|-----------|-----------|-----------------|
|---------|--------|------------|-------|-------------|---------------|----|-----------|-----------|-----------------|

Batch 1409099 - 200.2 - TR Metals

*Water*

ICPMS-PE DRC-II

Reference (1409099-SRM2)

Dilution Factor: 2

Prepared: 09/23/14 Analyzed: 09/25/14

|          |       |      |      |      |  |     |        |  |  |
|----------|-------|------|------|------|--|-----|--------|--|--|
| Chromium | 1062  | 40.0 | ug/L | 1000 |  | 106 | 85-115 |  |  |
| Cobalt   | 999.3 | 4.00 | "    | 1000 |  | 100 | 85-115 |  |  |
| Nickel   | 997.6 | 20.0 | "    | 1000 |  | 100 | 85-115 |  |  |
| Copper   | 1011  | 20.0 | "    | 1000 |  | 101 | 85-115 |  |  |
| Arsenic  | 1985  | 40.0 | "    | 2000 |  | 99  | 85-115 |  |  |
| Selenium | 959.7 | 40.0 | "    | 1000 |  | 96  | 85-115 |  |  |
| Silver   | 253.0 | 20.0 | "    | 250  |  | 101 | 85-115 |  |  |
| Cadmium  | 1040  | 4.00 | "    | 1000 |  | 104 | 85-115 |  |  |
| Antimony | 2133  | 20.0 | "    | 2000 |  | 107 | 85-115 |  |  |
| Thallium | 4799  | 20.0 | "    | 5000 |  | 96  | 85-115 |  |  |
| Lead     | 1945  | 4.00 | "    | 2000 |  | 97  | 85-115 |  |  |

Batch 1409100 - 200.2 - TR Metals

*Solid (dry wt basis)*

ICPMS-PE DRC-II

Method Blank (1409100-BLK2)

Dilution Factor: 5

Prepared: 09/23/14 Analyzed: 09/24/14

|          |        |      |              |  |  |  |  |  |  |
|----------|--------|------|--------------|--|--|--|--|--|--|
| Chromium | < 500  | 1000 | ug/kg dry wt |  |  |  |  |  |  |
| Cobalt   | < 50.0 | 100  | "            |  |  |  |  |  |  |
| Nickel   | < 250  | 500  | "            |  |  |  |  |  |  |
| Arsenic  | < 250  | 1000 | "            |  |  |  |  |  |  |
| Selenium | < 500  | 1000 | "            |  |  |  |  |  |  |
| Silver   | < 250  | 500  | "            |  |  |  |  |  |  |
| Cadmium  | < 50.0 | 100  | "            |  |  |  |  |  |  |
| Antimony | < 250  | 500  | "            |  |  |  |  |  |  |
| Thallium | < 250  | 500  | "            |  |  |  |  |  |  |

Duplicate (1409100-DUP2)

Dilution Factor: 1

Source: C140910-01

Prepared: 09/23/14 Analyzed: 09/24/14

|          |         |      |              |  |         |  |     |    |
|----------|---------|------|--------------|--|---------|--|-----|----|
| Chromium | 32540   | 2010 | ug/kg dry wt |  | 33770   |  | 4   | 35 |
| Cobalt   | 9426    | 201  | "            |  | 9464    |  | 0.4 | 35 |
| Nickel   | 20420   | 1010 | "            |  | 19500   |  | 5   | 35 |
| Arsenic  | 1256000 | 2010 | "            |  | 1231000 |  | 2   | 35 |
| Selenium | 50310   | 2010 | "            |  | 46770   |  | 7   | 35 |
| Silver   | 170800  | 1010 | "            |  | 128300  |  | 28  | 35 |
| Cadmium  | 95630   | 201  | "            |  | 91370   |  | 5   | 35 |
| Antimony | 738700  | 1010 | "            |  | 734100  |  | 0.6 | 35 |
| Thallium | 18950   | 1010 | "            |  | 18730   |  | 1   | 35 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result  | Det. Limit         | Units              | Spike Level          | Source Result | %R                 | %R Limits       | %D or RPD          | %D or RPD Limit |
|-----------------------------------|---------|--------------------|--------------------|----------------------|---------------|--------------------|-----------------|--------------------|-----------------|
| Batch 1409100 - 200.2 - TR Metals |         |                    |                    | Solid (dry wt basis) |               |                    | ICPMS-PE DRC-II |                    |                 |
| Matrix Spike (1409100-MS2)        |         | Dilution Factor: 1 | Source: C140910-01 |                      |               | Prepared: 09/23/14 |                 | Analyzed: 09/24/14 |                 |
| Chromium                          | 66870   | 1970               | ug/kg dry wt       | 39400                | 33770         | 84                 | 65-135          |                    |                 |
| Cobalt                            | 26590   | 197                | "                  | 19700                | 9464          | 87                 | 65-120          |                    |                 |
| Nickel                            | 63240   | 984                | "                  | 49200                | 19500         | 89                 | 65-135          |                    |                 |
| Arsenic                           | 1291000 | 1970               | "                  | 78700                | 1231000       | 76                 | 65-135          |                    |                 |
| Selenium                          | 220400  | 1970               | "                  | 197000               | 46770         | 88                 | 65-135          |                    |                 |
| Silver                            | 157300  | 984                | "                  | 7380                 | 128300        | 392                | 65-135          |                    |                 |
| Cadmium                           | 113300  | 197                | "                  | 19700                | 91370         | 112                | 65-135          |                    |                 |
| Antimony                          | 829500  | 984                | "                  | 78700                | 734100        | 121                | 65-135          |                    |                 |
| Thallium                          | 273500  | 984                | "                  | 197000               | 18730         | 129                | 65-135          |                    |                 |
| Matrix Spike (1409100-MS4)        |         | Dilution Factor: 1 | Source: C140910-12 |                      |               | Prepared: 09/23/14 |                 | Analyzed: 09/24/14 |                 |
| Chromium                          | 50000   | 1990               | ug/kg dry wt       | 39800                | 15300         | 87                 | 65-135          |                    |                 |
| Cobalt                            | 29660   | 199                | "                  | 19900                | 12960         | 84                 | 65-120          |                    |                 |
| Nickel                            | 63310   | 994                | "                  | 49700                | 20470         | 86                 | 65-135          |                    |                 |
| Arsenic                           | 133100  | 1990               | "                  | 79500                | 64190         | 87                 | 65-135          |                    |                 |
| Selenium                          | 153200  | 1990               | "                  | 199000               | 2246          | 76                 | 65-135          |                    |                 |
| Silver                            | 49530   | 994                | "                  | 7460                 | 39600         | 133                | 65-135          |                    |                 |
| Cadmium                           | 30880   | 199                | "                  | 19900                | 12310         | 93                 | 65-135          |                    |                 |
| Antimony                          | 72310   | 994                | "                  | 79500                | 29950         | 53                 | 65-135          |                    |                 |
| Thallium                          | 188800  | 994                | "                  | 199000               | 1884          | 94                 | 65-135          |                    |                 |
| Reference (1409100-SRM2)          |         | Dilution Factor: 1 |                    |                      |               | Prepared: 09/23/14 |                 | Analyzed: 09/24/14 |                 |
| Chromium                          | 92500   | 3770               | ug/kg dry wt       | 96500                |               | 96                 | 80-120          |                    |                 |
| Cobalt                            | 132100  | 377                | "                  | 140000               |               | 94                 | 80-120          |                    |                 |
| Nickel                            | 51600   | 1890               | "                  | 56800                |               | 91                 | 76.5-123.4      |                    |                 |
| Arsenic                           | 949200  | 3770               | "                  | 930000               |               | 102                | 65-134          |                    |                 |
| Selenium                          | 40190   | 3770               | "                  | 37000                |               | 109                | 48-152          |                    |                 |
| Silver                            | 18000   | 1890               | "                  | 20900                |               | 86                 | 64-136          |                    |                 |
| Cadmium                           | 41300   | 377                | "                  | 41600                |               | 99                 | 77-123          |                    |                 |
| Antimony                          | 260400  | 1890               | "                  | 213000               |               | 122                | 61-139          |                    |                 |
| Thallium                          | 36320   | 1890               | "                  | 38100                |               | 95                 | 64.5-135        |                    |                 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                        | Result  | Det. Limit         | Units        | Spike Level          | Source Result | %R                                    | %R Limits       | %D or RPD | %D or RPD Limit |
|--------------------------------|---------|--------------------|--------------|----------------------|---------------|---------------------------------------|-----------------|-----------|-----------------|
| Batch 1409116 - 1409100        |         |                    |              | Solid (dry wt basis) |               |                                       | ICPMS-PE DRC-II |           |                 |
| Serial Dilution (1409116-SRD1) |         | Dilution Factor: 5 |              | Source: C140910-01   |               | Prepared: 09/23/14 Analyzed: 09/24/14 |                 |           |                 |
| Chromium                       | 31070   | 9850               | ug/kg dry wt |                      | 33770         |                                       |                 | 8         | 10              |
| Cobalt                         | 9534    | 985                | "            |                      | 9464          |                                       |                 | 0.7       | 10              |
| Nickel                         | 20160   | 4920               | "            |                      | 19500         |                                       |                 | 3         | 10              |
| Arsenic                        | 1242000 | 9850               | "            |                      | 1231000       |                                       |                 | 0.9       | 10              |
| Selenium                       | 43230   | 9850               | "            |                      | 46770         |                                       |                 | 8         | 10              |
| Silver                         | 144800  | 4920               | "            |                      | 128300        |                                       |                 | 12        | 10              |
| Cadmium                        | 92630   | 985                | "            |                      | 91370         |                                       |                 | 1         | 10              |
| Antimony                       | 713900  | 4920               | "            |                      | 734100        |                                       |                 | 3         | 10              |
| Thallium                       | 15380   | 4920               | "            |                      | 18730         |                                       |                 | 20        | 10              |

| Batch 1409122 - 1409099        |        |                    | Water              |        | ICPMS-PE DRC-II    |                    |
|--------------------------------|--------|--------------------|--------------------|--------|--------------------|--------------------|
| Serial Dilution (1409122-SRD1) |        | Dilution Factor: 2 | Source: C140910-18 |        | Prepared: 09/23/14 | Analyzed: 09/25/14 |
| Chromium                       | < 25.0 | 50.0               | ug/L               | < 5.00 |                    | 10                 |
| Cobalt                         | < 2.50 | 5.00               | "                  | 0.7320 |                    | 10                 |
| Nickel                         | < 12.5 | 25.0               | "                  | < 2.50 |                    | 10                 |
| Copper                         | 13.49  | 25.0               | "                  | 13.41  | 0.6                | 10                 |
| Arsenic                        | < 12.5 | 50.0               | "                  | < 2.50 |                    | 10                 |
| Selenium                       | < 25.0 | 50.0               | "                  | 5.292  |                    | 10                 |
| Silver                         | < 12.5 | 25.0               | "                  | < 2.50 |                    | 10                 |
| Cadmium                        | 10.73  | 5.00               | "                  | 11.15  | 4                  | 10                 |
| Antimony                       | < 12.5 | 25.0               | "                  | 7.014  |                    | 10                 |
| Thallium                       | < 12.5 | 25.0               | "                  | < 2.50 |                    | 10                 |
| Lead                           | 57.06  | 5.00               | "                  | 58.08  | 2                  | 10                 |

## ICPOE - PE Optima

| Batch 1409099 - 200.2 - TR Metals |        |                    | Water | ICPOE - PE Optima                        |
|-----------------------------------|--------|--------------------|-------|--|
| Method Blank (1409099-BLK1)       |        | Dilution Factor: 1 |       | Prepared: 09/23/14    Analyzed: 09/25/14 |
| Aluminum                          | < 20.0 | 50.0               | ug/L  |  |
| Barium                            | < 2.00 | 5.00               | "     |  |
| Beryllium                         | < 2.00 | 5.00               | "     |  |
| Calcium                           | < 100  | 250                | "     |  |
| Iron                              | < 100  | 250                | "     |  |
| Potassium                         | < 250  | 1000               | "     |  |
| Magnesium                         | < 100  | 250                | "     |  |
| Manganese                         | < 2.00 | 5.00               | "     |  |
| Molybdenum                        | < 10.0 | 20.0               | "     |  |
| Sodium                            | < 250  | 1000               | "     |  |
| Vanadium                          | < 10.0 | 50.0               | "     |  |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result | Det. Limit         | Units | Spike Level                           | Source Result | %R                                    | %R Limits         | %D or RPD | %D or RPD Limit |
|-----------------------------------|--------|--------------------|-------|---------------------------------------|---------------|---------------------------------------|-------------------|-----------|-----------------|
| Batch 1409099 - 200.2 - TR Metals |        |                    | Water |                                       |               |                                       | ICPOE - PE Optima |           |                 |
| Method Blank (1409099-BLK1)       |        | Dilution Factor: 1 |       | Prepared: 09/23/14 Analyzed: 09/25/14 |               |                                       |                   |           |                 |
| Zinc                              | < 10.0 | 20.0               | ug/L  |                                       |               |                                       |                   |           |                 |
| Strontium                         | < 2.00 | 10.0               | "     |                                       |               |                                       |                   |           |                 |
| Duplicate (1409099-DUP1)          |        | Dilution Factor: 1 |       | Source: C140910-18                    |               | Prepared: 09/23/14 Analyzed: 09/25/14 |                   |           |                 |
| Aluminum                          | < 20.0 | 50.0               | ug/L  |                                       | < 20.0        |                                       |                   |           | 20              |
| Barium                            | 3.302  | 5.00               | "     |                                       | 3.501         |                                       |                   | 6         | 20              |
| Beryllium                         | < 2.00 | 5.00               | "     |                                       | < 2.00        |                                       |                   |           | 20              |
| Calcium                           | 100100 | 250                | "     |                                       | 101700        |                                       |                   | 2         | 20              |
| Iron                              | 112.5  | 250                | "     |                                       | 176.7         |                                       |                   | 44        | 20              |
| Potassium                         | 1614   | 1000               | "     |                                       | 1700          |                                       |                   | 5         | 20              |
| Magnesium                         | 5730   | 250                | "     |                                       | 5892          |                                       |                   | 3         | 20              |
| Manganese                         | 41.89  | 5.00               | "     |                                       | 41.77         |                                       |                   | 0.3       | 20              |
| Molybdenum                        | 10.77  | 20.0               | "     |                                       | 16.69         |                                       |                   | 43        | 20              |
| Sodium                            | 2342   | 1000               | "     |                                       | 2416          |                                       |                   | 3         | 20              |
| Vanadium                          | < 10.0 | 50.0               | "     |                                       | < 10.0        |                                       |                   |           | 20              |
| Zinc                              | 2248   | 20.0               | "     |                                       | 2236          |                                       |                   | 0.5       | 20              |
| Strontium                         | 99.58  | 10.0               | "     |                                       | 99.11         |                                       |                   | 0.5       | 20              |
| Matrix Spike (1409099-MS1)        |        | Dilution Factor: 1 |       | Source: C140910-18                    |               | Prepared: 09/23/14 Analyzed: 09/25/14 |                   |           |                 |
| Aluminum                          | 1958   | 50.0               | ug/L  | 2000                                  | < 20.0        | 98                                    | 70-130            |           |                 |
| Barium                            | 206.4  | 5.00               | "     | 200                                   | 3.501         | 101                                   | 70-130            |           |                 |
| Beryllium                         | 203.5  | 5.00               | "     | 200                                   | < 2.00        | 102                                   | 70-130            |           |                 |
| Calcium                           | 102200 | 250                | "     | 1000                                  | 101700        | 54                                    | 70-130            |           |                 |
| Iron                              | 3132   | 250                | "     | 3000                                  | 176.7         | 99                                    | 70-130            |           |                 |
| Potassium                         | 11640  | 1000               | "     | 10000                                 | 1700          | 99                                    | 70-130            |           |                 |
| Magnesium                         | 7710   | 250                | "     | 2000                                  | 5892          | 91                                    | 70-130            |           |                 |
| Manganese                         | 244.0  | 5.00               | "     | 200                                   | 41.77         | 101                                   | 70-130            |           |                 |
| Molybdenum                        | 422.6  | 20.0               | "     | 400                                   | 16.69         | 101                                   | 70-130            |           |                 |
| Sodium                            | 5296   | 1000               | "     | 3000                                  | 2416          | 96                                    | 70-130            |           |                 |
| Vanadium                          | 301.0  | 50.0               | "     | 300                                   | < 10.0        | 100                                   | 70-130            |           |                 |
| Zinc                              | 2436   | 20.0               | "     | 200                                   | 2236          | 100                                   | 70-130            |           |                 |
| Strontium                         | 306.5  | 10.0               | "     | 200                                   | 99.11         | 104                                   | 70-130            |           |                 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte | Result | Det. Limit | Units | Spike Level | Source Result | %R | %R Limits | %D or RPD | %D or RPD Limit |
|---------|--------|------------|-------|-------------|---------------|----|-----------|-----------|-----------------|
|---------|--------|------------|-------|-------------|---------------|----|-----------|-----------|-----------------|

Batch 1409099 - 200.2 - TR Metals

*Water*

ICPOE - PE Optima

Reference (1409099-SRM1)

Dilution Factor: 1

Prepared: 09/23/14 Analyzed: 09/25/14

|            |       |      |      |      |  |     |        |  |  |
|------------|-------|------|------|------|--|-----|--------|--|--|
| Aluminum   | 982.0 | 50.0 | ug/L | 1000 |  | 98  | 85-115 |  |  |
| Barium     | 1012  | 5.00 | "    | 1000 |  | 101 | 85-115 |  |  |
| Beryllium  | 991.1 | 5.00 | "    | 1000 |  | 99  | 85-115 |  |  |
| Calcium    | 933.5 | 250  | "    | 1000 |  | 93  | 85-115 |  |  |
| Iron       | 974.2 | 250  | "    | 1000 |  | 97  | 85-115 |  |  |
| Potassium  | 4965  | 1000 | "    | 5000 |  | 99  | 85-115 |  |  |
| Magnesium  | 1007  | 250  | "    | 1000 |  | 101 | 85-115 |  |  |
| Manganese  | 1005  | 5.00 | "    | 1000 |  | 101 | 85-115 |  |  |
| Molybdenum | 999.2 | 20.0 | "    | 1000 |  | 100 | 85-115 |  |  |
| Sodium     | 986.5 | 1000 | "    | 1000 |  | 99  | 85-115 |  |  |
| Vanadium   | 958.9 | 50.0 | "    | 1000 |  | 96  | 85-115 |  |  |
| Zinc       | 967.0 | 20.0 | "    | 1000 |  | 97  | 85-115 |  |  |
| Strontium  | 1039  | 10.0 | "    | 1000 |  | 104 | 85-115 |  |  |

Batch 1409100 - 200.2 - TR Metals

*Solid (dry wt basis)*

ICPOE - PE Optima

Method Blank (1409100-BLK1)

Dilution Factor: 1

Prepared: 09/23/14 Analyzed: 09/24/14

|            |        |      |              |  |  |  |  |  |  |
|------------|--------|------|--------------|--|--|--|--|--|--|
| Aluminum   | < 20.0 | 50.0 | mg/kg dry wt |  |  |  |  |  |  |
| Barium     | < 2.00 | 5.00 | "            |  |  |  |  |  |  |
| Beryllium  | < 2.00 | 5.00 | "            |  |  |  |  |  |  |
| Calcium    | < 100  | 250  | "            |  |  |  |  |  |  |
| Copper     | < 2.00 | 2.00 | "            |  |  |  |  |  |  |
| Iron       | < 100  | 250  | "            |  |  |  |  |  |  |
| Potassium  | < 250  | 1000 | "            |  |  |  |  |  |  |
| Magnesium  | < 100  | 250  | "            |  |  |  |  |  |  |
| Manganese  | < 2.00 | 5.00 | "            |  |  |  |  |  |  |
| Molybdenum | < 10.0 | 20.0 | "            |  |  |  |  |  |  |
| Sodium     | < 250  | 1000 | "            |  |  |  |  |  |  |
| Lead       | < 10.0 | 25.0 | "            |  |  |  |  |  |  |
| Vanadium   | < 10.0 | 50.0 | "            |  |  |  |  |  |  |
| Zinc       | < 10.0 | 20.0 | "            |  |  |  |  |  |  |
| Strontium  | < 2.00 | 10.0 | "            |  |  |  |  |  |  |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result | Det. Limit         | Units                | Spike Level | Source Result      | %R  | %R Limits          | %D or RPD | %D or RPD Limit |
|-----------------------------------|--------|--------------------|----------------------|-------------|--------------------|-----|--------------------|-----------|-----------------|
| Batch 1409100 - 200.2 - TR Metals |        |                    | Solid (dry wt basis) |             |                    |     | ICPOE - PE Optima  |           |                 |
| Duplicate (1409100-DUP1)          |        | Dilution Factor: 1 | Source: C140910-01   |             | Prepared: 09/23/14 |     | Analyzed: 09/24/14 |           |                 |
| Aluminum                          | 7632.9 | 50.4               | mg/kg dry wt         |             | 7503.4             |     |                    | 2         | 35              |
| Barium                            | 124.34 | 5.04               | "                    |             | 116.81             |     |                    | 6         | 35              |
| Beryllium                         | < 2.01 | 5.04               | "                    |             | < 2.01             |     |                    |           | 35              |
| Calcium                           | 29544  | 252                | "                    |             | 28719              |     |                    | 3         | 35              |
| Copper                            | 1853.6 | 2.01               | "                    |             | 1742.5             |     |                    | 6         | 35              |
| Iron                              | 38070  | 252                | "                    |             | 37258              |     |                    | 2         | 35              |
| Potassium                         | 860.84 | 1010               | "                    |             | 899.62             |     |                    | 4         | 35              |
| Magnesium                         | 8478.3 | 252                | "                    |             | 8390.4             |     |                    | 1         | 35              |
| Manganese                         | 1282.3 | 5.04               | "                    |             | 1250.1             |     |                    | 3         | 35              |
| Molybdenum                        | < 10.1 | 20.1               | "                    |             | 14.233             |     |                    |           | 35              |
| Sodium                            | < 252  | 1010               | "                    |             | < 252              |     |                    |           | 35              |
| Lead                              | 54533  | 25.2               | "                    |             | 51314              |     |                    | 6         | 35              |
| Vanadium                          | < 10.1 | 50.4               | "                    |             | < 10.1             |     |                    |           | 35              |
| Zinc                              | 13513  | 20.1               | "                    |             | 12811              |     |                    | 5         | 35              |
| Strontium                         | 59.339 | 10.1               | "                    |             | 56.225             |     |                    | 5         | 35              |
| Matrix Spike (1409100-MS1)        |        | Dilution Factor: 1 | Source: C140910-01   |             | Prepared: 09/23/14 |     | Analyzed: 09/24/14 |           |                 |
| Aluminum                          | 8101.4 | 49.2               | mg/kg dry wt         | 197         | 7503.4             | 304 | 70-130             |           |                 |
| Barium                            | 142.23 | 4.92               | "                    | 19.7        | 116.81             | 129 | 70-130             |           |                 |
| Beryllium                         | 20.009 | 4.92               | "                    | 19.7        | < 1.97             | 102 | 70-130             |           |                 |
| Calcium                           | 29418  | 246                | "                    | 98.4        | 28719              | 711 | 70-130             |           |                 |
| Copper                            | 1816.4 | 1.97               | "                    | 29.5        | 1742.5             | 250 | 70-130             |           |                 |
| Iron                              | 37263  | 246                | "                    | 295         | 37258              | 2   | 70-130             |           |                 |
| Potassium                         | 1860.6 | 984                | "                    | 984         | 899.62             | 98  | 70-130             |           |                 |
| Magnesium                         | 8651.4 | 246                | "                    | 197         | 8390.4             | 133 | 70-130             |           |                 |
| Manganese                         | 1311.5 | 4.92               | "                    | 19.7        | 1250.1             | 312 | 70-130             |           |                 |
| Molybdenum                        | 47.912 | 19.7               | "                    | 39.4        | 14.233             | 86  | 70-130             |           |                 |
| Sodium                            | 249.36 | 984                | "                    | 295         | < 246              | 84  | 70-130             |           |                 |
| Lead                              | 51747  | 24.6               | "                    | 98.4        | 51314              | 440 | 70-130             |           |                 |
| Vanadium                          | 31.182 | 49.2               | "                    | 29.5        | < 9.84             | 106 | 70-130             |           |                 |
| Zinc                              | 13022  | 19.7               | "                    | 19.7        | 12811              | NR  | 70-130             |           |                 |
| Strontium                         | 81.168 | 9.84               | "                    | 19.7        | 56.225             | 127 | 70-130             |           |                 |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result | Det. Limit         | Units        | Spike Level          | Source Result | %R                 | %R Limits         | %D or RPD          | %D or RPD Limit |
|-----------------------------------|--------|--------------------|--------------|----------------------|---------------|--------------------|-------------------|--------------------|-----------------|
| Batch 1409100 - 200.2 - TR Metals |        |                    |              | Solid (dry wt basis) |               |                    | ICPOE - PE Optima |                    |                 |
| Matrix Spike (1409100-MS3)        |        | Dilution Factor: 1 |              | Source: C140910-12   |               | Prepared: 09/23/14 |                   | Analyzed: 09/24/14 |                 |
| Aluminum                          | 8909.1 | 49.7               | mg/kg dry wt | 199                  | 8099.6        | 407                | 70-130            |                    |                 |
| Barium                            | 173.18 | 4.97               | "            | 19.9                 | 157.89        | 77                 | 70-130            |                    |                 |
| Beryllium                         | 20.068 | 4.97               | "            | 19.9                 | < 1.99        | 101                | 70-130            |                    |                 |
| Calcium                           | 11970  | 249                | "            | 99.4                 | 11892         | 79                 | 70-130            |                    |                 |
| Copper                            | 199.65 | 1.99               | "            | 29.8                 | 174.28        | 85                 | 70-130            |                    |                 |
| Iron                              | 23010  | 249                | "            | 298                  | 22228         | 262                | 70-130            |                    |                 |
| Potassium                         | 2250.7 | 994                | "            | 994                  | 1275.6        | 98                 | 70-130            |                    |                 |
| Magnesium                         | 8896.9 | 249                | "            | 199                  | 8327.6        | 286                | 70-130            |                    |                 |
| Manganese                         | 4400.6 | 4.97               | "            | 19.9                 | 4360.2        | 203                | 70-130            |                    |                 |
| Molybdenum                        | 47.829 | 19.9               | "            | 39.8                 | < 9.94        | 120                | 70-130            |                    |                 |
| Sodium                            | 365.71 | 994                | "            | 298                  | < 249         | 123                | 70-130            |                    |                 |
| Lead                              | 1152.7 | 24.9               | "            | 99.4                 | 938.48        | 215                | 70-130            |                    |                 |
| Vanadium                          | 46.549 | 49.7               | "            | 29.8                 | 21.485        | 84                 | 70-130            |                    |                 |
| Zinc                              | 1786.0 | 19.9               | "            | 19.9                 | 1788.6        | NR                 | 70-130            |                    |                 |
| Strontium                         | 51.070 | 9.94               | "            | 19.9                 | 29.316        | 109                | 70-130            |                    |                 |
| Reference (1409100-SRM1)          |        | Dilution Factor: 1 |              |                      |               | Prepared: 09/23/14 |                   | Analyzed: 09/24/14 |                 |
| Aluminum                          | 412.58 | 94.3               | mg/kg dry wt | 309                  |               | 134                | 63-137            |                    |                 |
| Barium                            | < 3.77 | 9.43               | "            | 5.30                 |               |                    | 48-152            |                    |                 |
| Beryllium                         | 19.110 | 9.43               | "            | 18.8                 |               | 102                | 82-118            |                    |                 |
| Calcium                           | 173590 | 472                | "            | 184000               |               | 94                 | 78-122            |                    |                 |
| Copper                            | 6406.9 | 3.77               | "            | 6680                 |               | 96                 | 80-120            |                    |                 |
| Iron                              | 20864  | 472                | "            | 21000                |               | 99                 | 80-120            |                    |                 |
| Potassium                         | < 472  | 1890               | "            | 102                  |               |                    | 0-370             |                    |                 |
| Magnesium                         | 103040 | 472                | "            | 113000               |               | 91                 | 80-120            |                    |                 |
| Manganese                         | 203.36 | 9.43               | "            | 201                  |               | 101                | 80-120            |                    |                 |
| Sodium                            | < 472  | 1890               | "            | 92.8                 |               |                    | 0-299             |                    |                 |
| Lead                              | 192.28 | 47.2               | "            | 224                  |               | 86                 | 75-125            |                    |                 |
| Vanadium                          | 65.608 | 94.3               | "            | 65.8                 |               | 100                | 80-120            |                    |                 |
| Zinc                              | 184.68 | 37.7               | "            | 175                  |               | 106                | 73-127            |                    |                 |



Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                        | Result | Det. Limit         | Units                | Spike Level | Source Result                         | %R | %R Limits         | %D or RPD | %D or RPD Limit |
|--------------------------------|--------|--------------------|----------------------|-------------|---------------------------------------|----|-------------------|-----------|-----------------|
| Batch 1409115 - 1409100        |        |                    | Solid (dry wt basis) |             |                                       |    | ICPOE - PE Optima |           |                 |
| Serial Dilution (1409115-SRD1) |        | Dilution Factor: 5 | Source: C140910-01   |             | Prepared: 09/23/14 Analyzed: 09/24/14 |    |                   |           |                 |
| Aluminum                       | 7226.1 | 246                | mg/kg dry wt         |             | 7503.4                                |    |                   | 4         | 10              |
| Barium                         | 112.74 | 24.6               |                      | "           | 116.81                                |    |                   | 4         | 10              |
| Beryllium                      | < 9.85 | 24.6               | "                    | < 1.97      |                                       |    |                   |           | 10              |
| Calcium                        | 27366  | 1230               | "                    | 28719       |                                       |    | 5                 | 10        |                 |
| Copper                         | 1613.3 | 9.85               | "                    | 1742.5      |                                       |    | 8                 | 10        |                 |
| Iron                           | 36362  | 1230               | "                    | 37258       |                                       |    | 2                 | 10        |                 |
| Potassium                      | < 1230 | 4920               | "                    | 899.62      |                                       |    |                   |           | 10              |
| Magnesium                      | 8144.8 | 1230               | "                    | 8390.4      |                                       |    | 3                 | 10        |                 |
| Manganese                      | 1199.7 | 24.6               | "                    | 1250.1      |                                       |    | 4                 | 10        |                 |
| Molybdenum                     | < 49.2 | 98.5               | "                    | 14.233      |                                       |    |                   |           | 10              |
| Sodium                         | < 1230 | 4920               | "                    | < 246.00    |                                       |    |                   |           | 10              |
| Lead                           | 48739  | 123                | "                    | 51314       |                                       |    | 5                 | 10        |                 |
| Vanadium                       | < 49.2 | 246                | "                    | < 9.84      |                                       |    |                   |           | 10              |
| Zinc                           | 12441  | 98.5               | "                    | 12811       |                                       |    | 3                 | 10        |                 |
| Strontium                      | 57.112 | 49.2               | "                    | 56.225      |                                       |    | 2                 | 10        |                 |
| Batch 1409119 - 1409099        |        |                    | Water                |             |                                       |    | ICPOE - PE Optima |           |                 |
| Serial Dilution (1409119-SRD1) |        | Dilution Factor: 5 | Source: C140910-18   |             | Prepared: 09/23/14 Analyzed: 09/25/14 |    |                   |           |                 |
| Aluminum                       | < 100  | 250                | ug/L                 |             | < 20.00                               |    |                   |           | 10              |
| Barium                         | < 10.0 | 25.0               | "                    |             | 3.501                                 |    |                   |           | 10              |
| Beryllium                      | < 10.0 | 25.0               | "                    |             | < 2.00                                |    |                   |           | 10              |
| Calcium                        | 96160  | 1250               | "                    |             | 101700                                |    |                   | 6         | 10              |
| Iron                           | < 500  | 1250               | "                    |             | 176.7                                 |    |                   |           | 10              |
| Potassium                      | 1815   | 5000               | "                    |             | 1700                                  |    |                   | 7         | 10              |
| Magnesium                      | 5584   | 1250               | "                    |             | 5892                                  |    |                   | 5         | 10              |
| Manganese                      | 39.85  | 25.0               | "                    |             | 41.77                                 |    |                   | 5         | 10              |
| Molybdenum                     | < 50.0 | 100                | "                    |             | 16.69                                 |    |                   |           | 10              |
| Sodium                         | 2326   | 5000               | "                    |             | 2416                                  |    |                   | 4         | 10              |
| Vanadium                       | < 50.0 | 250                | "                    |             | < 10.00                               |    |                   |           | 10              |
| Zinc                           | 2319   | 100                | "                    |             | 2236                                  |    |                   | 4         | 10              |
| Strontium                      | 98.74  | 50.0               | "                    |             | 99.11                                 |    |                   | 0.4       | 10              |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

Metals (Total Recov) by EPA 200/7000 Series Methods - Quality Control

TechLaw, Inc. - ESAT Region 8

| Analyte                           | Result | Det. Limit         | Units                | Spike Level        | Source Result | %R                            | %R Limits   | %D or RPD | %D or RPD Limit |
|-----------------------------------|--------|--------------------|----------------------|--------------------|---------------|-------------------------------|-------------|-----------|-----------------|
| NIC MA-3000                       |        |                    |                      |                    |               |                               |             |           |                 |
| Batch 1409092 - No Lab Prep Req'd |        |                    | Solid (dry wt basis) |                    |               |                               | NIC MA-3000 |           |                 |
| Method Blank (1409092-BLK1)       |        | Dilution Factor: 1 |                      |                    |               | Prepared & Analyzed: 09/24/14 |             |           |                 |
| Mercury                           | < 0.01 | 0.02               | mg/kg dry wt         |                    |               |                               |             |           |                 |
| Duplicate (1409092-DUP1)          |        | Dilution Factor: 1 |                      | Source: C140910-01 |               | Prepared & Analyzed: 09/24/14 |             |           |                 |
| Mercury                           | 7.47   | 0.10               | mg/kg dry wt         |                    | 7.30          |                               |             | 2         | 35              |
| Matrix Spike (1409092-MS1)        |        | Dilution Factor: 1 |                      | Source: C140910-01 |               | Prepared & Analyzed: 09/24/14 |             |           |                 |
| Mercury                           | 8.28   | 0.09               | mg/kg dry wt         | 0.915              | 7.30          | 107                           | 80-120      |           |                 |
| Matrix Spike Dup (1409092-MSD1)   |        | Dilution Factor: 1 |                      | Source: C140910-01 |               | Prepared & Analyzed: 09/24/14 |             |           |                 |
| Mercury                           | 8.34   | 0.11               | mg/kg dry wt         | 1.05               | 7.30          | 99                            | 80-120      | 0.7       | 20              |
| Reference (1409092-SRM1)          |        | Dilution Factor: 1 |                      |                    |               | Prepared & Analyzed: 09/24/14 |             |           |                 |
| Mercury                           | 6.72   | 0.25               | mg/kg dry wt         | 6.45               |               | 104                           | 75-125      |           |                 |

NOTE: %R = % Recovery, %R limits do not apply when sample levels exceed 4x the spike level.  
 RPD = Relative Percent Difference, %D = % Difference, DL = Detection Limit for QC sample

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

**TechLaw Inc., ESAT Region 8**  
**INORGANIC ANALYSES DATA SHEET**  
**Intial and Continuing Calibration Blanks**

Analytical Method: EPA 200.2/200.7

Analysis Name: ICPOE Tot. Rec. Metals

Instrument: ICPOE - PE Optima

Work Order: Nu C140910

Analytical Sequence: 1409115 Total Recoverable

Concentration Units: mg/kg dry wt

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte   | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |       |       |   | Method Blank (Batch ID) |    | PQL    |
|-----------|-----------------------------------|-------------------------------|-------|-------|---|-------------------------|----|--------|
| Aluminum  | 2.17                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 5.00   |
|           |                                   | 2.30                          | 3.00  | 2.64  |   | 3.20                    | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Barium    | 0.25                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 0.50   |
|           |                                   | 0.21                          | 0.10  | 0.14  |   | 0.07                    | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Beryllium | 0.50                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 0.50   |
|           |                                   | 0.44                          | 0.56  | 0.43  |   | 0.44                    | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Calcium   | 2.93                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 25.00  |
|           |                                   | 4.02                          | 2.23  | 4.76  |   | -6.33                   | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Copper    | -2.12                             | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 0.20   |
|           |                                   | -2.53                         | -2.13 | -1.77 |   | -2.84                   | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Iron      | 0.12                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 25.00  |
|           |                                   | 21.82                         | 40.20 | 33.48 |   | 44.46                   | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Potassium | 22.35                             | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 100.00 |
|           |                                   | 37.82                         | 21.26 | 26.22 |   | 41.53                   | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |
| Magnesium | 0.36                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 25.00  |
|           |                                   | 1.62                          | 1.90  | 1.90  |   | 6.22                    | NA |        |
|           |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|           |                                   |                               |       |       |   |                         |    |        |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

**TechLaw Inc., ESAT Region 8**  
**INORGANIC ANALYSES DATA SHEET**  
**Initial and Continuing Calibration Blanks**

Analytical Method: EPA 200.2/200.7

Analysis Name: ICPOE Tot. Rec. Metals

Instrument: ICPOE - PE Optima

Work Order: Nu C140910

Analytical Sequence: 1409115 Total Recoverable

Concentration Units: mg/kg dry wt

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte    | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |       |       |   | Method Blank (Batch ID) |    | PQL    |
|------------|-----------------------------------|-------------------------------|-------|-------|---|-------------------------|----|--------|
| Manganese  | 0.10                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 0.50   |
|            |                                   | 0.11                          | 0.14  | 0.12  |   | -0.60                   | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Molybdenum | -0.20                             | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 2.00   |
|            |                                   | 3.22                          | 0.86  | 2.70  |   | 0.30                    | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Sodium     | -0.75                             | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 100.00 |
|            |                                   | 3.07                          | 2.32  | 3.44  |   | 13.14                   | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Lead       | 2.04                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 2.50   |
|            |                                   | 10.69                         | 9.59  | 8.82  |   | 6.87                    | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Vanadium   | -6.00                             | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 5.00   |
|            |                                   | -6.35                         | -5.23 | -3.57 |   | -7.80                   | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Zinc       | 0.71                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 2.00   |
|            |                                   | 2.51                          | 2.24  | 1.90  |   | -0.93                   | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |
| Strontium  | 0.07                              | 1                             | 2     | 3     | 4 | 1409100-BLK1            | NA | 1.00   |
|            |                                   | 0.05                          | 0.05  | 0.09  |   | -0.06                   | NA |        |
|            |                                   | 5                             | 6     | 7     | 8 |                         |    |        |
|            |                                   |                               |       |       |   |                         |    |        |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
INORGANIC ANALYSES DATA SHEET  
Initial and Continuing Calibration Blanks

Analytical Method: EPA 200.2 / 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Instrument: ICPMS-PE DRC-II

Work Order: Nu C140910

Analytical Sequence: 1409116 Total Recoverable

Concentration Units: ug/kg dry wt

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte  | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |       |       |   | Method Blank (Batch ID) |              | PQL    |
|----------|-----------------------------------|-------------------------------|-------|-------|---|-------------------------|--------------|--------|
| Chromium | 0.08                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 200.00 |
|          |                                   | -0.12                         | 0.14  | 0.04  |   | NA                      | 0.21         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Cobalt   | 0.01                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 20.00  |
|          |                                   | 0.01                          | 0.00  | 0.01  |   | NA                      | 0.01         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Nickel   | 0.01                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 100.00 |
|          |                                   | -0.01                         | -0.05 | -0.06 |   | NA                      | -0.04        |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Arsenic  | -0.11                             | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 200.00 |
|          |                                   | -0.04                         | 0.01  | 0.00  |   | NA                      | 0.20         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Selenium | 0.16                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 200.00 |
|          |                                   | -0.04                         | 0.12  | 0.19  |   | NA                      | 0.11         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Silver   | 0.04                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 100.00 |
|          |                                   | 1.08                          | 0.54  | 0.15  |   | NA                      | 0.05         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Cadmium  | 0.00                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 20.00  |
|          |                                   | 0.00                          | 0.00  | 0.00  |   | NA                      | 0.00         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |
| Antimony | 0.10                              | 1                             | 2     | 3     | 4 | NA                      | 1409100-BLK2 | 100.00 |
|          |                                   | 0.20                          | 0.18  | 0.22  |   | NA                      | 0.22         |        |
|          |                                   | 5                             | 6     | 7     | 8 |                         |              |        |
|          |                                   |                               |       |       |   |                         |              |        |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
**INORGANIC ANALYSES DATA SHEET**  
**Initial and Continuing Calibration Blanks**

Analytical Method: EPA 200.2 / 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Instrument: ICPMS-PE DRC-II

Work Order: Nu C140910

Analytical Sequence: 1409116 **Total Recoverable**

Concentration Units: ug/kg dry wt

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte  | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |      |      |   | Method Blank (Batch ID) |              | PQL    |
|----------|-----------------------------------|-------------------------------|------|------|---|-------------------------|--------------|--------|
| Thallium | 0.02                              | 1                             | 2    | 3    | 4 | NA                      | 1409100-BLK2 | 100.00 |
|          |                                   | 0.13                          | 0.01 | 0.04 |   | NA                      | 0.02         |        |
|          |                                   | 5                             | 6    | 7    | 8 |                         |              |        |
|          |                                   |                               |      |      |   |                         |              |        |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
**INORGANIC ANALYSES DATA SHEET**  
 Intial and Continuing Calibration Blanks

Analytical Method: 200.7

Analysis Name: ICPOE Tot. Rec. Metals

Instrument: ICPOE - PE Optima

Work Order: Nu C140910

Analytical Sequence: 1409119 Total Recoverable

Concentration Units: ug/L

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte   | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |   |   |   | Method Blank (Batch ID) |    | PQL      |
|-----------|-----------------------------------|-------------------------------|---|---|---|-------------------------|----|----------|
| Aluminum  | -3.65                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 50.00    |
|           |                                   | -2.38                         |   |   |   | -0.38                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Barium    | 0.09                              | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 5.00     |
|           |                                   | 0.09                          |   |   |   | -0.03                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Beryllium | -0.02                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 5.00     |
|           |                                   | 0.00                          |   |   |   | -0.18                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Calcium   | -3.57                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 250.00   |
|           |                                   | 0.14                          |   |   |   | -31.77                  | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Iron      | -46.91                            | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 250.00   |
|           |                                   | 9.12                          |   |   |   | 13.51                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Potassium | -17.76                            | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 1,000.00 |
|           |                                   | 31.31                         |   |   |   | 147.47                  | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Magnesium | -1.73                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 250.00   |
|           |                                   | -1.06                         |   |   |   | -2.58                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |
| Manganese | -0.03                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 5.00     |
|           |                                   | -0.07                         |   |   |   | -0.56                   | NA |          |
|           |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|           |                                   |                               |   |   |   |                         |    |          |

Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
**INORGANIC ANALYSES DATA SHEET**  
 Intial and Continuing Calibration Blanks

Analytical Method: 200.7Analysis Name: ICPOE Tot. Rec. MetalsInstrument: ICPOE - PE OptimaWork Order: Nu C140910Analytical Sequence: 1409119 **Total Recoverable**Concentration Units: ug/L

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte    | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |   |   |   | Method Blank (Batch ID) |    | PQL      |
|------------|-----------------------------------|-------------------------------|---|---|---|-------------------------|----|----------|
| Molybdenum | 5.76                              | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 20.00    |
|            |                                   | 2.85                          |   |   |   | -2.37                   | NA |          |
|            |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|            |                                   |                               |   |   |   |                         |    |          |
| Sodium     | -4.59                             | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 1,000.00 |
|            |                                   | 12.82                         |   |   |   | 32.52                   | NA |          |
|            |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|            |                                   |                               |   |   |   |                         |    |          |
| Vanadium   | 0.18                              | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 50.00    |
|            |                                   | 0.09                          |   |   |   | -0.16                   | NA |          |
|            |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|            |                                   |                               |   |   |   |                         |    |          |
| Zinc       | 1.40                              | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 20.00    |
|            |                                   | 1.00                          |   |   |   | 1.27                    | NA |          |
|            |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|            |                                   |                               |   |   |   |                         |    |          |
| Strontium  | 0.08                              | 1                             | 2 | 3 | 4 | 1409099-BLK1            | NA | 10.00    |
|            |                                   | 0.02                          |   |   |   | -0.09                   | NA |          |
|            |                                   | 5                             | 6 | 7 | 8 |                         |    |          |
|            |                                   |                               |   |   |   |                         |    |          |



Project Name: Park City\_Soils Seds &amp; SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
**INORGANIC ANALYSES DATA SHEET**  
 Intial and Continuing Calibration Blanks

Analytical Method: 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Instrument: ICPMS-PE DRC-II

Work Order: Nu C140910

Analytical Sequence: 1409122 Total Recoverable

Concentration Units: ug/L

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte  | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |   |   |   | Method Blank (Batch ID) |              | PQL  |
|----------|-----------------------------------|-------------------------------|---|---|---|-------------------------|--------------|------|
| Chromium | 0.08                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 2.00 |
|          |                                   | 0.08                          |   |   |   | NA                      | 0.34         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Cobalt   | 0.01                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 0.20 |
|          |                                   | 0.01                          |   |   |   | NA                      | 0.00         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Nickel   | 0.00                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 1.00 |
|          |                                   | 0.01                          |   |   |   | NA                      | 0.00         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Copper   | 0.02                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 1.00 |
|          |                                   | 0.01                          |   |   |   | NA                      | 0.03         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Arsenic  | -0.04                             | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 2.00 |
|          |                                   | 0.09                          |   |   |   | NA                      | -0.09        |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Selenium | 0.10                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 2.00 |
|          |                                   | 0.03                          |   |   |   | NA                      | -0.02        |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Silver   | 0.04                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 1.00 |
|          |                                   | 0.02                          |   |   |   | NA                      | 0.03         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Cadmium  | 0.00                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 0.20 |
|          |                                   | 0.00                          |   |   |   | NA                      | -0.01        |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
INORGANIC ANALYSES DATA SHEET  
Initial and Continuing Calibration Blanks

Analytical Method: 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Instrument: ICPMS-PE DRC-II

Work Order: Nu C140910

Analytical Sequence: 1409122 **Total Recoverable**

Concentration Units: ug/L

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte  | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |   |   |   | Method Blank (Batch ID) |              | PQL  |
|----------|-----------------------------------|-------------------------------|---|---|---|-------------------------|--------------|------|
| Antimony | 0.12                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 1.00 |
|          |                                   | 0.17                          |   |   |   | NA                      | 0.00         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Thallium | 0.02                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 1.00 |
|          |                                   | 0.10                          |   |   |   | NA                      | -0.08        |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |
| Lead     | 0.00                              | 1                             | 2 | 3 | 4 | NA                      | 1409099-BLK2 | 0.20 |
|          |                                   | 0.01                          |   |   |   | NA                      | 0.00         |      |
|          |                                   | 5                             | 6 | 7 | 8 |                         |              |      |
|          |                                   |                               |   |   |   |                         |              |      |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8  
INORGANIC ANALYSES DATA SHEET  
Initial and Continuing Calibration Blanks

Analytical Method: 7473

Analysis Name: TM\_Mercury 7473

Instrument: NIC MA-3000

Work Order: Nu C140910

Analytical Sequence: **Total**

Concentration Units: mg/kg dry wt

Blank criteria = +/- 5x analyte MDL (+/- PQL)

| Analyte | Initial Calibration Blank (1 & 2) | Continuing Calibration Blanks |      |      |   | Method Blank (Batch ID) |    | PQL  |
|---------|-----------------------------------|-------------------------------|------|------|---|-------------------------|----|------|
| Mercury |                                   | 1                             | 2    | 3    | 4 | 1409092-BLK1            | NA | 0.02 |
|         |                                   | 0.00                          | 0.00 | 0.00 |   | 0.00                    | NA |      |
|         |                                   | 5                             | 6    | 7    | 8 |                         |    |      |
|         |                                   |                               |      |      |   |                         |    |      |

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPOE - PE Optima

Method: EPA 200.2/200.7

Analysis Name: ICPOE Tot. Rec. Metals

Sequence: 1409115

Work Order: C140910

Units: mg/kg dry wt

| Total Recoverable Analyte | Initial (ICV1, ICV2) |        |       | Continuing Calibration Verification Standards (CCVs) |        |       |       |        |       |       |        |       |
|---------------------------|----------------------|--------|-------|--|--------|-------|-------|--------|-------|-------|--------|-------|
|                           | True                 | Found  | %R    | True   | Found  | %R    | True  | Found  | %R    | True  | Found  | %R    |
| Aluminum                  | 12500                | 12460  | 99.7  | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 12500  | 12806  | 102.4 | 12500 | 12870  | 103.0 | 12500 | 12592  | 100.7 |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Barium                    | 500                  | 500.40 | 100.1 | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 500  | 506.69 | 101.3 | 500   | 506.85 | 101.4 | 500   | 508.91 | 101.8 |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Beryllium                 | 500                  | 505.03 | 101.0 | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 500  | 517.50 | 103.5 | 500   | 512.88 | 102.6 | 500   | 510.59 | 102.1 |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Calcium                   | 12500                | 12635  | 101.1 | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 12500  | 12847  | 102.8 | 12500 | 12714  | 101.7 | 12500 | 12593  | 100.7 |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Copper                    | 1000                 | 994.95 | 99.5  | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 1000   | 1005.9 | 100.6 | 1000  | 998.13 | 99.8  | 1000  | 999.18 | 99.9  |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Iron                      | 12500                | 12676  | 101.4 | 1  |        |       | 2     |        |       | 3     |        |       |
|                           |                      |        |       | 12500  | 12999  | 104.0 | 12500 | 13083  | 104.7 | 12500 | 12684  | 101.5 |
|                           |                      |        |       | 4  |        |       | 5     |        |       | 6     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       | 7  |        |       | 8     |        |       | 9     |        |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPOE - PE Optima

Method: EPA 200.2/200.7

Analysis Name: ICPOE Tot. Rec. Metals

Sequence: 1409115

Work Order: C140910

Units: mg/kg dry wt

| Total Recoverable Analyte | Initial (ICV1, ICV2) |        |       | Continuing Calibration Verification Standards (CCVs) |        |       |       |        |       |       |        |       |
|---------------------------|----------------------|--------|-------|--|--------|-------|-------|--------|-------|-------|--------|-------|
|                           | True                 | Found  | %R    | True   | Found  | %R    | True  | Found  | %R    | True  | Found  | %R    |
| Lead                      | 2500                 | 2526.0 | 101.0 |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 2500   | 2557.6 | 102.3 | 2500  | 2559.2 | 102.4 | 2500  | 2544.9 | 101.8 |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Magnesium                 | 12500                | 12604  | 100.8 |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 12500  | 12959  | 103.7 | 12500 | 12914  | 103.3 | 12500 | 12703  | 101.6 |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Manganese                 | 1000                 | 1020.5 | 102.1 |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 1000   | 1032.2 | 103.2 | 1000  | 1029.1 | 102.9 | 1000  | 1033.1 | 103.3 |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Molybdenum                | 500                  | 498.31 | 99.7  |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 500  | 498.09 | 99.6  | 500   | 501.22 | 100.2 | 500   | 501.00 | 100.2 |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Potassium                 | 25000                | 24595  | 98.4  |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 25000  | 25381  | 101.5 | 25000 | 25472  | 101.9 | 25000 | 24889  | 99.6  |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
| Sodium                    | 12500                | 12295  | 98.4  |  | 1      |       |       | 2      |       |       | 3      |       |
|                           |                      |        |       | 12500  | 12703  | 101.6 | 12500 | 12701  | 101.6 | 12500 | 12471  | 99.8  |
|                           |                      |        |       |  | 4      |       |       | 5      |       |       | 6      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |
|                           |                      |        |       |  | 7      |       |       | 8      |       |       | 9      |       |
|                           |                      |        |       |  |        |       |       |        |       |       |        |       |

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPOE - PE Optima

Method: EPA 200.2/200.7

Analysis Name: ICPOE Tot. Rec. Metals

Sequence: 1409115

Work Order: C140910

Units: mg/kg dry wt

| Total Recoverable Analyte | Initial (ICV1, ICV2) |        |       | Continuing Calibration Verification Standards (CCVs) |        |       |      |        |       |      |        |       |
|---------------------------|----------------------|--------|-------|--|--------|-------|------|--------|-------|------|--------|-------|
|                           | True                 | Found  | %R    | True   | Found  | %R    | True | Found  | %R    | True | Found  | %R    |
| Strontium                 | 500                  | 511.31 | 102.3 | 1  |        |       | 2    |        |       | 3    |        |       |
|                           |                      |        |       | 500  | 514.63 | 102.9 | 500  | 516.08 | 103.2 | 500  | 513.56 | 102.7 |
|                           |                      |        |       | 4  |        |       | 5    |        |       | 6    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |
|                           |                      |        |       | 7  |        |       | 8    |        |       | 9    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |
| Vanadium                  | 1000                 | 995.39 | 99.5  | 1  |        |       | 2    |        |       | 3    |        |       |
|                           |                      |        |       | 1000   | 1019.6 | 102.0 | 1000 | 1011.1 | 101.1 | 1000 | 1013.5 | 101.4 |
|                           |                      |        |       | 4  |        |       | 5    |        |       | 6    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |
|                           |                      |        |       | 7  |        |       | 8    |        |       | 9    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |
| Zinc                      | 2500                 | 2512.7 | 100.5 | 1  |        |       | 2    |        |       | 3    |        |       |
|                           |                      |        |       | 2500   | 2585.3 | 103.4 | 2500 | 2558.2 | 102.3 | 2500 | 2539.3 | 101.6 |
|                           |                      |        |       | 4  |        |       | 5    |        |       | 6    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |
|                           |                      |        |       | 7  |        |       | 8    |        |       | 9    |        |       |
|                           |                      |        |       |  |        |       |      |        |       |      |        |       |

Metals - ICV &amp; CCV %R Criteria = 90 - 110%, Classical Chemistry %R Criteria - ICV = 90 - 110%R, CCV = 80 - 120%R.

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPMS-PE DRC-II

Method: EPA 200.2 / 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Sequence: 1409116

Work Order: C140910

Units: ug/kg dry wt

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |       |      |       |       |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|-------|------|-------|-------|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R    | True | Found | %R    |
| Antimony                  | 50.0                 | 50.3  | 100.6 |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 50.6  | 101.2 | 50.0 | 50.2  | 100.4 | 50.0 | 50.0  | 100.0 |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Arsenic                   | 50.0                 | 52.0  | 104.0 |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 50.1  | 100.2 | 50.0 | 51.7  | 103.4 | 50.0 | 49.4  | 98.8  |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Cadmium                   | 50.0                 | 48.2  | 96.4  |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 48.3  | 96.6  | 50.0 | 49.1  | 98.2  | 50.0 | 48.8  | 97.6  |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Chromium                  | 50.0                 | 48.5  | 97.0  |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 47.7  | 95.4  | 50.0 | 48.9  | 97.8  | 50.0 | 48.9  | 97.8  |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Cobalt                    | 50.0                 | 48.7  | 97.4  |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 47.9  | 95.8  | 50.0 | 50.4  | 100.8 | 50.0 | 49.5  | 99.0  |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Nickel                    | 50.0                 | 48.6  | 97.2  |  | 1     |       |      | 2     |       |      | 3     |       |
|                           |                      |       |       | 50.0   | 48.8  | 97.6  | 50.0 | 50.6  | 101.2 | 50.0 | 50.5  | 101.0 |
|                           |                      |       |       |  | 4     |       |      | 5     |       |      | 6     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      |       |       |  | 7     |       |      | 8     |       |      | 9     |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPMS-PE DRC-II

Method: EPA 200.2 / 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Sequence: 1409116

Work Order: C140910

Units: ug/kg dry wt

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |       |      |       |       |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|-------|------|-------|-------|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R    | True | Found | %R    |
| Selenium                  | 50.0                 | 53.5  | 107.0 | 1  |       |       | 2    |       |       | 3    |       |       |
|                           |                      |       |       | 50.0   | 50.8  | 101.6 | 50.0 | 53.7  | 107.4 | 50.0 | 49.3  | 98.6  |
|                           |                      |       |       | 4  |       |       | 5    |       |       | 6    |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      | 7     |       |  | 8     |       |      | 9     |       |      |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Silver                    | 50.0                 | 49.0  | 98.0  | 1  |       |       | 2    |       |       | 3    |       |       |
|                           |                      |       |       | 50.0   | 51.0  | 102.0 | 50.0 | 51.0  | 102.0 | 50.0 | 50.7  | 101.4 |
|                           |                      |       |       | 4  |       |       | 5    |       |       | 6    |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      | 7     |       |  | 8     |       |      | 9     |       |      |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
| Thallium                  | 50.0                 | 49.7  | 99.4  | 1  |       |       | 2    |       |       | 3    |       |       |
|                           |                      |       |       | 50.0   | 50.5  | 101.0 | 50.0 | 49.5  | 99.0  | 50.0 | 48.8  | 97.6  |
|                           |                      |       |       | 4  |       |       | 5    |       |       | 6    |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |
|                           |                      | 7     |       |  | 8     |       |      | 9     |       |      |       |       |
|                           |                      |       |       |  |       |       |      |       |       |      |       |       |

Metals - ICV &amp; CCV %R Criteria = 90 - 110%, Classical Chemistry %R Criteria - ICV = 90 - 110%R, CCV = 80 - 120%R.



TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPOE - PE Optima

Method: 200.7

Analysis Name: ICPOE Tot. Rec. Metals

Sequence: 1409119

Work Order: C140910

Units: ug/L

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |    |      |       |    |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|----|------|-------|----|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R | True | Found | %R |
| Aluminum                  | 12500                | 12460 | 99.7  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 12500  | 12320 | 98.6  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Barium                    | 500                  | 504.4 | 100.9 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 500  | 502.5 | 100.5 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Beryllium                 | 500                  | 506.7 | 101.3 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 500  | 505.7 | 101.1 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Calcium                   | 12500                | 12380 | 99.0  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 12500  | 12180 | 97.4  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Iron                      | 12500                | 12400 | 99.2  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 12500  | 12260 | 98.1  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Magnesium                 | 12500                | 12550 | 100.4 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 12500  | 12340 | 98.7  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPOE - PE Optima

Method: 200.7

Analysis Name: ICPOE Tot. Rec. Metals

Sequence: 1409119

Work Order: C140910

Units: ug/L

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |    |      |       |    |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|----|------|-------|----|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R | True | Found | %R |
| Manganese                 | 1000                 | 1022  | 102.2 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 1000   | 1023  | 102.3 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Molybdenum                | 500                  | 499.4 | 99.9  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 500  | 500.2 | 100.0 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Potassium                 | 25000                | 24870 | 99.5  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 25000  | 24600 | 98.4  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Sodium                    | 12500                | 12330 | 98.6  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 12500  | 12260 | 98.1  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Strontium                 | 500                  | 511.1 | 102.2 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 500  | 509.7 | 101.9 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Vanadium                  | 1000                 | 1008  | 100.8 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 1000   | 1007  | 100.7 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

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| TechLaw, Inc. - ESAT Region 8                           |                      |       |                     |  |       |       |                                       |       |    |      |       |    |
|---|----------------------|-------|---------------------|--|-------|-------|---------------------------------------|-------|----|------|-------|----|
| Initial and Continuing Calibration Verification Results |                      |       |                     |  |       |       |                                       |       |    |      |       |    |
| ICPOE - PE Optima                                       |                      |       | Method: 200.7       |  |       |       | Analysis Name: ICPOE Tot. Rec. Metals |       |    |      |       |    |
| Sequence: 1409119                                       |                      |       | Work Order: C140910 |  |       |       | Units: ug/L                           |       |    |      |       |    |
| Total Recoverable Analyte                               | Initial (ICV1, ICV2) |       |                     | Continuing Calibration Verification Standards (CCVs) |       |       |                                       |       |    |      |       |    |
|   | True                 | Found | %R                  | True   | Found | %R    | True                                  | Found | %R | True | Found | %R |
| Zinc  | 2500                 | 2543  | 101.7               | 1  |       |       | 2                                     |       |    | 3    |       |    |
|   |                      |       |                     | 2500   | 2529  | 101.2 |                                       |       |    |      |       |    |
|   |                      |       |                     | 4  |       |       | 5                                     |       |    | 6    |       |    |
|   |                      |       |                     |  |       |       |                                       |       |    |      |       |    |
|   |                      |       |                     | 7  |       |       | 8                                     |       |    | 9    |       |    |
|   |                      |       |                     |  |       |       |                                       |       |    |      |       |    |

Metals - ICV & CCV %R Criteria = 90 - 110%, Classical Chemistry %R Criteria - ICV = 90 - 110%R, CCV = 80 - 120%R.

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## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPMS-PE DRC-II

Method: 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Sequence: 1409122

Work Order: C140910

Units: ug/L

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |    |      |       |    |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|----|------|-------|----|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R | True | Found | %R |
| Antimony                  | 50.0                 | 50.14 | 100.3 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.15 | 98.3  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Arsenic                   | 50.0                 | 51.16 | 102.3 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 48.54 | 97.1  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Cadmium                   | 50.0                 | 49.29 | 98.6  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.99 | 100.0 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Chromium                  | 50.0                 | 47.83 | 95.7  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 52.54 | 105.1 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Cobalt                    | 50.0                 | 48.44 | 96.9  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.88 | 99.8  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
| Copper                    | 50.0                 | 48.38 | 96.8  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.66 | 99.3  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |

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## TechLaw, Inc. - ESAT Region 8

## Initial and Continuing Calibration Verification Results

ICPMS-PE DRC-II

Method: 200.8

Analysis Name: ICPMS Tot. Rec. Metals

Sequence: 1409122

Work Order: C140910

Units: ug/L

| Total Recoverable Analyte | Initial (ICV1, ICV2) |       |       | Continuing Calibration Verification Standards (CCVs) |       |       |      |       |    |      |       |    |
|---------------------------|----------------------|-------|-------|--|-------|-------|------|-------|----|------|-------|----|
|                           | True                 | Found | %R    | True   | Found | %R    | True | Found | %R | True | Found | %R |
| Lead                      | 50.0                 | 49.44 | 98.9  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 48.37 | 96.7  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Nickel                    | 50.0                 | 47.23 | 94.5  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.25 | 98.5  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Selenium                  | 50.0                 | 51.92 | 103.8 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 45.11 | 90.2  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Silver                    | 50.0                 | 50.33 | 100.7 |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 49.98 | 100.0 |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
| Thallium                  | 50.0                 | 49.63 | 99.3  |  | 1     |       |      | 2     |    |      | 3     |    |
|                           |                      |       |       | 50.0   | 48.35 | 96.7  |      |       |    |      |       |    |
|                           |                      |       |       |  | 4     |       |      | 5     |    |      | 6     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |
|                           |                      |       |       |  | 7     |       |      | 8     |    |      | 9     |    |
|                           |                      |       |       |  |       |       |      |       |    |      |       |    |

Metals - ICV &amp; CCV %R Criteria = 90 - 110%, Classical Chemistry %R Criteria - ICV = 90 - 110%R, CCV = 80 - 120%R.

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

| TechLaw, Inc. - ESAT Region 8                           |                      |       |                     |  |       |      |                                |       |      |      |       |       |
|---|----------------------|-------|---------------------|--|-------|------|--------------------------------|-------|------|------|-------|-------|
| Initial and Continuing Calibration Verification Results |                      |       |                     |  |       |      |                                |       |      |      |       |       |
| NIC MA-3000   |                      |       | Method: 7473        |  |       |      | Analysis Name: TM_Mercury 7473 |       |      |      |       |       |
| Sequence: 1409124                                       |                      |       | Work Order: C140910 |  |       |      | Units: mg/kg dry wt            |       |      |      |       |       |
| Total Analyte   | Initial (ICV1, ICV2) |       |                     | Continuing Calibration Verification Standards (CCVs) |       |      |                                |       |      |      |       |       |
|   | True                 | Found | %R                  | True   | Found | %R   | True                           | Found | %R   | True | Found | %R    |
| Mercury   | 100                  | 108.5 | 108.5               | 1  |       |      | 2                              |       |      | 3    |       |       |
|   |                      |       |                     | 100  | 89.63 | 89.6 | 100                            | 87.36 | 87.4 | 100  | 104.0 | 104.0 |
|   |                      |       |                     | 4  |       |      | 5                              |       |      | 6    |       |       |
|   |                      |       |                     |  |       |      |                                |       |      |      |       |       |
|   |                      |       |                     | 7  |       |      | 8                              |       |      | 9    |       |       |
|   |                      |       |                     |  |       |      |                                |       |      |      |       |       |

Metals - ICV & CCV %R Criteria = 90 - 110%, Classical Chemistry %R Criteria - ICV = 90 - 110%R, CCV = 80 - 120%R.

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## ICP Interference Check Sample

## ICPMS-PE DRC-II

| <u>Analyte</u>    | <u>Check Sample</u>              | <u>Result*</u> | <u>Units</u> | <u>True</u> | <u>%R</u> | <u>PQL</u> |
|-------------------|----------------------------------|----------------|--------------|-------------|-----------|------------|
| Sequence: 1409116 | Analysis: ICPMS Tot. Rec. Metals |                |              |             |           |            |
| Antimony          | IFA1                             | 0.0            | ug/L         |             |           | 1.0        |
|                   | IFB1                             | 0.0            | ug/L         |             |           | 1.0        |
| Arsenic           | IFA1                             | 0.0            | ug/L         |             |           | 2.0        |
|                   | IFB1                             | 19.6           | ug/L         | 20          | 98        | 2.0        |
| Cadmium           | IFA1                             | 0.0            | ug/L         |             |           | 0.2        |
|                   | IFB1                             | 19.6           | ug/L         | 20          | 98        | 0.2        |
| Chromium          | IFA1                             | 0.3            | ug/L         |             |           | 2.0        |
|                   | IFB1                             | 20.2           | ug/L         | 20          | 101       | 2.0        |
| Cobalt            | IFA1                             | 0.0            | ug/L         |             |           | 0.2        |
|                   | IFB1                             | 19.4           | ug/L         | 20          | 97        | 0.2        |
| Nickel            | IFA1                             | -0.2           | ug/L         |             |           | 1.0        |
|                   | IFB1                             | 19.2           | ug/L         | 20          | 96        | 1.0        |
| Selenium          | IFA1                             | -0.2           | ug/L         |             |           | 2.0        |
|                   | IFB1                             | 0.2            | ug/L         |             |           | 2.0        |
| Silver            | IFA1                             | 0.0            | ug/L         |             |           | 1.0        |
|                   | IFB1                             | 19.0           | ug/L         | 20          | 95        | 1.0        |
| Thallium          | IFA1                             | 0.0            | ug/L         |             |           | 1.0        |
|                   | IFB1                             | 0.0            | ug/L         |             |           | 1.0        |

\*Criteria = 80-120%R of True Value or +/- PQL

See raw data for complete analyte list and results.

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## ICP Interference Check Sample

## ICPMS-PE DRC-II

| <u>Analyte</u>    | <u>Check Sample</u>              | <u>Result*</u> | <u>Units</u> | <u>True</u> | <u>%R</u> | <u>PQL</u> |
|-------------------|----------------------------------|----------------|--------------|-------------|-----------|------------|
| Sequence: 1409122 | Analysis: ICPMS Tot. Rec. Metals |                |              |             |           |            |
| Antimony          | IFA1                             | 0.1            | ug/L         |             |           | 1.00       |
|                   | IFB1                             | 0.0            | ug/L         |             |           | 1.00       |
| Arsenic           | IFA1                             | 0.0            | ug/L         |             |           | 2.00       |
|                   | IFB1                             | 19.2           | ug/L         | 20          | 96        | 2.00       |
| Cadmium           | IFA1                             | 0.1            | ug/L         |             |           | 0.200      |
|                   | IFB1                             | 20.6           | ug/L         | 20          | 103       | 0.200      |
| Chromium          | IFA1                             | 0.4            | ug/L         |             |           | 2.00       |
|                   | IFB1                             | 21.4           | ug/L         | 20          | 107       | 2.00       |
| Cobalt            | IFA1                             | 0.0            | ug/L         |             |           | 0.200      |
|                   | IFB1                             | 19.4           | ug/L         | 20          | 97        | 0.200      |
| Copper            | IFA1                             | 0.6            | ug/L         |             |           | 1.00       |
|                   | IFB1                             | 20.0           | ug/L         | 20          | 100       | 1.00       |
| Lead              | IFA1                             | 0.0            | ug/L         |             |           | 0.200      |
|                   | IFB1                             | 0.0            | ug/L         |             |           | 0.200      |
| Nickel            | IFA1                             | -0.2           | ug/L         |             |           | 1.00       |
|                   | IFB1                             | 19.1           | ug/L         | 20          | 95        | 1.00       |
| Selenium          | IFA1                             | -0.2           | ug/L         |             |           | 2.00       |
|                   | IFB1                             | -0.2           | ug/L         |             |           | 2.00       |
| Silver            | IFA1                             | 0.0            | ug/L         |             |           | 1.00       |
|                   | IFB1                             | 18.7           | ug/L         | 20          | 94        | 1.00       |
| Thallium          | IFA1                             | -0.1           | ug/L         |             |           | 1.00       |
|                   | IFB1                             | -0.1           | ug/L         |             |           | 1.00       |

\*Criteria = 80-120%R of True Value or +/- PQL

See raw data for complete analyte list and results.



TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## ICP Interference Check Sample

## ICPOE - PE Optima

| <u>Analyte</u>    | <u>Check Sample</u>              | <u>Result*</u> | <u>Units</u> | <u>True</u> | <u>%R</u> | <u>PQL</u> |
|-------------------|----------------------------------|----------------|--------------|-------------|-----------|------------|
| Sequence: 1409115 | Analysis: ICPOE Tot. Rec. Metals |                |              |             |           |            |
| Aluminum          | IFA1                             | 64,644.1       | ug/L         | 60,000      | 108       | 50.0       |
|                   | IFB1                             | 61,630.2       | ug/L         | 60,000      | 103       | 50.0       |
| Barium            | IFA1                             | -3.2           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 298.1          | ug/L         | 300         | 99        | 5.00       |
| Beryllium         | IFA1                             | -0.6           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 96.6           | ug/L         | 100         | 97        | 5.00       |
| Calcium           | IFA1                             | 322,529.2      | ug/L         | 300,000     | 108       | 250        |
|                   | IFB1                             | 305,856.8      | ug/L         | 300,000     | 102       | 250        |
| Copper            | IFA1                             | -2.0           | ug/L         |             |           | 2.00       |
|                   | IFB1                             | 311.0          | ug/L         | 300         | 104       | 2.00       |
| Iron              | IFA1                             | 257,034.3      | ug/L         | 250,000     | 103       | 250        |
|                   | IFB1                             | 242,479.9      | ug/L         | 250,000     | 97        | 250        |
| Lead              | IFA1                             | -1.6           | ug/L         |             |           | 25.0       |
|                   | IFB1                             | 1,003.2        | ug/L         | 1,000       | 100       | 25.0       |
| Magnesium         | IFA1                             | 152,330.3      | ug/L         | 150,000     | 102       | 250        |
|                   | IFB1                             | 145,922.1      | ug/L         | 150,000     | 97        | 250        |
| Manganese         | IFA1                             | -1.0           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 195.8          | ug/L         | 200         | 98        | 5.00       |
| Molybdenum        | IFA1                             | 8.2            | ug/L         |             |           | 20.0       |
|                   | IFB1                             | 304.8          | ug/L         | 300         | 102       | 20.0       |
| Potassium         | IFA1                             | -89.3          | ug/L         |             |           | 1000       |
|                   | IFB1                             | 20,920.2       | ug/L         | 20,000      | 105       | 1000       |
| Sodium            | IFA1                             | 54,241.5       | ug/L         | 50,000      | 108       | 1000       |
|                   | IFB1                             | 52,107.5       | ug/L         | 50,000      | 104       | 1000       |
| Strontium         | IFA1                             | -3.0           | ug/L         |             |           | 10.0       |
|                   | IFB1                             | 1,019.8        | ug/L         | 1,000       | 102       | 10.0       |
| Vanadium          | IFA1                             | 0.8            | ug/L         |             |           | 50.0       |
|                   | IFB1                             | 303.7          | ug/L         | 300         | 101       | 50.0       |
| Zinc              | IFA1                             | 5.6            | ug/L         |             |           | 20.0       |
|                   | IFB1                             | 289.5          | ug/L         | 300         | 97        | 20.0       |

\*Criteria = 80-120%R of True Value or +/- PQL

See raw data for complete analyte list and results.

TDF #: A-064

## TechLaw, Inc. - ESAT Region 8

## ICP Interference Check Sample

## ICPOE - PE Optima

| <u>Analyte</u>    | <u>Check Sample</u>              | <u>Result*</u> | <u>Units</u> | <u>True</u> | <u>%R</u> | <u>PQL</u> |
|-------------------|----------------------------------|----------------|--------------|-------------|-----------|------------|
| Sequence: 1409119 | Analysis: ICPOE Tot. Rec. Metals |                |              |             |           |            |
| Aluminum          | IFA1                             | 60,470.9       | ug/L         | 60,000      | 101       | 50.0       |
|                   | IFB1                             | 59,444.1       | ug/L         | 60,000      | 99        | 50.0       |
| Barium            | IFA1                             | -2.6           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 299.6          | ug/L         | 300         | 100       | 5.00       |
| Beryllium         | IFA1                             | -1.1           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 96.2           | ug/L         | 100         | 96        | 5.00       |
| Calcium           | IFA1                             | 294,211.8      | ug/L         | 300,000     | 98        | 250        |
|                   | IFB1                             | 292,407.8      | ug/L         | 300,000     | 97        | 250        |
| Iron              | IFA1                             | 234,832.7      | ug/L         | 250,000     | 94        | 250        |
|                   | IFB1                             | 232,994.6      | ug/L         | 250,000     | 93        | 250        |
| Magnesium         | IFA1                             | 141,014.7      | ug/L         | 150,000     | 94        | 250        |
|                   | IFB1                             | 140,565.3      | ug/L         | 150,000     | 94        | 250        |
| Manganese         | IFA1                             | -0.5           | ug/L         |             |           | 5.00       |
|                   | IFB1                             | 196.2          | ug/L         | 200         | 98        | 5.00       |
| Molybdenum        | IFA1                             | 11.5           | ug/L         |             |           | 20.0       |
|                   | IFB1                             | 308.8          | ug/L         | 300         | 103       | 20.0       |
| Potassium         | IFA1                             | -89.8          | ug/L         |             |           | 1000       |
|                   | IFB1                             | 20,586.9       | ug/L         | 20,000      | 103       | 1000       |
| Sodium            | IFA1                             | 50,760.9       | ug/L         | 50,000      | 102       | 1000       |
|                   | IFB1                             | 50,627.6       | ug/L         | 50,000      | 101       | 1000       |
| Strontium         | IFA1                             | -1.5           | ug/L         |             |           | 10.0       |
|                   | IFB1                             | 1,021.6        | ug/L         | 1,000       | 102       | 10.0       |
| Vanadium          | IFA1                             | 9.5            | ug/L         |             |           | 50.0       |
|                   | IFB1                             | 310.2          | ug/L         | 300         | 103       | 50.0       |
| Zinc              | IFA1                             | 6.4            | ug/L         |             |           | 20.0       |
|                   | IFB1                             | 286.4          | ug/L         | 300         | 95        | 20.0       |

\*Criteria = 80-120%R of True Value or +/- PQL

See raw data for complete analyte list and results.

**Project Name:** Park City\_Soils Seds & SW\_SEP 2014\_A064

**Certificate of Analysis**

**TDF #:** A-064

|   |                    |                     |                  |                     |
|---|--------------------|---------------------|------------------|---------------------|
| <b>TechLaw, Inc. - ESAT Region 8</b>                |                    |                     |                  |                     |
| <b>Detection Limit (PQL) Standard</b>               |                    |                     |                  |                     |
| <b>NIC MA-3000</b>                                  |                    |                     |                  |                     |
| Metals (Total Recov) by EPA 200/7000 Series Methods |                    |                     |                  |                     |
| Sequence: 1409124                                   |                    |                     |                  |                     |
| <b><u>Analyte</u></b>                               | <b><u>True</u></b> | <b><u>Found</u></b> | <b><u>%R</u></b> | <b><u>Units</u></b> |
| Mercury   | 100                | 9.46                | 9                | ug/L                |

Recovery Control Limits: 70-130% except Pb, Tl, Sb, & Hg at 50-150%. No limits for Al, Ca, Fe, K, Mg & Na.

TDF #: A-064

| TechLaw, Inc. - ESAT Region 8<br>Detection Limit (PQL) Standard<br>ICPMS-PE DRC-II |             |              |           |              |
|--|-------------|--------------|-----------|--------------|
| Metals (Total Recov) by EPA 200/7000 Series Methods                                |             |              |           |              |
| Sequence: 1409116  |             |              |           |              |
| <u>Analyte</u>   | <u>True</u> | <u>Found</u> | <u>%R</u> | <u>Units</u> |
| Antimony   | 1.00        | 1.0          | 102       | ug/L         |
| Arsenic  | 2.00        | 2.1          | 107       | ug/L         |
| Cadmium  | 0.200       | 0.2          | 79        | ug/L         |
| Chromium   | 2.00        | 2.0          | 101       | ug/L         |
| Cobalt   | 0.200       | 0.2          | 95        | ug/L         |
| Nickel   | 1.00        | 1.0          | 97        | ug/L         |
| Selenium   | 2.00        | 2.4          | 118       | ug/L         |
| Silver   | 1.00        | 0.7          | 72        | ug/L         |
| Thallium   | 1.00        | 1.0          | 96        | ug/L         |

Recovery Control Limits: 70-130% except Pb, Tl, Sb, &amp; Hg at 50-150%. No limits for Al, Ca, Fe, K, Mg &amp; Na.

TDF #: A-064

| TechLaw, Inc. - ESAT Region 8<br>Detection Limit (PQL) Standard<br>ICPMS-PE DRC-II |             |              |           |              |
|--|-------------|--------------|-----------|--------------|
| Metals (Total Recov) by EPA 200/7000 Series Methods                                |             |              |           |              |
| Sequence: 1409122  |             |              |           |              |
| <u>Analvte</u>   | <u>True</u> | <u>Found</u> | <u>%R</u> | <u>Units</u> |
| Antimony   | 1.00        | 1.045        | 104       | ug/L         |
| Arsenic  | 2.00        | 2.107        | 105       | ug/L         |
| Cadmium  | 0.200       | 0.1847       | 92        | ug/L         |
| Chromium   | 2.00        | 2.081        | 104       | ug/L         |
| Cobalt   | 0.200       | 0.1992       | 100       | ug/L         |
| Copper   | 1.00        | 1.004        | 100       | ug/L         |
| Lead   | 0.200       | 0.1917       | 96        | ug/L         |
| Nickel   | 1.00        | 1.222        | 122       | ug/L         |
| Selenium   | 2.00        | 1.991        | 100       | ug/L         |
| Silver   | 1.00        | 0.7961       | 80        | ug/L         |
| Thallium   | 1.00        | 0.9252       | 93        | ug/L         |

Recovery Control Limits: 70-130% except Pb, Tl, Sb, &amp; Hg at 50-150%. No limits for Al, Ca, Fe, K, Mg &amp; Na.

TDF #: A-064

| TechLaw, Inc. - ESAT Region 8<br>Detection Limit (PQL) Standard<br>ICPOE - PE Optima |             |              |           |              |
|--|-------------|--------------|-----------|--------------|
| Metals (Total Recov) by EPA 200/7000 Series Methods                                  |             |              |           |              |
| Sequence: 1409115  |             |              |           |              |
| <u>Analyte</u>   | <u>True</u> | <u>Found</u> | <u>%R</u> | <u>Units</u> |
| Aluminum   | 100         | 102.66       | 103       | ug/L         |
| Barium   | 10.0        | 10.057       | 101       | ug/L         |
| Beryllium  | 5.00        | 5.3317       | 107       | ug/L         |
| Calcium  | 250         | 221.16       | 88        | ug/L         |
| Copper   | 10.0        | 7.9447       | 79        | ug/L         |
| Iron   | 100         | 98.503       | 99        | ug/L         |
| Lead   | 30.0        | 33.544       | 112       | ug/L         |
| Magnesium  | 1000        | 999.18       | 100       | ug/L         |
| Manganese  | 10.0        | 9.7218       | 97        | ug/L         |
| Molybdenum   | 10.0        | 9.8066       | 98        | ug/L         |
| Potassium  | 1000        | 1008.9       | 101       | ug/L         |
| Sodium   | 1000        | 988.53       | 99        | ug/L         |
| Strontium  | 10.0        | 10.391       | 104       | ug/L         |
| Vanadium   | 50.0        | 41.060       | 82        | ug/L         |
| Zinc   | 50.0        | 51.346       | 103       | ug/L         |

Recovery Control Limits: 70-130% except Pb, Tl, Sb, &amp; Hg at 50-150%. No limits for Al, Ca, Fe, K, Mg &amp; Na.

TDF #: A-064

**TechLaw, Inc. - ESAT Region 8**  
**Detection Limit (PQL) Standard**  
**ICPOE - PE Optima**

Metals (Total Recov) by EPA 200/7000 Series Methods

Sequence: 1409119

| <u>Analyte</u> | <u>True</u> | <u>Found</u> | <u>%R</u> | <u>Units</u> |
|----------------|-------------|--------------|-----------|--------------|
| Aluminum       | 100         | 95.32        | 95        | ug/L         |
| Barium         | 10.0        | 10.22        | 102       | ug/L         |
| Beryllium      | 5.00        | 4.419        | 88        | ug/L         |
| Calcium        | 250         | 206.1        | 82        | ug/L         |
| Iron           | 100         | 82.82        | 83        | ug/L         |
| Magnesium      | 1000        | 989.3        | 99        | ug/L         |
| Manganese      | 10.0        | 9.860        | 99        | ug/L         |
| Molybdenum     | 10.0        | 7.962        | 80        | ug/L         |
| Potassium      | 1000        | 978.4        | 98        | ug/L         |
| Sodium         | 1000        | 983.2        | 98        | ug/L         |
| Strontium      | 10.0        | 10.59        | 106       | ug/L         |
| Vanadium       | 50.0        | 52.50        | 105       | ug/L         |
| Zinc           | 50.0        | 51.75        | 104       | ug/L         |

Recovery Control Limits: 70-130% except Pb, Tl, Sb, &amp; Hg at 50-150%. No limits for Al, Ca, Fe, K, Mg &amp; Na.

TDF #: A-064

## TechLaw Inc., ESAT Region 8

## INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: EPA 200.2/200.7

Total Recoverable

Sequence ID#: 1409115

Instrument ID #: ICPOE - PE Optima

Solid (dry wt basis)

LSR #: A-064

| Analysis ID  | Sample Name          | Analysis Date | Analysis Time |
|--------------|----------------------|---------------|---------------|
| 1409115-ICV1 | Initial Cal Check    | 09/24/14      | 12:19         |
| 1409115-SCV1 | Secondary Cal Check  | 09/24/14      | 12:23         |
| 1409115-ICB1 | Initial Cal Blank    | 09/24/14      | 12:26         |
| 1409115-CRL1 | Instrument RL Check  | 09/24/14      | 12:29         |
| 1409115-IFA1 | Interference Check A | 09/24/14      | 12:31         |
| 1409115-IFB1 | Interference Check B | 09/24/14      | 12:35         |
| 1409100-BLK1 | Blank                | 09/24/14      | 12:39         |
| 1409100-SRM1 | Reference            | 09/24/14      | 12:42         |
| C140910-01   | PCSBK02              | 09/24/14      | 12:45         |
| 1409100-DUP1 | Duplicate            | 09/24/14      | 12:49         |
| 1409115-SRD1 | Serial Dilution      | 09/24/14      | 12:54         |
| 1409100-MS1  | Matrix Spike         | 09/24/14      | 12:57         |
| C140910-12   | PCSSOME03            | 09/24/14      | 13:01         |
| 1409100-MS3  | Matrix Spike         | 09/24/14      | 13:04         |
| C140910-02   | PCSECA01             | 09/24/14      | 13:07         |
| 1409115-CCV1 | Calibration Check    | 09/24/14      | 13:13         |
| 1409115-CCB1 | Calibration Blank    | 09/24/14      | 13:16         |
| C140910-03   | PCSECA01D            | 09/24/14      | 13:19         |
| C140910-04   | PCSECA02             | 09/24/14      | 13:22         |
| C140910-05   | PCSEOM01             | 09/24/14      | 13:25         |
| C140910-06   | PCSSAP06             | 09/24/14      | 13:33         |
| C140910-07   | PCSSCA01             | 09/24/14      | 13:37         |
| C140910-08   | PCSSCO08             | 09/24/14      | 13:40         |
| C140910-09   | PCSSCO09             | 09/24/14      | 13:43         |
| C140910-10   | PCSSEC12             | 09/24/14      | 13:46         |
| C140910-11   | PCSSOM05             | 09/24/14      | 13:49         |
| 1409115-CCV2 | Calibration Check    | 09/24/14      | 13:55         |
| 1409115-CCB2 | Calibration Blank    | 09/24/14      | 13:58         |
| C140910-13   | PCSSOME04            | 09/24/14      | 14:01         |
| C140910-14   | PCSSOME05            | 09/24/14      | 14:04         |
| C140910-15   | PCSSOT05             | 09/24/14      | 14:07         |
| C140910-16   | PCSSSK09             | 09/24/14      | 14:10         |
| C140910-17   | PCSSTH07             | 09/24/14      | 14:13         |
| 1409115-CCV3 | Calibration Check    | 09/24/14      | 14:19         |
| 1409115-CCB3 | Calibration Blank    | 09/24/14      | 14:22         |



TDF #: A-064

## TechLaw Inc., ESAT Region 8

## INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: EPA 200.2 / 200.8

Total Recoverable

Sequence ID#: 1409116

Instrument ID #: ICPMS-PE DRC-II

Solid (dry wt basis)

LSR #: A-064

| Analysis ID  | Sample Name          | Analysis Date | Analysis Time |
|--------------|----------------------|---------------|---------------|
| 1409116-ICV1 | Initial Cal Check    | 09/24/14      | 13:19         |
| 1409116-SCV1 | Secondary Cal Check  | 09/24/14      | 13:22         |
| 1409116-ICB1 | Initial Cal Blank    | 09/24/14      | 13:25         |
| 1409116-CRL1 | Instrument RL Check  | 09/24/14      | 13:29         |
| 1409116-IFA1 | Interference Check A | 09/24/14      | 13:32         |
| 1409116-IFB1 | Interference Check B | 09/24/14      | 13:35         |
| 1409100-BLK2 | Blank                | 09/24/14      | 13:38         |
| 1409100-SRM2 | Reference            | 09/24/14      | 13:42         |
| C140910-01   | PCSBK02              | 09/24/14      | 13:45         |
| 1409100-DUP2 | Duplicate            | 09/24/14      | 13:48         |
| 1409116-SRD1 | Serial Dilution      | 09/24/14      | 13:51         |
| 1409100-MS2  | Matrix Spike         | 09/24/14      | 13:54         |
| C140910-12   | PCSSOME03            | 09/24/14      | 13:57         |
| 1409100-MS4  | Matrix Spike         | 09/24/14      | 14:00         |
| C140910-02   | PCSECA01             | 09/24/14      | 14:03         |
| 1409116-CCV1 | Calibration Check    | 09/24/14      | 14:09         |
| 1409116-CCB1 | Calibration Blank    | 09/24/14      | 14:12         |
| C140910-03   | PCSECA01D            | 09/24/14      | 14:16         |
| C140910-04   | PCSECA02             | 09/24/14      | 14:19         |
| C140910-05   | PCSEOM01             | 09/24/14      | 14:22         |
| C140910-06   | PCSSAP06             | 09/24/14      | 14:25         |
| C140910-07   | PCSSCA01             | 09/24/14      | 14:28         |
| C140910-08   | PCSSCO08             | 09/24/14      | 14:31         |
| C140910-09   | PCSSCO09             | 09/24/14      | 14:34         |
| C140910-10   | PCSSEC12             | 09/24/14      | 14:37         |
| C140910-11   | PCSSOM05             | 09/24/14      | 14:40         |
| 1409116-CCV2 | Calibration Check    | 09/24/14      | 14:46         |
| 1409116-CCB2 | Calibration Blank    | 09/24/14      | 14:49         |
| C140910-13   | PCSSOME04            | 09/24/14      | 14:53         |
| C140910-14   | PCSSOME05            | 09/24/14      | 14:56         |
| C140910-15   | PCSSOT05             | 09/24/14      | 14:59         |
| C140910-16   | PCSSSK09             | 09/24/14      | 15:02         |
| C140910-17   | PCSSTH07             | 09/24/14      | 15:05         |
| 1409116-CCV3 | Calibration Check    | 09/24/14      | 15:11         |
| 1409116-CCB3 | Calibration Blank    | 09/24/14      | 15:14         |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8

**INSTRUMENT ANALYSIS SEQUENCE LOG**

Analytical Method: 200.7

Total Recoverable

Sequence ID#: 1409119

Instrument ID #: ICPOE - PE Optima

Water

LSR #: A-064

| Analysis ID  | Sample Name          | Analysis Date | Analysis Time |
|--------------|----------------------|---------------|---------------|
| 1409119-ICV1 | Initial Cal Check    | 09/25/14      | 08:50         |
| 1409119-SCV1 | Secondary Cal Check  | 09/25/14      | 08:53         |
| 1409119-ICB1 | Initial Cal Blank    | 09/25/14      | 08:56         |
| 1409119-CRL1 | Instrument RL Check  | 09/25/14      | 08:59         |
| 1409119-IFA1 | Interference Check A | 09/25/14      | 09:02         |
| 1409119-IFB1 | Interference Check B | 09/25/14      | 09:05         |
| 1409099-BLK1 | Blank                | 09/25/14      | 09:09         |
| 1409099-SRM1 | Reference            | 09/25/14      | 09:13         |
| C140910-18   | PCWACA01             | 09/25/14      | 09:16         |
| 1409099-DUP1 | Duplicate            | 09/25/14      | 09:19         |
| 1409119-SRD1 | Serial Dilution      | 09/25/14      | 09:22         |
| 1409099-MS1  | Matrix Spike         | 09/25/14      | 09:25         |
| C140910-19   | PCWACA01D            | 09/25/14      | 09:28         |
| C140910-20   | PCWACA02             | 09/25/14      | 09:31         |
| C140910-21   | PCWAOM01             | 09/25/14      | 09:34         |
| 1409119-CCV1 | Calibration Check    | 09/25/14      | 09:40         |
| 1409119-CCB1 | Calibration Blank    | 09/25/14      | 09:43         |

Project Name: Park City\_Soils Seds & SW\_SEP 2014\_A064

Certificate of Analysis

TDF #: A-064

TechLaw Inc., ESAT Region 8

**INSTRUMENT ANALYSIS SEQUENCE LOG**

Analytical Method: 200.8

Total Recoverable

Sequence ID#: 1409122

Instrument ID #: ICPMS-PE DRC-II

Water

LSR #: A-064

| Analysis ID  | Sample Name          | Analysis Date | Analysis Time |
|--------------|----------------------|---------------|---------------|
| 1409122-ICV1 | Initial Cal Check    | 09/25/14      | 10:59         |
| 1409122-SCV1 | Secondary Cal Check  | 09/25/14      | 11:02         |
| 1409122-ICB1 | Initial Cal Blank    | 09/25/14      | 11:06         |
| 1409122-CRL1 | Instrument RL Check  | 09/25/14      | 11:09         |
| 1409122-IFA1 | Interference Check A | 09/25/14      | 11:12         |
| 1409122-IFB1 | Interference Check B | 09/25/14      | 11:16         |
| 1409099-BLK2 | Blank                | 09/25/14      | 11:19         |
| C140910-18   | PCWACA01             | 09/25/14      | 11:22         |
| 1409099-DUP2 | Duplicate            | 09/25/14      | 11:25         |
| 1409122-SRD1 | Serial Dilution      | 09/25/14      | 11:28         |
| 1409099-SRM2 | Reference            | 09/25/14      | 11:31         |
| 1409099-MS2  | Matrix Spike         | 09/25/14      | 11:34         |
| C140910-19   | PCWACA01D            | 09/25/14      | 11:37         |
| C140910-20   | PCWACA02             | 09/25/14      | 11:40         |
| C140910-21   | PCWAOM01             | 09/25/14      | 11:43         |
| 1409122-CCV1 | Calibration Check    | 09/25/14      | 11:49         |
| 1409122-CCB1 | Calibration Blank    | 09/25/14      | 11:53         |

TDF #: A-064

## TechLaw Inc., ESAT Region 8

## INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: 7473

Total

Sequence ID#: 1409124

Instrument ID #: NIC MA-3000

Solid (dry wt basis)

LSR #: A-064

| Analysis ID  | Sample Name         | Analysis Date | Analysis Time |
|--------------|---------------------|---------------|---------------|
| 1409124-ICV1 | Initial Cal Check   | 09/24/14      | 12:00         |
| 1409124-CRL1 | Instrument RL Check | 09/24/14      | 12:00         |
| 1409092-BLK1 | Blank               | 09/24/14      | 12:00         |
| 1409092-SRM1 | Reference           | 09/24/14      | 12:00         |
| C140910-01   | PCSBSK02            | 09/24/14      | 12:00         |
| 1409092-DUP1 | Duplicate           | 09/24/14      | 12:00         |
| 1409092-MS1  | Matrix Spike        | 09/24/14      | 12:00         |
| 1409092-MSD1 | Matrix Spike Dup    | 09/24/14      | 12:00         |
| C140910-02   | PCSECA01            | 09/24/14      | 12:00         |
| C140910-03   | PCSECA01D           | 09/24/14      | 12:00         |
| C140910-04   | PCSECA02            | 09/24/14      | 12:00         |
| C140910-05   | PCSEOM01            | 09/24/14      | 12:00         |
| 1409124-CCV1 | Calibration Check   | 09/24/14      | 12:00         |
| 1409124-CCB1 | Calibration Blank   | 09/24/14      | 12:00         |
| C140910-06   | PCSSAP06            | 09/24/14      | 12:00         |
| C140910-08   | PCSSCO08            | 09/24/14      | 12:00         |
| C140910-07   | PCSSCA01            | 09/24/14      | 12:00         |
| C140910-09   | PCSSCO09            | 09/24/14      | 12:00         |
| C140910-10   | PCSSEC12            | 09/24/14      | 12:00         |
| C140910-11   | PCSSOM05            | 09/24/14      | 12:00         |
| C140910-12   | PCSSOME03           | 09/24/14      | 12:00         |
| C140910-13   | PCSSOME04           | 09/24/14      | 12:00         |
| C140910-14   | PCSSOME05           | 09/24/14      | 12:00         |
| 1409124-CCV2 | Calibration Check   | 09/24/14      | 12:00         |
| 1409124-CCB2 | Calibration Blank   | 09/24/14      | 12:00         |
| C140910-16   | PCSSSK09            | 09/24/14      | 12:00         |
| C140910-17   | PCSSTH07            | 09/24/14      | 12:00         |
| C140910-15   | PCSSOT05            | 09/24/14      | 12:00         |
| 1409124-CCV3 | Calibration Check   | 09/24/14      | 12:00         |
| 1409124-CCB3 | Calibration Blank   | 09/24/14      | 12:00         |