

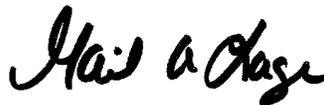
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Nashville  
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Nashville, TN 37204  
Tel: (615)726-0177

TestAmerica Job ID: 490-163316-1  
Client Project/Site: KIF\_CCR\_20181112\_1A  
Revision: 1

For:  
Environmental Standards Inc.  
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Valley Forge, Pennsylvania 19482-0810

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Authorized for release by:  
2/27/2019 7:01:23 PM

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Sample Summary . . . . .	3
Case Narrative . . . . .	4
Definitions . . . . .	6
Client Sample Results . . . . .	7
QC Sample Results . . . . .	25
QC Association . . . . .	39
Chronicle . . . . .	46
Method Summary . . . . .	51
Certification Summary . . . . .	52
Chain of Custody . . . . .	54

# Sample Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Solid	11/13/18 11:30	11/15/18 09:00
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Solid	11/13/18 12:16	11/15/18 09:00
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Solid	11/13/18 12:59	11/15/18 09:00
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Solid	11/13/18 13:42	11/15/18 09:00
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Solid	11/13/18 14:41	11/15/18 09:00
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Solid	11/13/18 15:15	11/15/18 09:00
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Solid	11/13/18 15:48	11/15/18 09:00
490-163316-8	KIF-CCR-DUP01-20181113	Solid	11/13/18 01:01	11/15/18 09:00
490-163316-9	KIF-CCR-EB01-20181113	Water	11/13/18 16:44	11/15/18 09:00
490-163316-10	KIF-CCR-FB01-20181113	Water	11/13/18 16:28	11/15/18 09:00

# Case Narrative

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Job ID: 490-163316-1**

**Laboratory: TestAmerica Nashville**

## Narrative

### Job Narrative 490-163316-1

#### Revised Report

This report was revised to correct the TOC QC. This replaces the original final report.

#### Receipt

The samples were received on 11/15/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 1.9° C and 2.8° C.

#### HPLC/IC

Method(s) 9056A: The method blank for analytical batch 490-559248 contained Chloride, Fluoride and Sulfate above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 9056A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 490-559248 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9056A: The method blank for analytical batch 490-559248 contained Chloride and Sulfate above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 9056A: The following samples were diluted due to the nature of the sample matrix: KIF-CCR-TW05-1.5/3.5-20181113 (490-163316-1), KIF-CCR-TW05-6.5/8.5-20181113 (490-163316-2), KIF-CCR-TW05-11.5/13.5-20181113 (490-163316-3), KIF-CCR-TW05-16.5/19.5-20181113 (490-163316-4), KIF-CCR-TW05-22.5/24.5-20181113 (490-163316-5), KIF-CCR-TW05-26.5/28.5-20181113 (490-163316-6), KIF-CCR-TW05-31.5/33.5-20181113 (490-163316-7) and KIF-CCR-DUP01-20181113 (490-163316-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 7470A: Low Sample Volume. KIF-CCR-EB01-20181113 (490-163316-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method(s) 9060A: The method blank for analytical batch 490-559568 contained Total Organic Carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 9060A: The CCB for analytical batch 490-559568 contained Total Organic Carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. KIF-CCR-TW05-1.5/3.5-20181113 (490-163316-1), KIF-CCR-TW05-6.5/8.5-20181113 (490-163316-2), (CCB 490-559568/11) and (550-113610-A-1)

Method(s) 9060A: The method blank for analytical batch 490-560165 contained Total Organic Carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 9060A: The CCB for analytical batch 490-560165 contained Total Organic Carbon above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. KIF-CCR-TW05-11.5/13.5-20181113 (490-163316-3), KIF-CCR-TW05-16.5/19.5-20181113 (490-163316-4), KIF-CCR-TW05-22.5/24.5-20181113 (490-163316-5), KIF-CCR-TW05-26.5/28.5-20181113 (490-163316-6), KIF-CCR-TW05-31.5/33.5-20181113 (490-163316-7) and KIF-CCR-DUP01-20181113 (490-163316-8)

# Case Narrative

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

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## Job ID: 490-163316-1 (Continued)

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### Laboratory: TestAmerica Nashville (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) Moisture: The sample duplicate precision for the following sample associated with analytical batch 490-558480 was outside control limits for Percent Moisture: (490-163316-A-3 DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Narrative

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#### Metals

Method(s) 3005A: Elevated reporting limits are provided for the following sample due to insufficient sample provided for <CHOOSE\_ONE> preparation/analysis: KIF-CCR-EB01-20181113 (490-163316-9).

Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 265057 were outside control limits for several analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 6020A: The serial dilution performed for the following sample associated with batch 265057 was outside control limits for thallium: KIF-CCR-TW05-6.5/8.5-20181113 (490-163316-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Geotechnical

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
E	Result exceeded calibration range.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
F3	Duplicate RPD exceeds the control limit
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-1.5/3.5-20181113**

**Lab Sample ID: 490-163316-1**

**Date Collected: 11/13/18 11:30**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.7	7.51	mg/Kg	☼		11/17/18 01:39	1
<b>Fluoride</b>	<b>1.24</b>		1.07	0.858	mg/Kg	☼		11/17/18 01:39	1
<b>Sulfate</b>	<b>1090</b>		107	64.3	mg/Kg	☼		11/18/18 01:15	10

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:16	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.0931</b>	<b>J</b>	0.104	0.0311	mg/Kg	☼	12/04/18 11:52	12/05/18 11:01	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.475</b>		0.216	0.0671	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Arsenic</b>	<b>15.9</b>		0.108	0.0281	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Barium</b>	<b>209</b>		1.08	0.0616	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Beryllium</b>	<b>1.54</b>		0.108	0.00811	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Boron</b>	<b>31.7</b>		8.65	0.825	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Cadmium</b>	<b>0.203</b>		0.108	0.0184	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Calcium</b>	<b>51100</b>		54.1	9.68	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Chromium</b>	<b>14.4</b>		0.216	0.0714	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Cobalt</b>	<b>5.69</b>		0.0541	0.00898	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Copper</b>	<b>18.2</b>	<b>B</b>	0.216	0.122	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Iron</b>	<b>11800</b>		5.41	2.66	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Lead</b>	<b>7.80</b>		0.108	0.0379	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Lithium</b>	<b>9.32</b>		0.541	0.299	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Manganese</b>	<b>132</b>		0.541	0.173	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Molybdenum</b>	<b>2.72</b>	<b>B</b>	0.541	0.0671	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Nickel</b>	<b>14.2</b>		0.108	0.0660	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Selenium</b>	<b>1.82</b>		0.541	0.0649	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Silver</b>	<b>0.0439</b>	<b>J</b>	0.108	0.0151	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Thallium</b>	<b>0.353</b>		0.108	0.0141	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Vanadium</b>	<b>33.2</b>		0.108	0.0660	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1
<b>Zinc</b>	<b>23.4</b>		0.541	0.361	mg/Kg	☼	12/10/18 07:08	12/11/18 19:38	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.00135</b>	<b>J</b>	0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Arsenic</b>	<b>0.00611</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Barium</b>	<b>0.122</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:26	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Boron</b>	<b>0.170</b>		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:26	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Calcium</b>	<b>38.1</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Chromium</b>	<b>0.00214</b>		0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Cobalt</b>	<b>0.000100</b>	<b>J</b>	0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:26	1
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:26	1
Iron	ND		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:26	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:26	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-1.5/3.5-20181113**

**Lab Sample ID: 490-163316-1**

**Date Collected: 11/13/18 11:30**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Lithium</b>	<b>0.00313</b>	<b>J</b>	0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:26	1
Manganese	ND		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Molybdenum</b>	<b>0.00530</b>		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:26	1
Nickel	ND		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Selenium</b>	<b>0.00370</b>	<b>J</b>	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:26	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:26	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Vanadium</b>	<b>0.00983</b>		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:26	1
<b>Zinc</b>	<b>0.0106</b>		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:26	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon - Duplicates</b>	<b>31800</b>	<b>B ^</b>	1000	600	mg/Kg			11/25/18 07:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Percent Moisture</b>	<b>5.7</b>		0.1	0.1	%			11/19/18 12:57	1
<b>Percent Solids</b>	<b>94.3</b>		0.1	0.1	%			11/19/18 12:57	1

**General Chemistry - Soluble**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>8.2</b>		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**

**Lab Sample ID: 490-163316-2**

**Date Collected: 11/13/18 12:16**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.5	8.08	mg/Kg	☼		11/17/18 01:57	1
<b>Fluoride</b>	<b>1.65</b>	<b>F2 F1</b>	1.15	0.923	mg/Kg	☼		11/17/18 01:57	1
<b>Sulfate</b>	<b>258</b>		23.1	13.9	mg/Kg	☼		11/18/18 01:32	2

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:03	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.175</b>		0.114	0.0342	mg/Kg	☼	12/04/18 11:52	12/05/18 11:04	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.225</b>	<b>J</b>	0.241	0.0747	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Arsenic</b>	<b>49.2</b>		0.120	0.0313	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Barium</b>	<b>124</b>		1.20	0.0687	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Beryllium</b>	<b>0.386</b>		0.120	0.00903	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Boron</b>	<b>4.44</b>	<b>J</b>	9.64	0.919	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Cadmium</b>	<b>0.0707</b>	<b>J</b>	0.120	0.0205	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Calcium</b>	<b>32600</b>		60.2	10.8	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Chromium</b>	<b>12.9</b>		0.241	0.0795	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Cobalt</b>	<b>5.00</b>		0.0602	0.0100	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Copper</b>	<b>12.3</b>	<b>B</b>	0.241	0.136	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Iron</b>	<b>35400</b>		6.02	2.96	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Lead</b>	<b>11.2</b>		0.120	0.0422	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Lithium</b>	<b>9.10</b>	<b>F1</b>	0.602	0.332	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Manganese</b>	<b>216</b>	<b>F1</b>	0.602	0.193	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Molybdenum</b>	<b>3.32</b>	<b>B</b>	0.602	0.0747	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Nickel</b>	<b>10.5</b>		0.120	0.0735	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Selenium</b>	<b>2.78</b>	<b>F1</b>	0.602	0.0723	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Silver</b>	<b>0.0278</b>	<b>J</b>	0.120	0.0169	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Thallium</b>	<b>1.29</b>	<b>F1</b>	0.120	0.0157	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Vanadium</b>	<b>21.3</b>		0.120	0.0735	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1
<b>Zinc</b>	<b>17.6</b>		0.602	0.402	mg/Kg	☼	12/10/18 07:08	12/11/18 20:09	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Arsenic</b>	<b>0.000438</b>	<b>J</b>	0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Barium</b>	<b>0.0236</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:30	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Boron</b>	<b>0.0429</b>	<b>J</b>	0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:30	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Calcium</b>	<b>32.9</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Chromium</b>	<b>0.00124</b>	<b>J</b>	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:30	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:30	1
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Iron</b>	<b>0.0157</b>	<b>J</b>	0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:30	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:30	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**

**Lab Sample ID: 490-163316-2**

**Date Collected: 11/13/18 12:16**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

## Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Manganese</b>	<b>0.00288</b>	<b>J</b>	0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Molybdenum</b>	<b>0.00134</b>	<b>J</b>	0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:30	1
Nickel	ND		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Selenium</b>	<b>0.00114</b>	<b>J</b>	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:30	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:30	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Vanadium</b>	<b>0.000926</b>	<b>J</b>	0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:30	1
<b>Zinc</b>	<b>0.00366</b>	<b>J</b>	0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:30	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon - Duplicates</b>	<b>15400</b>	<b>B ^</b>	1000	600	mg/Kg			11/25/18 07:32	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Percent Moisture</b>	<b>13.5</b>		0.1	0.1	%			11/19/18 12:57	1
<b>Percent Solids</b>	<b>86.5</b>		0.1	0.1	%			11/19/18 12:57	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.8</b>		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113**

**Lab Sample ID: 490-163316-3**

**Date Collected: 11/13/18 12:59**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.6	7.42	mg/Kg	☼		11/17/18 02:51	1
Fluoride	ND		1.06	0.848	mg/Kg	☼		11/17/18 02:51	1
<b>Sulfate</b>	<b>880</b>		106	63.6	mg/Kg	☼		11/18/18 01:48	10

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:18	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.458</b>		0.106	0.0318	mg/Kg	☼	12/04/18 11:52	12/05/18 11:23	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.296</b>		0.196	0.0609	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Arsenic</b>	<b>68.3</b>		0.0982	0.0255	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Barium</b>	<b>85.2</b>		0.982	0.0559	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Beryllium</b>	<b>0.575</b>		0.0982	0.00736	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Boron</b>	<b>5.50</b>	J	7.85	0.749	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Cadmium</b>	<b>0.0781</b>	J	0.0982	0.0167	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Calcium</b>	<b>935</b>		49.1	8.78	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Chromium</b>	<b>11.6</b>		0.196	0.0648	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Cobalt</b>	<b>4.61</b>		0.0491	0.00815	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Copper</b>	<b>17.6</b>	B	0.196	0.111	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Iron</b>	<b>66100</b>		4.91	2.41	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Lead</b>	<b>4.43</b>		0.0982	0.0344	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Lithium</b>	<b>7.72</b>		0.491	0.271	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Manganese</b>	<b>38.4</b>		0.491	0.157	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Molybdenum</b>	<b>6.84</b>	B	0.491	0.0609	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Nickel</b>	<b>12.3</b>		0.0982	0.0599	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Selenium</b>	<b>13.5</b>		0.491	0.0589	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Silver</b>	<b>0.0273</b>	J	0.0982	0.0137	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Thallium</b>	<b>1.18</b>		0.0982	0.0128	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Vanadium</b>	<b>15.4</b>		0.0982	0.0599	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1
<b>Zinc</b>	<b>5.43</b>		0.491	0.328	mg/Kg	☼	12/10/18 07:08	12/11/18 19:43	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Arsenic</b>	<b>0.00437</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Barium</b>	<b>0.0875</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Beryllium</b>	<b>0.00331</b>		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Boron</b>	<b>0.0442</b>	J	0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Cadmium</b>	<b>0.00188</b>		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Calcium</b>	<b>16.6</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Chromium</b>	<b>0.00183</b>	J	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Cobalt</b>	<b>0.0545</b>		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Copper</b>	<b>0.0217</b>		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Iron</b>	<b>18.4</b>		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:50	1
<b>Lead</b>	<b>0.00662</b>		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:50	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113**

**Lab Sample ID: 490-163316-3**

**Date Collected: 11/13/18 12:59**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

## Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0135		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:50	1
Manganese	0.0465		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:50	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:50	1
Nickel	0.111		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:50	1
Selenium	0.00114	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:50	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:50	1
Thallium	0.00445		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:50	1
Vanadium	0.00117		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:50	1
Zinc	0.0693		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	16100	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.7		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	94.3		0.1	0.1	%			11/19/18 12:57	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.3		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-16.5/19.5-20181113**

**Lab Sample ID: 490-163316-4**

**Date Collected: 11/13/18 13:42**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.3	7.90	mg/Kg	☼		11/17/18 03:09	1
Fluoride	ND		1.13	0.902	mg/Kg	☼		11/17/18 03:09	1
<b>Sulfate</b>	<b>1460</b>		226	135	mg/Kg	☼		11/18/18 02:05	20

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:26	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.611</b>		0.114	0.0341	mg/Kg	☼	12/04/18 11:52	12/05/18 11:26	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.240</b>		0.210	0.0650	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Arsenic</b>	<b>37.0</b>		0.105	0.0272	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Barium</b>	<b>79.7</b>		1.05	0.0597	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Beryllium</b>	<b>0.321</b>		0.105	0.00786	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Boron</b>	<b>3.92</b>	J	8.38	0.800	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Cadmium</b>	<b>0.0520</b>	J	0.105	0.0178	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Calcium</b>	<b>770</b>		52.4	9.38	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Chromium</b>	<b>8.73</b>		0.210	0.0692	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Cobalt</b>	<b>3.15</b>		0.0524	0.00870	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Copper</b>	<b>13.0</b>	B	0.210	0.118	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Iron</b>	<b>44200</b>		5.24	2.58	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Lead</b>	<b>4.65</b>		0.105	0.0367	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Lithium</b>	<b>5.75</b>		0.524	0.289	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Manganese</b>	<b>26.1</b>		0.524	0.168	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Molybdenum</b>	<b>5.75</b>	B	0.524	0.0650	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Nickel</b>	<b>10.2</b>		0.105	0.0639	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Selenium</b>	<b>3.45</b>		0.524	0.0629	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Silver</b>	<b>0.0202</b>	J	0.105	0.0147	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Thallium</b>	<b>1.05</b>		0.105	0.0136	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Vanadium</b>	<b>11.1</b>		0.105	0.0639	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1
<b>Zinc</b>	<b>5.78</b>		0.524	0.350	mg/Kg	☼	12/10/18 07:08	12/11/18 19:48	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Arsenic</b>	<b>0.00503</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Barium</b>	<b>0.0621</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Beryllium</b>	<b>0.00143</b>		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Boron</b>	<b>0.0400</b>	J	0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Cadmium</b>	<b>0.00107</b>		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Calcium</b>	<b>24.3</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Chromium</b>	<b>0.00195</b>	J	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Cobalt</b>	<b>0.0172</b>		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Copper</b>	<b>0.0194</b>		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Iron</b>	<b>21.7</b>		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:53	1
<b>Lead</b>	<b>0.00106</b>		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:53	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-16.5/19.5-20181113**

**Lab Sample ID: 490-163316-4**

**Date Collected: 11/13/18 13:42**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

## Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0134		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:53	1
Manganese	0.0532		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:53	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:53	1
Nickel	0.0507		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:53	1
Selenium	0.00104	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:53	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:53	1
Thallium	0.00301		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:53	1
Vanadium	0.000943	J	0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:53	1
Zinc	0.0586		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:53	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	18200	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.6		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	88.4		0.1	0.1	%			11/19/18 12:57	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.9		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-22.5/24.5-20181113**

**Lab Sample ID: 490-163316-5**

**Date Collected: 11/13/18 14:41**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.8	8.96	mg/Kg	☼		11/17/18 03:27	1
Fluoride	ND		1.28	1.02	mg/Kg	☼		11/17/18 03:27	1
<b>Sulfate</b>	<b>1130</b>		128	76.8	mg/Kg	☼		11/18/18 02:35	10

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:29	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.246</b>		0.126	0.0377	mg/Kg	☼	12/04/18 11:52	12/05/18 11:29	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.732</b>		0.260	0.0805	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Arsenic</b>	<b>115</b>		0.130	0.0337	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Barium</b>	<b>284</b>		1.30	0.0740	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Beryllium</b>	<b>1.97</b>		0.130	0.00973	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Boron</b>	<b>39.8</b>		10.4	0.990	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Cadmium</b>	<b>0.197</b>		0.130	0.0221	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Calcium</b>	<b>2100</b>		64.9	11.6	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Chromium</b>	<b>36.8</b>		0.260	0.0857	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Cobalt</b>	<b>8.53</b>		0.0649	0.0108	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Copper</b>	<b>43.6</b>	<b>B</b>	0.260	0.147	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Iron</b>	<b>39000</b>		6.49	3.19	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Lead</b>	<b>26.4</b>		0.130	0.0454	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Lithium</b>	<b>23.1</b>		0.649	0.358	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Manganese</b>	<b>45.6</b>		0.649	0.208	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Molybdenum</b>	<b>6.47</b>	<b>B</b>	0.649	0.0805	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Nickel</b>	<b>20.7</b>		0.130	0.0792	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Selenium</b>	<b>4.81</b>		0.649	0.0779	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Silver</b>	<b>0.128</b>	<b>J</b>	0.130	0.0182	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Thallium</b>	<b>1.23</b>		0.130	0.0169	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Vanadium</b>	<b>62.1</b>		0.130	0.0792	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1
<b>Zinc</b>	<b>29.3</b>		0.649	0.433	mg/Kg	☼	12/10/18 07:08	12/11/18 19:54	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Arsenic</b>	<b>0.000351</b>	<b>J</b>	0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Barium</b>	<b>0.192</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Beryllium</b>	<b>0.0000600</b>	<b>J</b>	0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Boron</b>	<b>0.200</b>		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Cadmium</b>	<b>0.000192</b>	<b>J</b>	0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Calcium</b>	<b>37.5</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Chromium</b>	<b>0.00120</b>	<b>J</b>	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Cobalt</b>	<b>0.00855</b>		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Copper</b>	<b>0.00597</b>		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 14:03	1
<b>Iron</b>	<b>0.0370</b>	<b>J</b>	0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 14:03	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 14:03	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-22.5/24.5-20181113**

**Lab Sample ID: 490-163316-5**

**Date Collected: 11/13/18 14:41**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0307		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 14:03	1
Manganese	0.138		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 14:03	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 14:03	1
Nickel	0.0168		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 14:03	1
Selenium	0.00174	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 14:03	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 14:03	1
Thallium	0.000513	J	0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 14:03	1
Vanadium	0.00120		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 14:03	1
Zinc	0.0291		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 14:03	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	17300	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	22.2		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	77.8		0.1	0.1	%			11/19/18 12:57	1

**General Chemistry - Soluble**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.3		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-26.5/28.5-20181113**

**Lab Sample ID: 490-163316-6**

**Date Collected: 11/13/18 15:15**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.2	8.53	mg/Kg	☼		11/17/18 03:45	1
<b>Fluoride</b>	<b>2.37</b>		1.22	0.975	mg/Kg	☼		11/17/18 03:45	1
<b>Sulfate</b>	<b>268</b>		24.4	14.6	mg/Kg	☼		11/18/18 02:51	2

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:31	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.0537</b>	<b>J</b>	0.121	0.0364	mg/Kg	☼	12/04/18 11:52	12/05/18 11:31	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.538</b>		0.247	0.0766	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Arsenic</b>	<b>35.0</b>		0.124	0.0321	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Barium</b>	<b>139</b>		1.24	0.0705	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Beryllium</b>	<b>0.905</b>		0.124	0.00927	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Boron</b>	<b>13.7</b>		9.89	0.943	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Cadmium</b>	<b>0.162</b>		0.124	0.0210	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Calcium</b>	<b>1660</b>		61.8	11.1	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Chromium</b>	<b>12.5</b>		0.247	0.0816	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Cobalt</b>	<b>6.13</b>		0.0618	0.0103	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Copper</b>	<b>16.6</b>	<b>B</b>	0.247	0.140	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Iron</b>	<b>38800</b>		6.18	3.04	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Lead</b>	<b>2.82</b>		0.124	0.0433	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Lithium</b>	<b>10.8</b>		0.618	0.341	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Manganese</b>	<b>60.6</b>		0.618	0.198	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Molybdenum</b>	<b>6.65</b>	<b>B</b>	0.618	0.0766	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Nickel</b>	<b>14.7</b>		0.124	0.0754	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Selenium</b>	<b>1.32</b>		0.618	0.0742	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Silver</b>	<b>0.0229</b>	<b>J</b>	0.124	0.0173	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Thallium</b>	<b>0.926</b>		0.124	0.0161	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Vanadium</b>	<b>19.6</b>		0.124	0.0754	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1
<b>Zinc</b>	<b>9.87</b>		0.618	0.413	mg/Kg	☼	12/10/18 07:08	12/11/18 20:33	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Arsenic</b>	<b>0.00481</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Barium</b>	<b>0.148</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 14:06	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Boron</b>	<b>0.0875</b>		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 14:06	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Calcium</b>	<b>11.5</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Chromium</b>	<b>0.00106</b>	<b>J</b>	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 14:06	1
<b>Cobalt</b>	<b>0.00126</b>		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 14:06	1
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 14:06	1
Iron	ND		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 14:06	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 14:06	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-26.5/28.5-20181113**

**Lab Sample ID: 490-163316-6**

**Date Collected: 11/13/18 15:15**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

## Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.00893		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 14:06	1
Manganese	0.0272		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 14:06	1
Molybdenum	0.0115		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 14:06	1
Nickel	0.00673		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 14:06	1
Selenium	0.00149	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 14:06	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 14:06	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 14:06	1
Vanadium	0.00241		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 14:06	1
Zinc	0.00396	J	0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 14:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	25800	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.1		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	80.9		0.1	0.1	%			11/19/18 12:57	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.8		0.1	0.1	SU			11/16/18 17:16	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-31.5/33.5-20181113**

**Lab Sample ID: 490-163316-7**

**Date Collected: 11/13/18 15:48**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		14.6	10.2	mg/Kg	☼		11/17/18 04:03	1
<b>Fluoride</b>	<b>1.37</b>	<b>J</b>	1.46	1.17	mg/Kg	☼		11/17/18 04:03	1
<b>Sulfate</b>	<b>415</b>		29.2	17.5	mg/Kg	☼		11/18/18 03:08	2

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:34	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.0938</b>	<b>J</b>	0.140	0.0420	mg/Kg	☼	12/04/18 11:52	12/05/18 11:34	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.605</b>		0.303	0.0939	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Arsenic</b>	<b>41.2</b>		0.151	0.0394	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Barium</b>	<b>230</b>		1.51	0.0863	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Beryllium</b>	<b>1.37</b>		0.151	0.0114	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Boron</b>	<b>25.0</b>		12.1	1.16	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Cadmium</b>	<b>0.135</b>	<b>J</b>	0.151	0.0257	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Calcium</b>	<b>3700</b>		75.7	13.6	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Chromium</b>	<b>23.0</b>		0.303	0.0999	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Cobalt</b>	<b>10.3</b>		0.0757	0.0126	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Copper</b>	<b>26.4</b>	<b>B</b>	0.303	0.171	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Iron</b>	<b>50100</b>		7.57	3.72	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Lead</b>	<b>6.34</b>		0.151	0.0530	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Lithium</b>	<b>15.6</b>		0.757	0.418	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Manganese</b>	<b>88.2</b>		0.757	0.242	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Molybdenum</b>	<b>3.74</b>	<b>B</b>	0.757	0.0939	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Nickel</b>	<b>23.5</b>		0.151	0.0924	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Selenium</b>	<b>1.84</b>		0.757	0.0908	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Silver</b>	<b>0.0468</b>	<b>J</b>	0.151	0.0212	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Thallium</b>	<b>1.08</b>		0.151	0.0197	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Vanadium</b>	<b>37.9</b>		0.151	0.0924	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1
<b>Zinc</b>	<b>20.7</b>		0.757	0.506	mg/Kg	☼	12/10/18 07:08	12/11/18 20:38	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 14:10	1
<b>Arsenic</b>	<b>0.0162</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 14:10	1
<b>Barium</b>	<b>0.115</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 14:10	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 14:10	1
<b>Boron</b>	<b>0.128</b>		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 14:10	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 14:10	1
<b>Calcium</b>	<b>17.1</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 14:10	1
<b>Chromium</b>	<b>0.00108</b>	<b>J</b>	0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 14:10	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 14:10	1
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 14:10	1
Iron	ND		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 14:10	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 14:10	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-31.5/33.5-20181113**

**Lab Sample ID: 490-163316-7**

**Date Collected: 11/13/18 15:48**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

## Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.00495	J	0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 14:10	1
Manganese	0.00662		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 14:10	1
Molybdenum	0.0159		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 14:10	1
Nickel	ND		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 14:10	1
Selenium	0.00496	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 14:10	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 14:10	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 14:10	1
Vanadium	0.0124		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 14:10	1
Zinc	ND		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 14:10	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	11400	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.2		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	68.8		0.1	0.1	%			11/19/18 12:57	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1	0.1	SU			11/16/18 17:22	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-DUP01-20181113**

**Lab Sample ID: 490-163316-8**

**Date Collected: 11/13/18 01:01**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: 9056A - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.3	7.91	mg/Kg	☼		11/17/18 04:22	1
Fluoride	ND		1.13	0.904	mg/Kg	☼		11/17/18 04:22	1
<b>Sulfate</b>	<b>1460</b>		113	67.8	mg/Kg	☼		11/18/18 03:25	10

**Method: 7470A - Mercury (CVAA) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:37	1

**Method: 7471B - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.588</b>		0.110	0.0331	mg/Kg	☼	12/04/18 11:52	12/05/18 11:37	1

**Method: EPA 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.326</b>		0.231	0.0715	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Arsenic</b>	<b>36.6</b>		0.115	0.0300	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Barium</b>	<b>83.1</b>		1.15	0.0658	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Beryllium</b>	<b>0.327</b>		0.115	0.00865	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Boron</b>	<b>3.98</b>	J	9.23	0.880	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Cadmium</b>	<b>0.0456</b>	J	0.115	0.0196	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Calcium</b>	<b>858</b>		57.7	10.3	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Chromium</b>	<b>9.67</b>		0.231	0.0761	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Cobalt</b>	<b>3.72</b>		0.0577	0.00958	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Copper</b>	<b>13.8</b>	B	0.231	0.130	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Iron</b>	<b>50700</b>		5.77	2.84	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Lead</b>	<b>4.96</b>		0.115	0.0404	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Lithium</b>	<b>6.21</b>		0.577	0.318	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Manganese</b>	<b>38.2</b>		0.577	0.185	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Molybdenum</b>	<b>5.52</b>	B	0.577	0.0715	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Nickel</b>	<b>11.9</b>		0.115	0.0704	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Selenium</b>	<b>3.61</b>		0.577	0.0692	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Silver</b>	<b>0.0280</b>	J	0.115	0.0162	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Thallium</b>	<b>1.34</b>		0.115	0.0150	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Vanadium</b>	<b>11.8</b>		0.115	0.0704	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1
<b>Zinc</b>	<b>6.34</b>		0.577	0.385	mg/Kg	☼	12/10/18 07:08	12/11/18 20:43	1

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Arsenic</b>	<b>0.00511</b>		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Barium</b>	<b>0.0193</b>		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Beryllium</b>	<b>0.00167</b>		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Boron</b>	<b>0.0403</b>	J	0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Cadmium</b>	<b>0.00109</b>		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Calcium</b>	<b>25.2</b>		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Chromium</b>	<b>0.00254</b>		0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Cobalt</b>	<b>0.0203</b>		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Copper</b>	<b>0.0110</b>		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Iron</b>	<b>35.6</b>		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 14:13	1
<b>Lead</b>	<b>0.000607</b>	J	0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 14:13	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
 Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-DUP01-20181113**

**Lab Sample ID: 490-163316-8**

**Date Collected: 11/13/18 01:01**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

**Method: EPA 6020A - Metals (ICP/MS) - SPLP East (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0148		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 14:13	1
Manganese	0.0597		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 14:13	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 14:13	1
Nickel	0.0607		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 14:13	1
Selenium	0.000999	J	0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 14:13	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 14:13	1
Thallium	0.00419		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 14:13	1
Vanadium	ND		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 14:13	1
Zinc	0.0262		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 14:13	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	16200	B ^	1000	600	mg/Kg			11/28/18 11:24	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.6		0.1	0.1	%			11/19/18 12:57	1
Percent Solids	89.4		0.1	0.1	%			11/19/18 12:57	1

**General Chemistry - Soluble**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.9		0.1	0.1	SU			11/16/18 17:22	1

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-EB01-20181113**

**Lab Sample ID: 490-163316-9**

**Date Collected: 11/13/18 16:44**

**Matrix: Water**

**Date Received: 11/15/18 09:00**

### Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.277	J B	1.00	0.200	mg/L			11/29/18 08:49	1
Fluoride	ND		0.100	0.0100	mg/L			11/29/18 08:49	1
Sulfate	0.190	J	1.00	0.0300	mg/L			11/29/18 08:49	1

### Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000600	0.000300	mg/L		11/27/18 14:05	11/27/18 19:46	1

### Method: EPA 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/07/18 13:06	12/08/18 10:28	1
Arsenic	ND		0.00100	0.000323	mg/L		12/07/18 13:06	12/08/18 10:28	1
Barium	ND		0.0100	0.000373	mg/L		12/07/18 13:06	12/08/18 10:28	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/07/18 13:06	12/08/18 10:28	1
Boron	ND		0.0800	0.0303	mg/L		12/07/18 13:06	12/08/18 10:28	1
Cadmium	ND		0.00100	0.000125	mg/L		12/07/18 13:06	12/08/18 10:28	1
Calcium	0.139	J	0.500	0.116	mg/L		12/07/18 13:06	12/08/18 10:28	1
Chromium	0.00109	J	0.00200	0.000631	mg/L		12/07/18 13:06	12/08/18 10:28	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/07/18 13:06	12/08/18 10:28	1
Copper	ND		0.00200	0.00130	mg/L		12/07/18 13:06	12/08/18 10:28	1
Iron	0.121		0.0500	0.0141	mg/L		12/07/18 13:06	12/08/18 10:28	1
Lead	ND		0.00100	0.0000940	mg/L		12/07/18 13:06	12/08/18 10:28	1
Lithium	ND		0.00500	0.00256	mg/L		12/07/18 13:06	12/08/18 10:28	1
Manganese	ND		0.00500	0.00135	mg/L		12/07/18 13:06	12/08/18 10:28	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/07/18 13:06	12/08/18 10:28	1
Nickel	ND		0.00100	0.000312	mg/L		12/07/18 13:06	12/08/18 10:28	1
Selenium	ND		0.00500	0.000813	mg/L		12/07/18 13:06	12/08/18 10:28	1
Silver	ND		0.00100	0.000121	mg/L		12/07/18 13:06	12/08/18 10:28	1
Sodium	ND		0.500	0.251	mg/L		12/07/18 13:06	12/08/18 10:28	1
Thallium	ND		0.00100	0.0000630	mg/L		12/07/18 13:06	12/08/18 10:28	1
Vanadium	ND		0.00100	0.000899	mg/L		12/07/18 13:06	12/08/18 10:28	1
Zinc	0.0115		0.00500	0.00242	mg/L		12/07/18 13:06	12/08/18 10:28	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	3.82		1.00	0.500	mg/L			11/21/18 13:05	1

TestAmerica Nashville

# Client Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-FB01-20181113**

**Lab Sample ID: 490-163316-10**

**Date Collected: 11/13/18 16:28**

**Matrix: Water**

**Date Received: 11/15/18 09:00**

### Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>0.224</b>	<b>J B</b>	1.00	0.200	mg/L			11/29/18 09:39	1
Fluoride	ND		0.100	0.0100	mg/L			11/29/18 09:39	1
Sulfate	ND		1.00	0.0300	mg/L			11/29/18 09:39	1

### Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		11/27/18 14:05	11/27/18 19:49	1

### Method: EPA 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/07/18 13:06	12/08/18 10:32	1
Arsenic	ND		0.00100	0.000323	mg/L		12/07/18 13:06	12/08/18 10:32	1
Barium	ND		0.0100	0.000373	mg/L		12/07/18 13:06	12/08/18 10:32	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/07/18 13:06	12/08/18 10:32	1
Boron	ND		0.0800	0.0303	mg/L		12/07/18 13:06	12/08/18 10:32	1
Cadmium	ND		0.00100	0.000125	mg/L		12/07/18 13:06	12/08/18 10:32	1
Calcium	ND		0.500	0.116	mg/L		12/07/18 13:06	12/08/18 10:32	1
<b>Chromium</b>	<b>0.00150</b>	<b>J</b>	0.00200	0.000631	mg/L		12/07/18 13:06	12/08/18 10:32	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/07/18 13:06	12/08/18 10:32	1
Copper	ND		0.00200	0.00130	mg/L		12/07/18 13:06	12/08/18 10:32	1
Iron	ND		0.0500	0.0141	mg/L		12/07/18 13:06	12/08/18 10:32	1
Lead	ND		0.00100	0.0000940	mg/L		12/07/18 13:06	12/08/18 10:32	1
Lithium	ND		0.00500	0.00256	mg/L		12/07/18 13:06	12/08/18 10:32	1
Manganese	ND		0.00500	0.00135	mg/L		12/07/18 13:06	12/08/18 10:32	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/07/18 13:06	12/08/18 10:32	1
Nickel	ND		0.00100	0.000312	mg/L		12/07/18 13:06	12/08/18 10:32	1
Selenium	ND		0.00500	0.000813	mg/L		12/07/18 13:06	12/08/18 10:32	1
Silver	ND		0.00100	0.000121	mg/L		12/07/18 13:06	12/08/18 10:32	1
Sodium	ND		0.500	0.251	mg/L		12/07/18 13:06	12/08/18 10:32	1
Thallium	ND		0.00100	0.0000630	mg/L		12/07/18 13:06	12/08/18 10:32	1
<b>Vanadium</b>	<b>0.000957</b>	<b>J</b>	0.00100	0.000899	mg/L		12/07/18 13:06	12/08/18 10:32	1
Zinc	ND		0.00500	0.00242	mg/L		12/07/18 13:06	12/08/18 10:32	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Total Organic Carbon</b>	<b>1.38</b>		1.00	0.500	mg/L			11/21/18 13:23	1

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 490-560206/3**  
**Matrix: Water**  
**Analysis Batch: 560206**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.2438	J	1.00	0.200	mg/L			11/29/18 05:46	1
Fluoride	ND		0.100	0.0100	mg/L			11/29/18 05:46	1
Sulfate	ND		1.00	0.0300	mg/L			11/29/18 05:46	1

**Lab Sample ID: LCS 490-560206/4**  
**Matrix: Water**  
**Analysis Batch: 560206**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.548		mg/L		95	80 - 120
Fluoride	1.00	0.9490		mg/L		95	80 - 120
Sulfate	10.0	9.731		mg/L		97	80 - 120

**Lab Sample ID: LCSD 490-560206/5**  
**Matrix: Water**  
**Analysis Batch: 560206**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.664		mg/L		97	80 - 120	1	20
Fluoride	1.00	0.9529		mg/L		95	80 - 120	0	20
Sulfate	10.0	9.751		mg/L		97	80 - 120	0	20

**Lab Sample ID: 490-163316-9 MS**  
**Matrix: Water**  
**Analysis Batch: 560206**

**Client Sample ID: KIF-CCR-EB01-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	0.277	J B	10.0	11.07		mg/L		108	80 - 120
Fluoride	ND		1.00	1.095		mg/L		109	80 - 120
Sulfate	0.190	J	10.0	11.21		mg/L		110	80 - 120

**Lab Sample ID: 490-163316-9 MSD**  
**Matrix: Water**  
**Analysis Batch: 560206**

**Client Sample ID: KIF-CCR-EB01-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	0.277	J B	10.0	9.626		mg/L		93	80 - 120	14	20
Fluoride	ND		1.00	0.9593		mg/L		96	80 - 120	13	20
Sulfate	0.190	J	10.0	9.776		mg/L		96	80 - 120	14	20

**Lab Sample ID: MB 490-557965/1-A**  
**Matrix: Solid**  
**Analysis Batch: 558035**

**Client Sample ID: Method Blank**  
**Prep Type: Soluble**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.348	J	9.91	6.94	mg/Kg			11/17/18 00:45	1
Fluoride	ND		0.991	0.793	mg/Kg			11/17/18 00:45	1
Sulfate	ND		9.91	5.95	mg/Kg			11/17/18 00:45	1

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 9056A - Anions, Ion Chromatography (Continued)

**Lab Sample ID: LCS 490-557965/2-A**  
**Matrix: Solid**  
**Analysis Batch: 558035**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Soluble**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	99.6	89.67		mg/Kg		90	80 - 120
Fluoride	9.96	8.946		mg/Kg		90	80 - 120
Sulfate	99.7	90.19		mg/Kg		90	80 - 120

**Lab Sample ID: LCSD 490-557965/3-A**  
**Matrix: Solid**  
**Analysis Batch: 558035**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Soluble**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	99.8	89.50		mg/Kg		90	80 - 120	0	20
Fluoride	9.98	9.008		mg/Kg		90	80 - 120	1	20
Sulfate	99.9	90.59		mg/Kg		91	80 - 120	0	20

**Lab Sample ID: 490-163316-2MS**  
**Matrix: Solid**  
**Analysis Batch: 558035**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Soluble**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		114	102.1		mg/Kg	☼	90	80 - 120
Fluoride	1.65	F2 F1	11.4	8.444	F1	mg/Kg	☼	60	80 - 120
Sulfate	254	F2 E F1	114	330.4	E F1	mg/Kg	☼	67	80 - 120

**Lab Sample ID: 490-163316-2MSD**  
**Matrix: Solid**  
**Analysis Batch: 558035**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Soluble**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		115	102.5		mg/Kg	☼	89	80 - 120	0	20
Fluoride	1.65	F2 F1	11.5	6.507	F2 F1	mg/Kg	☼	42	80 - 120	26	20
Sulfate	254	F2 E F1	115	544.9	E F1 F2	mg/Kg	☼	253	80 - 120	49	20

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 490-559723/1-A**  
**Matrix: Solid**  
**Analysis Batch: 560102**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 559723**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 17:55	1

**Lab Sample ID: LCS 490-559723/2-A**  
**Matrix: Solid**  
**Analysis Batch: 560102**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 559723**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.022		ug/L		101	80 - 120

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 7470A - Mercury (CVAA) (Continued)

**Lab Sample ID: MB 490-559984/1-A**  
**Matrix: Water**  
**Analysis Batch: 560102**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 559984**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000100	mg/L		11/27/18 14:05	11/27/18 19:10	1

**Lab Sample ID: LCS 490-559984/2-A**  
**Matrix: Water**  
**Analysis Batch: 560102**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 559984**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00100	0.001053		mg/L		105	80 - 120

**Lab Sample ID: 490-163776-D-3-C MS**  
**Matrix: Water**  
**Analysis Batch: 560102**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 559984**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00100	0.0009646		mg/L		96	75 - 125

**Lab Sample ID: 490-163776-D-3-D MSD**  
**Matrix: Water**  
**Analysis Batch: 560102**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 559984**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00100	0.0009195		mg/L		92	75 - 125	5	20

**Lab Sample ID: LB 490-559413/1-C**  
**Matrix: Solid**  
**Analysis Batch: 560102**

**Client Sample ID: Method Blank**  
**Prep Type: SPLP East**  
**Prep Batch: 559723**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.100	ug/L		11/26/18 14:20	11/27/18 18:00	1

**Lab Sample ID: 490-163316-2MS**  
**Matrix: Solid**  
**Analysis Batch: 560102**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: SPLP East**  
**Prep Batch: 559723**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		2.00	1.988		ug/L		99	75 - 125

**Lab Sample ID: 490-163316-2MSD**  
**Matrix: Solid**  
**Analysis Batch: 560102**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: SPLP East**  
**Prep Batch: 559723**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		2.00	2.011		ug/L		101	75 - 125	1	20

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 7471B - Mercury (CVAA)

**Lab Sample ID: MB 490-561293/1-A**  
**Matrix: Solid**  
**Analysis Batch: 561648**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 561293**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0988	0.0297	mg/Kg		12/04/18 11:52	12/05/18 10:56	1

**Lab Sample ID: LCS 490-561293/2-A**  
**Matrix: Solid**  
**Analysis Batch: 561648**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 561293**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.166	0.1774		mg/Kg		107	80 - 120

**Lab Sample ID: 490-163316-2MS**  
**Matrix: Solid**  
**Analysis Batch: 561648**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Total/NA**  
**Prep Batch: 561293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.175		0.190	0.3837		mg/Kg	☼	110	80 - 120

**Lab Sample ID: 490-163316-2MSD**  
**Matrix: Solid**  
**Analysis Batch: 561648**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Total/NA**  
**Prep Batch: 561293**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.175		0.194	0.3792		mg/Kg	☼	105	80 - 120	1	20

## Method: EPA 6020A - Metals (ICP/MS)

**Lab Sample ID: MB 180-265057/1-A**  
**Matrix: Solid**  
**Analysis Batch: 265382**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 265057**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.200	0.0620	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Arsenic	ND		0.100	0.0260	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Barium	ND		1.00	0.0570	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Beryllium	ND		0.100	0.00750	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Boron	ND		8.00	0.763	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Cadmium	ND		0.100	0.0170	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Calcium	ND		50.0	8.95	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Chromium	ND		0.200	0.0660	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Cobalt	ND		0.0500	0.00830	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Copper	0.1236	J	0.200	0.113	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Iron	ND		5.00	2.46	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Lead	ND		0.100	0.0350	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Lithium	ND		0.500	0.276	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Manganese	ND		0.500	0.160	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Molybdenum	0.4151	J	0.500	0.0620	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Nickel	ND		0.100	0.0610	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Selenium	ND		0.500	0.0600	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Silver	ND		0.100	0.0140	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Thallium	ND		0.100	0.0130	mg/Kg		12/10/18 07:08	12/11/18 19:08	1

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 180-265057/1-A**  
**Matrix: Solid**  
**Analysis Batch: 265382**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 265057**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	ND		0.100	0.0610	mg/Kg		12/10/18 07:08	12/11/18 19:08	1
Zinc	ND		0.500	0.334	mg/Kg		12/10/18 07:08	12/11/18 19:08	1

**Lab Sample ID: LCS 180-265057/2-A**  
**Matrix: Solid**  
**Analysis Batch: 265382**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 265057**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	50.0	47.99		mg/Kg		96	80 - 120
Arsenic	4.00	3.718		mg/Kg		93	80 - 120
Barium	200	191.3		mg/Kg		96	80 - 120
Beryllium	5.00	5.452		mg/Kg		109	80 - 120
Boron	100	104.1		mg/Kg		104	80 - 120
Cadmium	5.00	5.083		mg/Kg		102	80 - 120
Calcium	5000	4881		mg/Kg		98	80 - 120
Chromium	20.0	21.28		mg/Kg		106	80 - 120
Cobalt	50.0	52.80		mg/Kg		106	80 - 120
Copper	25.0	27.23		mg/Kg		109	80 - 120
Iron	100	100.7		mg/Kg		101	80 - 120
Lead	2.00	1.994		mg/Kg		100	80 - 120
Lithium	5.00	4.801		mg/Kg		96	80 - 120
Manganese	50.0	53.68		mg/Kg		107	80 - 120
Molybdenum	100	105.5		mg/Kg		106	80 - 120
Nickel	50.0	49.48		mg/Kg		99	80 - 120
Selenium	1.00	0.9673		mg/Kg		97	80 - 120
Silver	5.00	5.298		mg/Kg		106	80 - 120
Thallium	5.00	4.068		mg/Kg		81	80 - 120
Vanadium	50.0	50.92		mg/Kg		102	80 - 120
Zinc	50.0	47.41		mg/Kg		95	80 - 120

**Lab Sample ID: 490-163316-2 MS**  
**Matrix: Solid**  
**Analysis Batch: 265382**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Total/NA**  
**Prep Batch: 265057**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	0.225	J	62.2	49.81		mg/Kg	☼	80	75 - 125
Arsenic	49.2		4.97	35.98	4	mg/Kg	☼	-266	75 - 125
Barium	124		249	352.0		mg/Kg	☼	92	75 - 125
Beryllium	0.386		6.22	6.298		mg/Kg	☼	95	75 - 125
Boron	4.44	J	124	113.2		mg/Kg	☼	87	75 - 125
Cadmium	0.0707	J	6.22	5.869		mg/Kg	☼	93	75 - 125
Calcium	32600		6220	34200	4	mg/Kg	☼	26	75 - 125
Chromium	12.9		24.9	39.41		mg/Kg	☼	107	75 - 125
Cobalt	5.00		62.2	59.27		mg/Kg	☼	87	75 - 125
Copper	12.3	B	31.1	39.32		mg/Kg	☼	87	75 - 125
Iron	35400		124	31270	4	mg/Kg	☼	-3293	75 - 125
Lead	11.2		2.49	17.33	4	mg/Kg	☼	247	75 - 125
Lithium	9.10	F1	6.22	16.33		mg/Kg	☼	116	75 - 125
Manganese	216	F1	62.2	228.7	F1	mg/Kg	☼	20	75 - 125

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: 490-163316-2 MS**

**Matrix: Solid**

**Analysis Batch: 265382**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**

**Prep Type: Total/NA**

**Prep Batch: 265057**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Molybdenum	3.32	B	124	127.6		mg/Kg	☼	100	75 - 125
Nickel	10.5		62.2	61.88		mg/Kg	☼	83	75 - 125
Selenium	2.78	F1	1.24	3.102	F1	mg/Kg	☼	26	75 - 125
Silver	0.0278	J	6.22	6.107		mg/Kg	☼	98	75 - 125
Thallium	1.29	F1	6.22	5.503	F1	mg/Kg	☼	68	75 - 125
Vanadium	21.3		62.2	74.12		mg/Kg	☼	85	75 - 125
Zinc	17.6		62.2	68.34		mg/Kg	☼	82	75 - 125

**Lab Sample ID: 490-163316-2 MSD**

**Matrix: Solid**

**Analysis Batch: 265382**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**

**Prep Type: Total/NA**

**Prep Batch: 265057**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Antimony	0.225	J	59.0	47.92		mg/Kg	☼	81	75 - 125	4	20
Arsenic	49.2		4.72	37.96	4	mg/Kg	☼	-239	75 - 125	5	20
Barium	124		236	342.5		mg/Kg	☼	93	75 - 125	3	20
Beryllium	0.386		5.90	6.008		mg/Kg	☼	95	75 - 125	5	20
Boron	4.44	J	118	107.5		mg/Kg	☼	87	75 - 125	5	20
Cadmium	0.0707	J	5.90	5.474		mg/Kg	☼	92	75 - 125	7	20
Calcium	32600		5900	24140	4	mg/Kg	☼	-143	75 - 125	34	20
Chromium	12.9		23.6	33.00		mg/Kg	☼	85	75 - 125	18	20
Cobalt	5.00		59.0	56.20		mg/Kg	☼	87	75 - 125	5	20
Copper	12.3	B	29.5	40.83		mg/Kg	☼	97	75 - 125	4	20
Iron	35400		118	30090	4	mg/Kg	☼	-4472	75 - 125	4	20
Lead	11.2		2.36	12.37	4	mg/Kg	☼	50	75 - 125	33	20
Lithium	9.10	F1	5.90	17.04	F1	mg/Kg	☼	135	75 - 125	4	20
Manganese	216	F1	59.0	187.7	F1	mg/Kg	☼	-48	75 - 125	20	20
Molybdenum	3.32	B	118	121.5		mg/Kg	☼	100	75 - 125	5	20
Nickel	10.5		59.0	58.49		mg/Kg	☼	81	75 - 125	6	20
Selenium	2.78	F1	1.18	3.060	F1	mg/Kg	☼	24	75 - 125	1	20
Silver	0.0278	J	5.90	5.749		mg/Kg	☼	97	75 - 125	6	20
Thallium	1.29	F1	5.90	5.947		mg/Kg	☼	79	75 - 125	8	20
Vanadium	21.3		59.0	70.16		mg/Kg	☼	83	75 - 125	5	20
Zinc	17.6		59.0	62.24		mg/Kg	☼	76	75 - 125	9	20

**Lab Sample ID: LB 180-559413/1-A**

**Matrix: Solid**

**Analysis Batch: 265943**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 265760**

Analyte	LB	LB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:36	1
Arsenic	ND		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:36	1
Barium	ND		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:36	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:36	1
Boron	ND		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:36	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:36	1
Calcium	ND		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:36	1
Chromium	ND		0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:36	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:36	1

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LB 180-559413/1-A**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 265760**

Analyte	LB	LB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:36	1
Iron	ND		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:36	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:36	1
Lithium	ND		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:36	1
Manganese	ND		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:36	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:36	1
Nickel	ND		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:36	1
Selenium	ND		0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:36	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:36	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:36	1
Vanadium	ND		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:36	1
Zinc	ND		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:36	1

**Lab Sample ID: MB 180-265760/1-A**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 265760**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		0.00200	0.00112	mg/L		12/17/18 12:18	12/18/18 13:06	1
Arsenic	ND		0.00100	0.000323	mg/L		12/17/18 12:18	12/18/18 13:06	1
Barium	ND		0.0100	0.000373	mg/L		12/17/18 12:18	12/18/18 13:06	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/17/18 12:18	12/18/18 13:06	1
Boron	ND		0.0800	0.0303	mg/L		12/17/18 12:18	12/18/18 13:06	1
Cadmium	ND		0.00100	0.000125	mg/L		12/17/18 12:18	12/18/18 13:06	1
Calcium	ND		0.500	0.116	mg/L		12/17/18 12:18	12/18/18 13:06	1
Chromium	ND		0.00200	0.000631	mg/L		12/17/18 12:18	12/18/18 13:06	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/17/18 12:18	12/18/18 13:06	1
Copper	ND		0.00200	0.00130	mg/L		12/17/18 12:18	12/18/18 13:06	1
Iron	ND		0.0500	0.0141	mg/L		12/17/18 12:18	12/18/18 13:06	1
Lead	ND		0.00100	0.0000940	mg/L		12/17/18 12:18	12/18/18 13:06	1
Lithium	ND		0.00500	0.00256	mg/L		12/17/18 12:18	12/18/18 13:06	1
Manganese	ND		0.00500	0.00135	mg/L		12/17/18 12:18	12/18/18 13:06	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/17/18 12:18	12/18/18 13:06	1
Nickel	ND		0.00100	0.000312	mg/L		12/17/18 12:18	12/18/18 13:06	1
Selenium	ND		0.00500	0.000813	mg/L		12/17/18 12:18	12/18/18 13:06	1
Silver	ND		0.00100	0.000121	mg/L		12/17/18 12:18	12/18/18 13:06	1
Thallium	ND		0.00100	0.0000630	mg/L		12/17/18 12:18	12/18/18 13:06	1
Vanadium	ND		0.00100	0.000899	mg/L		12/17/18 12:18	12/18/18 13:06	1
Zinc	ND		0.00500	0.00242	mg/L		12/17/18 12:18	12/18/18 13:06	1

**Lab Sample ID: LCS 180-265760/2-A**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 265760**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier					
Antimony	0.500	0.5237		mg/L		105		80 - 120
Arsenic	0.0400	0.03791		mg/L		95		80 - 120
Barium	2.00	2.132		mg/L		107		80 - 120
Beryllium	0.0500	0.05052		mg/L		101		80 - 120

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-265760/2-A**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 265760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.001		mg/L		100	80 - 120
Cadmium	0.0500	0.05484		mg/L		110	80 - 120
Calcium	50.0	51.28		mg/L		103	80 - 120
Chromium	0.200	0.2193		mg/L		110	80 - 120
Cobalt	0.500	0.4719		mg/L		94	80 - 120
Copper	0.250	0.2514		mg/L		101	80 - 120
Iron	1.00	1.120		mg/L		112	80 - 120
Lead	0.0200	0.02147		mg/L		107	80 - 120
Lithium	0.0500	0.04925		mg/L		99	80 - 120
Manganese	0.500	0.5350		mg/L		107	80 - 120
Molybdenum	1.00	1.039		mg/L		104	80 - 120
Nickel	0.500	0.4765		mg/L		95	80 - 120
Selenium	0.0100	0.009202		mg/L		92	80 - 120
Silver	0.0500	0.05295		mg/L		106	80 - 120
Thallium	0.0500	0.05384		mg/L		108	80 - 120
Vanadium	0.500	0.5318		mg/L		106	80 - 120
Zinc	0.500	0.4785		mg/L		96	80 - 120

**Lab Sample ID: MB 180-264922/1-A**  
**Matrix: Water**  
**Analysis Batch: 265014**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 264922**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		12/07/18 13:06	12/08/18 09:48	1
Arsenic	ND		0.00100	0.000323	mg/L		12/07/18 13:06	12/08/18 09:48	1
Barium	ND		0.0100	0.000373	mg/L		12/07/18 13:06	12/08/18 09:48	1
Beryllium	ND		0.00100	0.0000570	mg/L		12/07/18 13:06	12/08/18 09:48	1
Boron	ND		0.0800	0.0303	mg/L		12/07/18 13:06	12/08/18 09:48	1
Cadmium	ND		0.00100	0.000125	mg/L		12/07/18 13:06	12/08/18 09:48	1
Calcium	ND		0.500	0.116	mg/L		12/07/18 13:06	12/08/18 09:48	1
Chromium	ND		0.00200	0.000631	mg/L		12/07/18 13:06	12/08/18 09:48	1
Cobalt	ND		0.000500	0.0000750	mg/L		12/07/18 13:06	12/08/18 09:48	1
Copper	ND		0.00200	0.00130	mg/L		12/07/18 13:06	12/08/18 09:48	1
Iron	ND		0.0500	0.0141	mg/L		12/07/18 13:06	12/08/18 09:48	1
Lead	ND		0.00100	0.0000940	mg/L		12/07/18 13:06	12/08/18 09:48	1
Lithium	ND		0.00500	0.00256	mg/L		12/07/18 13:06	12/08/18 09:48	1
Manganese	ND		0.00500	0.00135	mg/L		12/07/18 13:06	12/08/18 09:48	1
Molybdenum	ND		0.00500	0.000474	mg/L		12/07/18 13:06	12/08/18 09:48	1
Nickel	ND		0.00100	0.000312	mg/L		12/07/18 13:06	12/08/18 09:48	1
Selenium	ND		0.00500	0.000813	mg/L		12/07/18 13:06	12/08/18 09:48	1
Silver	ND		0.00100	0.000121	mg/L		12/07/18 13:06	12/08/18 09:48	1
Sodium	ND		0.500	0.251	mg/L		12/07/18 13:06	12/08/18 09:48	1
Thallium	ND		0.00100	0.0000630	mg/L		12/07/18 13:06	12/08/18 09:48	1
Vanadium	ND		0.00100	0.000899	mg/L		12/07/18 13:06	12/08/18 09:48	1
Zinc	ND		0.00500	0.00242	mg/L		12/07/18 13:06	12/08/18 09:48	1

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 180-264922/2-A**  
**Matrix: Water**  
**Analysis Batch: 265014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 264922**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.500	0.5171		mg/L		103	80 - 120
Arsenic	0.0400	0.03826		mg/L		96	80 - 120
Barium	2.00	2.079		mg/L		104	80 - 120
Beryllium	0.0500	0.05001		mg/L		100	80 - 120
Boron	1.00	0.9654		mg/L		97	80 - 120
Cadmium	0.0500	0.05171		mg/L		103	80 - 120
Calcium	50.0	51.82		mg/L		104	80 - 120
Chromium	0.200	0.2054		mg/L		103	80 - 120
Cobalt	0.500	0.4567		mg/L		91	80 - 120
Copper	0.250	0.2400		mg/L		96	80 - 120
Iron	1.00	1.018		mg/L		102	80 - 120
Lead	0.0200	0.01987		mg/L		99	80 - 120
Lithium	0.0500	0.04765		mg/L		95	80 - 120
Manganese	0.500	0.5041		mg/L		101	80 - 120
Molybdenum	1.00	1.022		mg/L		102	80 - 120
Nickel	0.500	0.4666		mg/L		93	80 - 120
Selenium	0.0100	0.009088		mg/L		91	80 - 120
Silver	0.0500	0.04978		mg/L		100	80 - 120
Sodium	50.0	50.09		mg/L		100	80 - 120
Thallium	0.0500	0.04937		mg/L		99	80 - 120
Vanadium	0.500	0.4620		mg/L		92	80 - 120
Zinc	0.500	0.4742		mg/L		95	80 - 120

**Lab Sample ID: LCSD 180-264922/3-A**  
**Matrix: Water**  
**Analysis Batch: 265014**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 264922**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	0.500	0.5143		mg/L		103	80 - 120	1	20
Arsenic	0.0400	0.03919		mg/L		98	80 - 120	2	20
Barium	2.00	2.074		mg/L		104	80 - 120	0	20
Beryllium	0.0500	0.04831		mg/L		97	80 - 120	3	20
Boron	1.00	0.9375		mg/L		94	80 - 120	3	20
Cadmium	0.0500	0.05094		mg/L		102	80 - 120	2	20
Calcium	50.0	52.06		mg/L		104	80 - 120	0	20
Chromium	0.200	0.2019		mg/L		101	80 - 120	2	20
Cobalt	0.500	0.4676		mg/L		94	80 - 120	2	20
Copper	0.250	0.2404		mg/L		96	80 - 120	0	20
Iron	1.00	1.006		mg/L		101	80 - 120	1	20
Lead	0.0200	0.02003		mg/L		100	80 - 120	1	20
Lithium	0.0500	0.04735		mg/L		95	80 - 120	1	20
Manganese	0.500	0.5050		mg/L		101	80 - 120	0	20
Molybdenum	1.00	1.028		mg/L		103	80 - 120	1	20
Nickel	0.500	0.4750		mg/L		95	80 - 120	2	20
Selenium	0.0100	0.009722		mg/L		97	80 - 120	7	20
Silver	0.0500	0.05046		mg/L		101	80 - 120	1	20
Sodium	50.0	50.50		mg/L		101	80 - 120	1	20
Thallium	0.0500	0.04955		mg/L		99	80 - 120	0	20

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 180-264922/3-A**  
**Matrix: Water**  
**Analysis Batch: 265014**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Vanadium	0.500	0.4685		mg/L		94	80 - 120	1	20	
Zinc	0.500	0.4846		mg/L		97	80 - 120	2	20	

**Prep Batch: 264922**

**Lab Sample ID: 490-163316-2 MS**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: SPLP East**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
									Limits	RPD		
Antimony	ND		0.500	0.5282		mg/L		106	75 - 125			
Arsenic	0.000438	J	0.0400	0.03907		mg/L		97	75 - 125			
Barium	0.0236		2.00	2.152		mg/L		106	75 - 125			
Beryllium	ND		0.0500	0.05238		mg/L		105	75 - 125			
Boron	0.0429	J	1.00	1.053		mg/L		101	75 - 125			
Cadmium	ND		0.0500	0.05589		mg/L		112	75 - 125			
Calcium	32.9		50.0	85.72		mg/L		106	75 - 125			
Chromium	0.00124	J	0.200	0.2286		mg/L		114	75 - 125			
Cobalt	ND		0.500	0.4829		mg/L		97	75 - 125			
Copper	ND		0.250	0.2563		mg/L		103	75 - 125			
Iron	0.0157	J	1.00	1.156		mg/L		114	75 - 125			
Lead	ND		0.0200	0.02206		mg/L		110	75 - 125			
Lithium	ND		0.0500	0.05124		mg/L		102	75 - 125			
Manganese	0.00288	J	0.500	0.5592		mg/L		111	75 - 125			
Molybdenum	0.00134	J	1.00	1.076		mg/L		107	75 - 125			
Nickel	ND		0.500	0.4861		mg/L		97	75 - 125			
Selenium	0.00114	J	0.0100	0.01116		mg/L		100	75 - 125			
Silver	ND		0.0500	0.05431		mg/L		109	75 - 125			
Thallium	ND		0.0500	0.05468		mg/L		109	75 - 125			
Vanadium	0.000926	J	0.500	0.5513		mg/L		110	75 - 125			
Zinc	0.00366	J	0.500	0.4868		mg/L		97	75 - 125			

**Prep Batch: 265760**

**Lab Sample ID: 490-163316-2 MSD**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: SPLP East**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
									Limits	RPD		
Antimony	ND		0.500	0.5314		mg/L		106	75 - 125	1	20	
Arsenic	0.000438	J	0.0400	0.03752		mg/L		93	75 - 125	4	20	
Barium	0.0236		2.00	2.151		mg/L		106	75 - 125	0	20	
Beryllium	ND		0.0500	0.05131		mg/L		103	75 - 125	2	20	
Boron	0.0429	J	1.00	1.057		mg/L		101	75 - 125	0	20	
Cadmium	ND		0.0500	0.05413		mg/L		108	75 - 125	3	20	
Calcium	32.9		50.0	85.31		mg/L		105	75 - 125	0	20	
Chromium	0.00124	J	0.200	0.2217		mg/L		110	75 - 125	3	20	
Cobalt	ND		0.500	0.4587		mg/L		92	75 - 125	5	20	
Copper	ND		0.250	0.2442		mg/L		98	75 - 125	5	20	
Iron	0.0157	J	1.00	1.122		mg/L		111	75 - 125	3	20	
Lead	ND		0.0200	0.02126		mg/L		106	75 - 125	4	20	
Lithium	ND		0.0500	0.05265		mg/L		105	75 - 125	3	20	
Manganese	0.00288	J	0.500	0.5408		mg/L		108	75 - 125	3	20	

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: EPA 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: 490-163316-2 MSD**  
**Matrix: Solid**  
**Analysis Batch: 265943**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: SPLP East**  
**Prep Batch: 265760**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Molybdenum	0.00134	J	1.00	1.058		mg/L		106	75 - 125	2	20
Nickel	ND		0.500	0.4652		mg/L		93	75 - 125	4	20
Selenium	0.00114	J	0.0100	0.01053		mg/L		94	75 - 125	6	20
Silver	ND		0.0500	0.05229		mg/L		105	75 - 125	4	20
Thallium	ND		0.0500	0.05342		mg/L		107	75 - 125	2	20
Vanadium	0.000926	J	0.500	0.5380		mg/L		107	75 - 125	2	20
Zinc	0.00366	J	0.500	0.4604		mg/L		91	75 - 125	6	20

## Method: 9045D - pH

**Lab Sample ID: LCS 490-558052/1**  
**Matrix: Solid**  
**Analysis Batch: 558052**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
pH	7.00	7.1		SU		101	98 - 103

**Lab Sample ID: LCS 490-558059/1**  
**Matrix: Solid**  
**Analysis Batch: 558059**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
pH	7.00	7.1		SU		101	98 - 103

**Lab Sample ID: 490-163117-K-1-G DU**  
**Matrix: Solid**  
**Analysis Batch: 558052**

**Client Sample ID: Duplicate**  
**Prep Type: Soluble**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
pH	8.1		8.1		SU		0	20

**Lab Sample ID: 490-163316-7 DU**  
**Matrix: Solid**  
**Analysis Batch: 558059**

**Client Sample ID: KIF-CCR-TW05-31.5/33.5-20181113**  
**Prep Type: Soluble**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
pH	7.5		7.5		SU		0	20

## Method: 9060A - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 490-559271/3**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	ND		1.00	0.500	mg/L			11/21/18 05:56	1

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 9060A - Organic Carbon, Total (TOC) (Continued)

**Lab Sample ID: LCS 490-559271/6**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.69		mg/L		107	90 - 110

**Lab Sample ID: 490-163289-A-6 MS**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.04		20.0	21.46		mg/L		102	75 - 122

**Lab Sample ID: 490-163289-A-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.04		20.0	22.38		mg/L		107	75 - 122	4	20

**Lab Sample ID: 490-163316-10 MS**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: KIF-CCR-FB01-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.38		20.0	22.25		mg/L		104	75 - 122

**Lab Sample ID: 490-163316-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 559271**

**Client Sample ID: KIF-CCR-FB01-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.38		20.0	21.68		mg/L		102	75 - 122	3	20

**Lab Sample ID: MB 490-559568/4**  
**Matrix: Solid**  
**Analysis Batch: 559568**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	639.7	J	1000	600	mg/Kg			11/25/18 07:32	1

**Lab Sample ID: LCS 490-559568/2**  
**Matrix: Solid**  
**Analysis Batch: 559568**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	44000	46890		mg/Kg		107	80 - 120

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: 9060A - Organic Carbon, Total (TOC) (Continued)

**Lab Sample ID: LCSD 490-559568/3**  
**Matrix: Solid**  
**Analysis Batch: 559568**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	44000	44040		mg/Kg		100	80 - 120	6	20

**Lab Sample ID: 490-163316-2 DU**  
**Matrix: Solid**  
**Analysis Batch: 559568**

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	15400	B ^	16510		mg/Kg		7	20

**Lab Sample ID: 550-113610-A-1 DU**  
**Matrix: Solid**  
**Analysis Batch: 559568**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	831	J B ^	816.6	J	mg/Kg		2	20

**Lab Sample ID: MB 490-560165/3**  
**Matrix: Solid**  
**Analysis Batch: 560165**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	687.6	J	1000	600	mg/Kg			11/28/18 11:24	1

**Lab Sample ID: LCS 490-560165/2**  
**Matrix: Solid**  
**Analysis Batch: 560165**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	29900	34750		mg/Kg		116	80 - 120		

**Lab Sample ID: 490-163316-3 DU**  
**Matrix: Solid**  
**Analysis Batch: 560165**

**Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	16100	B ^	14960		mg/Kg		8	20

## Method: Moisture - Percent Moisture

**Lab Sample ID: 490-163316-3 DU**  
**Matrix: Solid**  
**Analysis Batch: 558480**

**Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	5.7		8.3	F3	%		37	20

TestAmerica Nashville

# QC Sample Results

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 490-163316-3 DU

Matrix: Solid

Analysis Batch: 558480

Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	94.3		91.7		%		3	20

1

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# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## HPLC/IC

### Leach Batch: 557965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Soluble	Solid	DI Leach	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Soluble	Solid	DI Leach	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Soluble	Solid	DI Leach	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Soluble	Solid	DI Leach	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Soluble	Solid	DI Leach	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	DI Leach	
490-163316-8	KIF-CCR-DUP01-20181113	Soluble	Solid	DI Leach	
MB 490-557965/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 490-557965/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 490-557965/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	

### Analysis Batch: 558035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Soluble	Solid	9056A	557965
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9056A	557965
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Soluble	Solid	9056A	557965
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Soluble	Solid	9056A	557965
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Soluble	Solid	9056A	557965
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Soluble	Solid	9056A	557965
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	9056A	557965
490-163316-8	KIF-CCR-DUP01-20181113	Soluble	Solid	9056A	557965
MB 490-557965/1-A	Method Blank	Soluble	Solid	9056A	557965
LCS 490-557965/2-A	Lab Control Sample	Soluble	Solid	9056A	557965
LCSD 490-557965/3-A	Lab Control Sample Dup	Soluble	Solid	9056A	557965
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9056A	557965
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9056A	557965

### Analysis Batch: 558217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Soluble	Solid	9056A	557965
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9056A	557965
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Soluble	Solid	9056A	557965
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Soluble	Solid	9056A	557965
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Soluble	Solid	9056A	557965
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Soluble	Solid	9056A	557965
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	9056A	557965
490-163316-8	KIF-CCR-DUP01-20181113	Soluble	Solid	9056A	557965

### Analysis Batch: 560206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-9	KIF-CCR-EB01-20181113	Total/NA	Water	9056A	
490-163316-10	KIF-CCR-FB01-20181113	Total/NA	Water	9056A	
MB 490-560206/3	Method Blank	Total/NA	Water	9056A	
LCS 490-560206/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 490-560206/5	Lab Control Sample Dup	Total/NA	Water	9056A	
490-163316-9 MS	KIF-CCR-EB01-20181113	Total/NA	Water	9056A	
490-163316-9 MSD	KIF-CCR-EB01-20181113	Total/NA	Water	9056A	

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Metals

### Prep Batch: 264922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-9	KIF-CCR-EB01-20181113	Total Recoverable	Water	3005A	
490-163316-10	KIF-CCR-FB01-20181113	Total Recoverable	Water	3005A	
MB 180-264922/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-264922/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 180-264922/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

### Analysis Batch: 265014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-9	KIF-CCR-EB01-20181113	Total Recoverable	Water	EPA 6020A	264922
490-163316-10	KIF-CCR-FB01-20181113	Total Recoverable	Water	EPA 6020A	264922
MB 180-264922/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	264922
LCS 180-264922/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	264922
LCS 180-264922/3-A	Lab Control Sample Dup	Total Recoverable	Water	EPA 6020A	264922

### Prep Batch: 265057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	3050B	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	3050B	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	3050B	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	3050B	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	3050B	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	3050B	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	3050B	
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	3050B	
MB 180-265057/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-265057/2-A	Lab Control Sample	Total/NA	Solid	3050B	
490-163316-2 MS	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	3050B	
490-163316-2 MSD	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	3050B	

### Analysis Batch: 265382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	EPA 6020A	265057
MB 180-265057/1-A	Method Blank	Total/NA	Solid	EPA 6020A	265057
LCS 180-265057/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	265057
490-163316-2 MS	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	EPA 6020A	265057
490-163316-2 MSD	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	EPA 6020A	265057

### Leach Batch: 265611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	EPA 1312	

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Metals (Continued)

### Leach Batch: 265611 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	EPA 1312	
490-163316-2 MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 1312	
490-163316-2 MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 1312	

### Prep Batch: 265760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	3010A	265611
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	3010A	265611
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	3010A	265611
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	3010A	265611
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	3010A	265611
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	3010A	265611
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	3010A	265611
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	3010A	265611
LB 180-559413/1-A	Method Blank	Total/NA	Solid	3010A	
MB 180-265760/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-265760/2-A	Lab Control Sample	Total/NA	Solid	3010A	
490-163316-2 MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	3010A	265611
490-163316-2 MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	3010A	265611

### Analysis Batch: 265943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	EPA 6020A	265760
LB 180-559413/1-A	Method Blank	Total/NA	Solid	EPA 6020A	265760
MB 180-265760/1-A	Method Blank	Total/NA	Solid	EPA 6020A	265760
LCS 180-265760/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	265760
490-163316-2 MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 6020A	265760
490-163316-2 MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	EPA 6020A	265760

### Leach Batch: 559413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	1312	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	1312	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	1312	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	1312	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	1312	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	1312	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	1312	
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	1312	
LB 490-559413/1-C	Method Blank	SPLP East	Solid	1312	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	1312	
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	1312	

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Prep Batch: 559723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	7470A	559413
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559413
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	7470A	559413
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	7470A	559413
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	7470A	559413
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	7470A	559413
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	7470A	559413
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	7470A	559413
LB 490-559413/1-C	Method Blank	SPLP East	Solid	7470A	559413
MB 490-559723/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 490-559723/2-A	Lab Control Sample	Total/NA	Solid	7470A	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559413
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559413

## Prep Batch: 559984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-9	KIF-CCR-EB01-20181113	Total/NA	Water	7470A	
490-163316-10	KIF-CCR-FB01-20181113	Total/NA	Water	7470A	
MB 490-559984/1-A	Method Blank	Total/NA	Water	7470A	
LCS 490-559984/2-A	Lab Control Sample	Total/NA	Water	7470A	
490-163776-D-3-C MS	Matrix Spike	Total/NA	Water	7470A	
490-163776-D-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

## Analysis Batch: 560102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	SPLP East	Solid	7470A	559723
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559723
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	SPLP East	Solid	7470A	559723
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	SPLP East	Solid	7470A	559723
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	SPLP East	Solid	7470A	559723
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	SPLP East	Solid	7470A	559723
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	SPLP East	Solid	7470A	559723
490-163316-8	KIF-CCR-DUP01-20181113	SPLP East	Solid	7470A	559723
490-163316-9	KIF-CCR-EB01-20181113	Total/NA	Water	7470A	559984
490-163316-10	KIF-CCR-FB01-20181113	Total/NA	Water	7470A	559984
LB 490-559413/1-C	Method Blank	SPLP East	Solid	7470A	559723
MB 490-559723/1-A	Method Blank	Total/NA	Solid	7470A	559723
MB 490-559984/1-A	Method Blank	Total/NA	Water	7470A	559984
LCS 490-559723/2-A	Lab Control Sample	Total/NA	Solid	7470A	559723
LCS 490-559984/2-A	Lab Control Sample	Total/NA	Water	7470A	559984
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559723
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	SPLP East	Solid	7470A	559723
490-163776-D-3-C MS	Matrix Spike	Total/NA	Water	7470A	559984
490-163776-D-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	559984

## Prep Batch: 561293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	7471B	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	7471B	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	7471B	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	7471B	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	7471B	

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Metals (Continued)

### Prep Batch: 561293 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	7471B	
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	7471B	
MB 490-561293/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 490-561293/2-A	Lab Control Sample	Total/NA	Solid	7471B	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	

### Analysis Batch: 561648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	7471B	561293
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	561293
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	7471B	561293
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	7471B	561293
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	7471B	561293
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	7471B	561293
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	7471B	561293
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	7471B	561293
MB 490-561293/1-A	Method Blank	Total/NA	Solid	7471B	561293
LCS 490-561293/2-A	Lab Control Sample	Total/NA	Solid	7471B	561293
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	561293
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	7471B	561293

## General Chemistry

### Leach Batch: 558045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Soluble	Solid	DI Leach	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Soluble	Solid	DI Leach	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Soluble	Solid	DI Leach	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Soluble	Solid	DI Leach	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Soluble	Solid	DI Leach	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	DI Leach	
490-163316-8	KIF-CCR-DUP01-20181113	Soluble	Solid	DI Leach	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	DI Leach	
490-163117-K-1-G DU	Duplicate	Soluble	Solid	DI Leach	
490-163316-7 DU	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	DI Leach	

### Analysis Batch: 558052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Soluble	Solid	9045D	558045
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9045D	558045
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Soluble	Solid	9045D	558045
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Soluble	Solid	9045D	558045
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Soluble	Solid	9045D	558045
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Soluble	Solid	9045D	558045
LCS 490-558052/1	Lab Control Sample	Total/NA	Solid	9045D	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9045D	558045
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Soluble	Solid	9045D	558045

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## General Chemistry (Continued)

### Analysis Batch: 558052 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163117-K-1-G DU	Duplicate	Soluble	Solid	9045D	558045

### Analysis Batch: 558059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	9045D	558045
490-163316-8	KIF-CCR-DUP01-20181113	Soluble	Solid	9045D	558045
LCS 490-558059/1	Lab Control Sample	Total/NA	Solid	9045D	
490-163316-7 DU	KIF-CCR-TW05-31.5/33.5-20181113	Soluble	Solid	9045D	558045

### Analysis Batch: 558480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	Moisture	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	Moisture	
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	Moisture	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	Moisture	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	Moisture	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	Moisture	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	Moisture	
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	Moisture	
490-163316-2MS	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	Moisture	
490-163316-2MSD	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	Moisture	
490-163316-3 DU	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	Moisture	

### Analysis Batch: 559271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-9	KIF-CCR-EB01-20181113	Total/NA	Water	9060A	
490-163316-10	KIF-CCR-FB01-20181113	Total/NA	Water	9060A	
MB 490-559271/3	Method Blank	Total/NA	Water	9060A	
LCS 490-559271/6	Lab Control Sample	Total/NA	Water	9060A	
490-163289-A-6 MS	Matrix Spike	Total/NA	Water	9060A	
490-163289-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	9060A	
490-163316-10 MS	KIF-CCR-FB01-20181113	Total/NA	Water	9060A	
490-163316-10 MSD	KIF-CCR-FB01-20181113	Total/NA	Water	9060A	

### Analysis Batch: 559568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-1	KIF-CCR-TW05-1.5/3.5-20181113	Total/NA	Solid	9060A	
490-163316-2	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	9060A	
MB 490-559568/4	Method Blank	Total/NA	Solid	9060A	
LCS 490-559568/2	Lab Control Sample	Total/NA	Solid	9060A	
LCSD 490-559568/3	Lab Control Sample Dup	Total/NA	Solid	9060A	
490-163316-2 DU	KIF-CCR-TW05-6.5/8.5-20181113	Total/NA	Solid	9060A	
550-113610-A-1 DU	Duplicate	Total/NA	Solid	9060A	

### Analysis Batch: 560165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-3	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	9060A	
490-163316-4	KIF-CCR-TW05-16.5/19.5-20181113	Total/NA	Solid	9060A	
490-163316-5	KIF-CCR-TW05-22.5/24.5-20181113	Total/NA	Solid	9060A	
490-163316-6	KIF-CCR-TW05-26.5/28.5-20181113	Total/NA	Solid	9060A	
490-163316-7	KIF-CCR-TW05-31.5/33.5-20181113	Total/NA	Solid	9060A	

TestAmerica Nashville

# QC Association Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## General Chemistry (Continued)

### Analysis Batch: 560165 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-163316-8	KIF-CCR-DUP01-20181113	Total/NA	Solid	9060A	
MB 490-560165/3	Method Blank	Total/NA	Solid	9060A	
LCS 490-560165/2	Lab Control Sample	Total/NA	Solid	9060A	
490-163316-3 DU	KIF-CCR-TW05-11.5/13.5-20181113	Total/NA	Solid	9060A	

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# Lab Chronicle

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-1.5/3.5-20181113**

**Lab Sample ID: 490-163316-1**

**Date Collected: 11/13/18 11:30**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.9653 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 01:39	SW1	TAL NSH
Soluble	Leach	DI Leach			2.9653 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		10	10 mL	1.0 mL	558217	11/18/18 01:15	JHS	TAL NSH
SPLP East	Leach	1312			99.98 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:16	CSL	TAL NSH
Total/NA	Prep	7471B			0.613 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:01	CSL	TAL NSH
SPLP East	Leach	EPA 1312			99.98 g	2000 mL	265611	12/14/18 11:08	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 13:26	RSK	TAL PIT
Total/NA	Prep	3050B			0.98 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 19:38	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			559568	11/25/18 07:32	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

**Client Sample ID: KIF-CCR-TW05-6.5/8.5-20181113**

**Lab Sample ID: 490-163316-2**

**Date Collected: 11/13/18 12:16**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3.0051 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 01:57	SW1	TAL NSH
Soluble	Leach	DI Leach			3.0051 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		2	10 mL	1.0 mL	558217	11/18/18 01:32	JHS	TAL NSH
SPLP East	Leach	1312			99.98 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:03	CSL	TAL NSH
Total/NA	Prep	7471B			0.609 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:04	CSL	TAL NSH
SPLP East	Leach	EPA 1312			99.98 g	2000 mL	265611	12/14/18 11:08	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 13:30	RSK	TAL PIT
Total/NA	Prep	3050B			0.96 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 20:09	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			559568	11/25/18 07:32	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-11.5/13.5-20181113**

**Lab Sample ID: 490-163316-3**

**Date Collected: 11/13/18 12:59**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.9992 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 02:51	SW1	TAL NSH
Soluble	Leach	DI Leach			2.9992 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		10	10 mL	1.0 mL	558217	11/18/18 01:48	JHS	TAL NSH
SPLP East	Leach	1312			99.99 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:18	CSL	TAL NSH
Total/NA	Prep	7471B			0.600 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:23	CSL	TAL NSH
SPLP East	Leach	EPA 1312			99.99 g	2000 mL	265611	12/14/18 11:08	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 13:50	RSK	TAL PIT
Total/NA	Prep	3050B			1.08 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 19:43	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

**Client Sample ID: KIF-CCR-TW05-16.5/19.5-20181113**

**Lab Sample ID: 490-163316-4**

**Date Collected: 11/13/18 13:42**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3.0099 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 03:09	SW1	TAL NSH
Soluble	Leach	DI Leach			3.0099 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		20	10 mL	1.0 mL	558217	11/18/18 02:05	JHS	TAL NSH
SPLP East	Leach	1312			100.02 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:26	CSL	TAL NSH
Total/NA	Prep	7471B			0.598 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:26	CSL	TAL NSH
SPLP East	Leach	EPA 1312			100.02 g	2000 mL	265611	12/14/18 11:09	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 13:53	RSK	TAL PIT
Total/NA	Prep	3050B			1.08 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 19:48	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-22.5/24.5-20181113**

**Lab Sample ID: 490-163316-5**

**Date Collected: 11/13/18 14:41**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3.0110 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 03:27	SW1	TAL NSH
Soluble	Leach	DI Leach			3.0110 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		10	10 mL	1.0 mL	558217	11/18/18 02:35	JHS	TAL NSH
SPLP East	Leach	1312			128.20 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:29	CSL	TAL NSH
Total/NA	Prep	7471B			0.614 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:29	CSL	TAL NSH
SPLP East	Leach	EPA 1312			128.20 g	2000 mL	265611	12/14/18 11:09	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 14:03	RSK	TAL PIT
Total/NA	Prep	3050B			0.99 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 19:54	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

**Client Sample ID: KIF-CCR-TW05-26.5/28.5-20181113**

**Lab Sample ID: 490-163316-6**

**Date Collected: 11/13/18 15:15**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3.0420 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 03:45	SW1	TAL NSH
Soluble	Leach	DI Leach			3.0420 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		2	10 mL	1.0 mL	558217	11/18/18 02:51	JHS	TAL NSH
SPLP East	Leach	1312			123.50 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:31	CSL	TAL NSH
Total/NA	Prep	7471B			0.612 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:31	CSL	TAL NSH
SPLP East	Leach	EPA 1312			123.50 g	2000 mL	265611	12/14/18 11:09	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 14:06	RSK	TAL PIT
Total/NA	Prep	3050B			1.00 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 20:33	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558052	11/16/18 17:16	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-TW05-31.5/33.5-20181113**

**Lab Sample ID: 490-163316-7**

**Date Collected: 11/13/18 15:48**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.9913 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 04:03	SW1	TAL NSH
Soluble	Leach	DI Leach			2.9913 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		2	10 mL	1.0 mL	558217	11/18/18 03:08	JHS	TAL NSH
SPLP East	Leach	1312			145.00 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:34	CSL	TAL NSH
Total/NA	Prep	7471B			0.623 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:34	CSL	TAL NSH
SPLP East	Leach	EPA 1312			145.00 g	2000 mL	265611	12/14/18 11:09	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 14:10	RSK	TAL PIT
Total/NA	Prep	3050B			0.96 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 20:38	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558059	11/16/18 17:22	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

**Client Sample ID: KIF-CCR-DUP01-20181113**

**Lab Sample ID: 490-163316-8**

**Date Collected: 11/13/18 01:01**

**Matrix: Solid**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.9704 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		1			558035	11/17/18 04:22	SW1	TAL NSH
Soluble	Leach	DI Leach			2.9704 g	30 mL	557965	11/16/18 13:27	SOO	TAL NSH
Soluble	Analysis	9056A		10	10 mL	1.0 mL	558217	11/18/18 03:25	JHS	TAL NSH
SPLP East	Leach	1312			99.99 g	2000 mL	559413	11/23/18 16:30	MXX	TAL NSH
SPLP East	Prep	7470A			30 mL	30 mL	559723	11/26/18 14:20	CSL	TAL NSH
SPLP East	Analysis	7470A		1			560102	11/27/18 18:37	CSL	TAL NSH
Total/NA	Prep	7471B			0.609 g	100 mL	561293	12/04/18 11:52	CSL	TAL NSH
Total/NA	Analysis	7471B		1			561648	12/05/18 11:37	CSL	TAL NSH
SPLP East	Leach	EPA 1312			99.99 g	2000 mL	265611	12/14/18 11:09	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	265760	12/17/18 12:18	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			265943	12/18/18 14:13	RSK	TAL PIT
Total/NA	Prep	3050B			0.97 g	100 mL	265057	12/10/18 07:08	RJR	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	265382	12/11/18 20:43	WTR	TAL PIT
Soluble	Leach	DI Leach			20 g	20 mL	558045	11/16/18 17:10	MXX	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	558059	11/16/18 17:22	MXX	TAL NSH
Total/NA	Analysis	9060A		1			560165	11/28/18 11:24	CLJ	TAL NSH
Total/NA	Analysis	Moisture		1			558480	11/19/18 12:57	BAA	TAL NSH

TestAmerica Nashville

# Lab Chronicle

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

**Client Sample ID: KIF-CCR-EB01-20181113**

**Lab Sample ID: 490-163316-9**

**Date Collected: 11/13/18 16:44**

**Matrix: Water**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			560206	11/29/18 08:49	JHS	TAL NSH
Total/NA	Prep	7470A			10 mL	30 mL	559984	11/27/18 14:05	CSL	TAL NSH
Total/NA	Analysis	7470A		1			560102	11/27/18 19:46	CSL	TAL NSH
Total Recoverable	Prep	3005A			25 mL	25 mL	264922	12/07/18 13:06	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			265014	12/08/18 10:28	WTR	TAL PIT
Total/NA	Analysis	9060A		1	50 mL	50 mL	559271	11/21/18 13:05	CLJ	TAL NSH

**Client Sample ID: KIF-CCR-FB01-20181113**

**Lab Sample ID: 490-163316-10**

**Date Collected: 11/13/18 16:28**

**Matrix: Water**

**Date Received: 11/15/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1			560206	11/29/18 09:39	JHS	TAL NSH
Total/NA	Prep	7470A			30 mL	30 mL	559984	11/27/18 14:05	CSL	TAL NSH
Total/NA	Analysis	7470A		1			560102	11/27/18 19:49	CSL	TAL NSH
Total Recoverable	Prep	3005A			50 mL	50 mL	264922	12/07/18 13:06	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			265014	12/08/18 10:32	WTR	TAL PIT
Total/NA	Analysis	9060A		1	50 mL	50 mL	559271	11/21/18 13:23	CLJ	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Method Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL NSH
7470A	Mercury (CVAA)	SW846	TAL NSH
7471B	Mercury (CVAA)	SW846	TAL NSH
9045D	pH	SW846	TAL NSH
9060A	Organic Carbon, Total (TOC)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH
1312	SPLP Extraction	SW846	TAL NSH
7470A	Preparation, Mercury	SW846	TAL NSH
7471B	Preparation, Mercury	SW846	TAL NSH
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL NSH

#### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Accreditation/Certification Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Laboratory: TestAmerica Nashville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-19
Arkansas DEQ	State Program	6	88-0737	04-25-19
California	State Program	9	2938	06-30-19
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-18 *
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-19
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-19
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-19
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-19
Mississippi	State Program	4	N/A	06-30-19
Montana (UST)	State Program	8	NA	02-17-19
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-19
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-19
North Carolina (WW/SW)	State Program	4	387	12-31-19
North Dakota	State Program	8	R-146	06-30-19
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-19
South Carolina	State Program	4	84009 (001)	02-28-19
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

## Laboratory: TestAmerica Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Nashville

# Accreditation/Certification Summary

Client: Environmental Standards Inc.  
Project/Site: KIF\_CCR\_20181112\_1A

TestAmerica Job ID: 490-163316-1

## Laboratory: TestAmerica Pittsburgh (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-19
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-19
North Carolina (WW/SW)	State Program	4	434	12-31-18
Oregon	NELAP	10	PA-2151	01-28-19
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-19
Texas	NELAP	6	T104704528-15-2	03-31-19
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-19
Wisconsin	State Program	5	998027800	08-31-19

## COOLER RECEIPT FORM



490-163316 Chain of Custody

Cooler Received/Opened On 11/15/2018 @ 9:00

Time Samples Removed From Cooler 12:32 Time Samples Placed In Storage 17:50 (2 Hour Window)

1. Tracking # 4968 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960358 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 3.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler? 2 Front / back YES...NO...NA  
If yes, how many and where: \_\_\_\_\_

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) \_\_\_\_\_

7. Were custody seals on containers:  YES  NO and Intact  YES...NO...NA  
Were these signed and dated correctly? 11/15  YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process:  Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial?  YES...NO...NA



14. Was there a Trip Blank in this cooler?  YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) \_\_\_\_\_

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level?  YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used?  YES...NO...NA

16. Was residual chlorine present?  YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) \_\_\_\_\_

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) \_\_\_\_\_

I certify that I attached a label with the unique LIMS number to each container (initial) \_\_\_\_\_

21. Were there Non-Conformance issues at login?  YES...NO Was a NCM generated?  YES...NO...# \_\_\_\_\_

## COOLER RECEIPT FORM

Cooler Received/Opened On 11/15/2018 @ 9:00

Time Samples Removed From Cooler 12:52 Time Samples Placed In Storage 17:30 (2 Hour Window)

1. Tracking # 4979 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 31470366 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 1.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 2 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) ACE

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) \_\_\_\_\_

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) \_\_\_\_\_

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) \_\_\_\_\_

I certify that I attached a label with the unique LIMS number to each container (initial) \_\_\_\_\_

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

## COOLER RECEIPT FORM

Cooler Received/Opened On 11/15/2018 @ 9:00

Time Samples Removed From Cooler 12:52 Time Samples Placed In Storage 17:50 (2 Hour Window)

1. Tracking # 4957 (last 4 digits, FedEx) Courier: FedEx  
IR Gun ID 17960358 pH Strip Lot N/A Chlorine Strip Lot N/A
2. Temperature of rep. sample or temp blank when opened: 1.7 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA
4. Were custody seals on outside of cooler? YES...NO...NA  
If yes, how many and where: 2 front
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA
- I certify that I opened the cooler and answered questions 1-6 (initial) \_\_\_\_\_
7. Were custody seals on containers: YES NO and Intact YES...NO...NA  
Were these signed and dated correctly? YES...NO...NA 11/15
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES...NO...NA
- b. Was there any observable headspace present in any VOA vial? YES...NO...NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) \_\_\_\_\_

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA
- b. Did the bottle labels indicate that the correct preservatives were used? YES...NO...NA
16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) \_\_\_\_\_

17. Were custody papers properly filled out (Ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) \_\_\_\_\_

I certify that I attached a label with the unique LIMS number to each container (initial) \_\_\_\_\_

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_



Tennessee Valley Authority



Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.: 2 of 4  
 COC No.: KIF\_CCR\_20181112\_1A  
 1 of 1 Pages  
 Task Desc: KIF\_CCR

<b>Required Ship to Lab:</b> TestAmerica Nashville 2960 Foster Creighton Drive Nashville, TN 37204 Lab Name: Gail Lage Phone/Fax: 615-301-5741/615-726-3404 Lab Email: Gail.Lage@testamericainc.com		<b>Required Project Information:</b> KINGSTON FOSSIL PLANT Project #: 175669403 Site Address: 714 Swan Pond Road City: Kingston State: TN Zip: 37763 Site PM Name: Roy Quinn Phone/Fax: 423-751-3753 Site PM Email: rquinn@tva.gov		<b>Required Sampler Information:</b> Sampler: Edgar Smith Bethany Lucente Sampling Company: Stantec Address: 3052 Beaumont Centre Circle City/State: Lexington, KY Phone: 303-350-4718 Sampling Team Number: 1 Send EDD/Hard Copy to: bva_dellugrabbles@unvaid.com																			
<b>Lab Manager Contact Information</b> Gail Lage 615-301-5741/615-726-3404 Gail.Lage@testamericainc.com		<b>Analysis Turnaround Time</b> [ ] CALENDAR DAYS [ ] WORKING DAYS TAT if different from Below:		24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)																			
ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	SAMPLE DEPTH		MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	CONTAINERS # OR	Comments/ Lab Sample I.D.	MS/MSD	ANALYSIS			TEMPERATURE IN °C			Sample on Ice?	Sample Intact?	Trip Blanks?		
			Start Depth	End Depth									Filtered	Preserve	Temp	Temp	Temp						
1	KIF-CCR-TW05-1.5/3.5-20181113	TW-05	1.5	3.5	S	G	N	11/13/2018	1130	4			X										
2	KIF-CCR-TW05-6.5/8.5-20181113	TW-05	6.5	8.5	S	G	N	11/13/2018	1216	4			X										
3	KIF-CCR-TW05-11.5/13.5-20181113	TW-05	11.5	13.5	S	G	N	11/13/2018	1259	4			X										
4	KIF-CCR-TW05-16.5/19.5-20181113	TW-05	16.5	19.5	S	G	N	11/13/2018	1342	4			X										
5	KIF-CCR-TW05-22.5/24.5-20181113	TW-05	22.5	24.5	S	G	N	11/13/2018	1441	4			X										
6	KIF-CCR-TW05-26.5/28.5-20181113	TW-05	26.5	28.5	S	G	N	11/13/2018	1515	4			X										
7	KIF-CCR-TW05-31.5/33.5-20181113	TW-05	31.5	33.5	S	G	N	11/13/2018	1548	4			X										
8	KIF-CCR-DUP01-20181113	-----	NA	NA	S	G	FD	11/13/2018	NA	4			X										
9	KIF-CCR-EB01-20181113	TW-05	NA	NA	AQ	G	EB	11/13/2018	1644	3			X										
10	KIF-CCR-FB01-20181113	TW-05	NA	NA	AQ	G	FB	11/13/2018	1628	3			X										

Loc: 490  
1633316

*[Handwritten signature]*

Additional volume collected should be used for MS/MSDs.  
 Perform MS/MSD on sample identified above  
 Aqueous sample preservation:  
 Anions -- unpreserved; Metals -- preserved w/ HNO3 to pH<2

RE-LINISHED BY / AFFILIATION: *[Signature]*  
 DATE: 11/13/2018  
 TIME: 1005  
 ACCEPTED BY / AFFILIATION: *[Signature]*  
 DATE: 11/14/2018  
 TIME: 9100  
 SHIPPING METHOD: Courier  
 COURIER: *[Signature]*  
 SHIPMENT DATE: 11/14/18

SAMPLER NAME AND SIGNATURE  
 Bethany Lucente  
 Edgar Smith - Not available to sign  
*[Signature]*  
 Date: 11/14/18

Tennessee Valley Authority



Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.: **3** of **4**  
 COC No.: **KIF\_CCR\_20181112\_1A**  
 1 of 1 Pages  
 Task Desc: **KIF\_CCR**

**Required Ship to Lab:**  
 Lab Name: TestAmerica Nashville  
 Lab Address: 2960 Foster Creighton Drive, Nashville, TN 37204  
 Phone/Fac: 615-301-5741 / 615-728-3404  
 Lab Email: Gail.Lage@testamericainc.com

**Lab Manager Contact Information:**  
 Lab PM: Gail Lage  
 Phone/Fac: 615-301-5741 / 615-728-3404  
 Lab Email: Gail.Lage@testamericainc.com

**Required Project Information:**  
 Site ID #: KINGSTON FOSSIL PLANT  
 Project #: 175689403  
 Site Address: 714 Swan Pond Road, Kingston, TN 37763  
 City: Kingston, State: TN, Zip: 37763  
 Site PW Name: Roy Quinn  
 Phone/Fac: 423-751-3753  
 Site PW Email: rquinn@tva.gov

**Required Sampler Information:**  
 Sampler: Edgar Smith  
 Sampling Company: Startec  
 Address: 3652 Beaumont Centre Circle, Lexington, KY  
 City/State: Lexington, KY, Phone: 303-280-4718  
 Sampling Team Number: 1  
 Send EDD/Hand Copy to: tva\_silverblades@startec.com

**Analysis Turnaround Time:**  
 CALENDAR DAYS  
 WORKING DAYS  
 24 Hours  
 3 Business Days  
 5 Business Days  
 10 Business Days (Standard)

TAT is different from below

LOC: 490  
**163316**

ITEMS #	SAMPLE ID	SAMPLE LOCATION	Sample Depth		MATRIX CODE	G or GRAB C-COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis		DATE	TIME	Sample Receipt Conditions		
			Start Depth	End Depth									CR MATERIALS	BLANKS			Temperature in °C	Sample on Ice?	Sample Intact?
1	KIF-CCR-TW05-1.5/3.5-20181113	TW-05	1.5	3.5	S	G	N	11/13/2018	1130	4			X						
2	KIF-CCR-TW05-6.5/8.5-20181113	TW-05	6.5	8.5	S	G	N	11/13/2018	1216	4			X						
3	KIF-CCR-TW05-11.5/13.5-20181113	TW-05	11.5	13.5	S	G	N	11/13/2018	1259	4			X						
4	KIF-CCR-TW05-16.5/19.5-20181113	TW-05	16.5	19.5	S	G	N	11/13/2018	1342	4			X						
5	KIF-CCR-TW05-22.5/24.5-20181113	TW-05	22.5	24.5	S	G	N	11/13/2018	1441	4			X						
6	KIF-CCR-TW05-26.5/28.5-20181113	TW-05	26.5	28.5	S	G	N	11/13/2018	1515	4			X						
7	KIF-CCR-TW05-31.5/33.5-20181113	TW-05	31.5	33.5	S	G	N	11/13/2018	1548	4			X						
8	KIF-CCR-DUP01-20181113		NA	NA	S	G	FD	NA	NA	4			X						
9	KIF-CCR-EB01-20181113	TW-05	NA	NA	AQ	G	EB	1644	1644	3			X						
10	KIF-CCR-FB01-20181113	TW-05	NA	NA	AQ	G	FB	1628	1628	3			X						

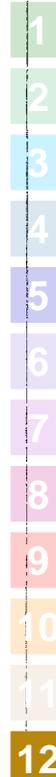
**Additional Comments/Special Instructions:**  
 Additional volume collected should be used for MS/MSDs.  
 Perform MS/MSD on sample identified above  
 Aqueous sample preservation:  
 Anions -- unpreserved; Metals -- preserved w/ HNO3 to pH<2

**SHIPMENT METHOD:**  
 Courier

**SAMPLER NAME AND SIGNATURE:**  
 Bethany Lucente  
 Edgar Smith - Not available to sign

**DATE:** 11/14/18  
**TIME:** 1005  
**ACCEPTED BY / AFFILIATION:** Mark  
**DATE:** 11/14/18  
**TIME:** 9:00

**Sample Receipt Conditions:**  
 Temperature in °C:  Yes  No  
 Sample on Ice?:  Yes  No  
 Sample Intact?:  Yes  No  
 Trip Blank?:  Yes  No



## COOLER RECEIPT FORM



490-163316 Chain of Custody

Cooler Received/Opened On 11-16-2018 @ 1335

Time Samples Removed From Cooler 13:53 Time Samples Placed In Storage 14:09 (2 Hour Window)

1. Tracking # 4587 8110 4980 (last 4 digits, FedEx) Courier: Chant  
IR Gun ID 31470368 pH Strip Lot H2850248 Chlorine Strip Lot 072318K

2. Temperature of rep. sample or temp blank when opened: 0.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 front 2 back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) e, b

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO NA



14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) \_\_\_\_\_

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) \_\_\_\_\_

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) \_\_\_\_\_

I certify that I attached a label with the unique LIMS number to each container (initial) \_\_\_\_\_

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# \_\_\_\_\_

**TVA Environmental Investigations**



Tennessee Valley Authority

**Chain-of-Custody / Analytical Request Document**

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.: **4** of **4**  
 COC No.: **KIF\_CCR 20181112\_1A**  
 1 of 1 Pages  
 Task Desc: **KIF\_CCR**

**Required Ship to Lab:**  
 Lab Name: TestAmerica Nashville  
 Lab Address: 2960 Foster Creighton Drive, Nashville, TN 37204  
 Lab Manager Contact Information: Roy Quinn, 423-751-3753, royquinn@tva.gov

**Required Project Information:**  
 Site ID #: KINGSTON FOSSIL PLANT  
 Project #: 176698403  
 Site Address: 714 Swan Pond Road, Kingston, TN, 37763  
 Site PM Name: Roy Quinn  
 Phone/Fax: 423-751-3753  
 Site PM Email: royquinn@tva.gov

**Required Sampler Information:**  
 Sampler: Edger Smith, Bethany Lucente  
 Sampling Company: Stantec  
 Address: 3952 Beaumont Centre Circle, Lexington, KY  
 Phone: 303-250-4718  
 Sampling Team Number: 1  
 Send EDD/Hard Copy to: tva\_deliveryables@envstl.com

**Analysis Turnaround Time**  
 CALENDAR DAYS  
 BUSINESS DAYS  
 24 Hours  
 3 Business Days  
 5 Business Days  
 10 Business Days (Standard)

TAT if different from below \_\_\_\_\_

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth		MATRIX CODE	G# GRAB C-COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD
			Start Depth	End Depth								
1	KIF-CCR-TW05-1.5/3.5-20181113	TW-05	1.5	3.5	S	G	N	11/13/2018	1130	4		<input type="checkbox"/>
2	KIF-CCR-TW05-6.5/8.5-20181113	TW-05	6.5	8.5	S	G	N	11/13/2018	1216	4		<input checked="" type="checkbox"/>
3	KIF-CCR-TW05-11.5/13.5-20181113	TW-05	11.5	13.5	S	G	N	11/13/2018	1259	4		<input type="checkbox"/>
4	KIF-CCR-TW05-16.5/19.5-20181113	TW-05	16.5	19.5	S	G	N	11/13/2018	1342	4		<input type="checkbox"/>
5	KIF-CCR-TW05-22.5/24.5-20181113	TW-05	22.5	24.5	S	G	N	11/13/2018	1441	4		<input type="checkbox"/>
6	KIF-CCR-TW05-26.5/28.5-20181113	TW-05	26.5	28.5	S	G	N	11/13/2018	1515	4		<input type="checkbox"/>
7	KIF-CCR-TW05-31.5/33.5-20181113	TW-05	31.5	33.5	S	G	N	11/13/2018	1548	4		<input type="checkbox"/>
8	KIF-CCR-DUP01-20181113		NA	NA	S	G	FD	NA	NA	4		<input type="checkbox"/>
9	KIF-CCR-EB01-20181113	TW-05	NA	NA	AQ	G	EB	1644	1644	3		<input type="checkbox"/>
10	KIF-CCR-FB01-20181113	TW-05	NA	NA	AQ	G	FB	1628	1628	3		<input type="checkbox"/>

REL. DELIVERED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions		
						Temperature in C	Sample on Ice?	Sample Intact?
<i>[Signature]</i>	11/14/18	1005	<i>[Signature]</i>			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

SHIPPING METHOD: \_\_\_\_\_  
 Courier: \_\_\_\_\_  
 SAMPLER NAME AND SIGNATURE: *[Signature]*  
 Bethany Lucente  
 Edger Smith - Not available to sign  
*[Signature]* 11/14/18

LOC: 490  
**163316**

Analysis	Preserve	Filtered	CCR MATERIALS	CCR MATERIALS, BLANKS	see counts
<input checked="" type="checkbox"/>					

Additional Comments/Special Instructions:  
 Additional volume collected should be used for MS/MSDs.  
 Perform MS/MSD on sample identified above  
 Aqueous sample preservation:  
 Anions - unpreserved; Metals - preserved w/ HNO3 to pH<2