TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103245-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/19/2015 4:49:29 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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Job ID: 500-103245-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103245-1

Comments
No additional comments.

Receipt
The samples were received on 10/29/2015 1:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

Metals
Method(s) 6020A: The low level initial calibration verification (ICVL) associated with batch 500-311447 recovered above the 70-130% control limit for Be (141%). The mid level CCV's and the bracketing CCVL were all within control limits therefore, the data have been reported.

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

General Chemistry
Method(s) SM 4500 Cl- E: The chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for sample MW-04 (500-103245-2) in analytical batch 500-310754 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103245-1	MW-03	Water	10/28/15 11:30	10/29/15 13:35
500-103245-2	MW-04	Water	10/28/15 09:40	10/29/15 13:35
500-103245-3	MW-05	Water	10/28/15 13:20	10/29/15 13:35
500-103245-4	MW-10	Water	10/28/15 14:40	10/29/15 13:35
500-103245-5	Dup	Water	10/28/15 00:00	10/29/15 13:35

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-03
Date Collected: 10/28/15 11:30
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-1
Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/04/15 19:39	11/06/15 02:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 19:54	1
Arsenic	**0.0015**		0.0010		mg/L		11/02/15 11:25	11/05/15 19:54	1
Barium	**0.10**		0.0025		mg/L		11/02/15 11:25	11/05/15 19:54	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 19:54	1
Boron	**0.34**		0.25		mg/L		11/02/15 11:25	11/09/15 12:23	5
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 19:54	1
Calcium	**110**		1.0		mg/L		11/02/15 11:25	11/09/15 12:23	5
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 19:54	1
Cobalt	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 19:54	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 19:54	1
Molybdenum	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 19:54	1
Selenium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 19:54	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 19:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**920**		10		mg/L			10/29/15 22:10	1
Chloride	**230**		10		mg/L			11/02/15 20:39	5
Fluoride	**0.41**		0.10		mg/L			11/03/15 20:18	1
Sulfate	**110**		25		mg/L			11/04/15 00:55	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-04

Date Collected: 10/28/15 09:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-2

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/04/15 19:39	11/06/15 02:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 19:58	1
Arsenic	**0.0013**		0.0010		mg/L		11/02/15 11:25	11/05/15 19:58	1
Barium	**0.082**		0.0025		mg/L		11/02/15 11:25	11/05/15 19:58	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 19:58	1
Boron	**0.34**		0.25		mg/L		11/02/15 11:25	11/09/15 12:27	5
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 19:58	1
Calcium	**94**		1.0		mg/L		11/02/15 11:25	11/09/15 12:27	5
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 19:58	1
Cobalt	**0.0063**		0.0010		mg/L		11/02/15 11:25	11/05/15 19:58	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 19:58	1
Molybdenum	**0.0065**		0.0050		mg/L		11/02/15 11:25	11/05/15 19:58	1
Selenium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 19:58	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 19:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**740**		10		mg/L			10/29/15 22:15	1
Chloride	**200**	**F1**	10		mg/L			11/02/15 20:39	5
Fluoride	**0.45**		0.10		mg/L			11/03/15 20:20	1
Sulfate	**83**		20		mg/L			11/04/15 00:56	4

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-05
Date Collected: 10/28/15 13:20
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-3
Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.018**		0.010		mg/L		11/04/15 19:39	11/06/15 02:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 20:02	1
Arsenic	**0.0011**		0.0010		mg/L		11/02/15 11:25	11/05/15 20:02	1
Barium	**0.057**		0.0025		mg/L		11/02/15 11:25	11/05/15 20:02	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 20:02	1
Boron	**0.64**		0.25		mg/L		11/02/15 11:25	11/09/15 12:30	5
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:02	1
Calcium	**100**		1.0		mg/L		11/02/15 11:25	11/09/15 12:30	5
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 20:02	1
Cobalt	**0.0013**		0.0010		mg/L		11/02/15 11:25	11/05/15 20:02	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:02	1
Molybdenum	**0.0088**		0.0050		mg/L		11/02/15 11:25	11/05/15 20:02	1
Selenium	**0.0031**		0.0025		mg/L		11/02/15 11:25	11/05/15 20:02	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 20:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			10/29/15 22:17	1
Chloride	**160**		10		mg/L			11/02/15 20:41	5
Fluoride	**0.39**		0.10		mg/L			11/03/15 20:23	1
Sulfate	**120**		50		mg/L			11/06/15 04:16	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-10

Date Collected: 10/28/15 14:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-4

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/04/15 19:39	11/06/15 02:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 20:05	1
Arsenic	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 20:05	1
Barium	**0.041**		0.0025		mg/L		11/02/15 11:25	11/05/15 20:05	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 20:05	1
Boron	**0.47**		0.25		mg/L		11/02/15 11:25	11/09/15 12:34	5
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:05	1
Calcium	**100**		1.0		mg/L		11/02/15 11:25	11/09/15 12:34	5
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 20:05	1
Cobalt	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 20:05	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:05	1
Molybdenum	**0.0060**		0.0050		mg/L		11/02/15 11:25	11/05/15 20:05	1
Selenium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 20:05	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 20:05	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			10/29/15 22:20	1
Chloride	**200**		10		mg/L			11/02/15 20:41	5
Fluoride	**0.41**		0.10		mg/L			11/03/15 20:25	1
Sulfate	**84**		25		mg/L			11/06/15 04:17	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: Dup
Date Collected: 10/28/15 00:00
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-5
Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/04/15 19:39	11/06/15 02:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 20:09	1
Arsenic	**0.0015**		0.0010		mg/L		11/02/15 11:25	11/05/15 20:09	1
Barium	**0.10**		0.0025		mg/L		11/02/15 11:25	11/05/15 20:09	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 20:09	1
Boron	**0.33**		0.25		mg/L		11/02/15 11:25	11/09/15 12:38	5
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:09	1
Calcium	**110**		1.0		mg/L		11/02/15 11:25	11/09/15 12:38	5
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 20:09	1
Cobalt	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 20:09	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 20:09	1
Molybdenum	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 20:09	1
Selenium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 20:09	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 20:09	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**900**		10		mg/L			10/29/15 22:22	1
Chloride	**220**		10		mg/L			11/02/15 20:42	5
Fluoride	**0.41**		0.10		mg/L			11/03/15 20:28	1
Sulfate	**110**		25		mg/L			11/06/15 04:18	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Metals

Prep Batch: 310648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total Recoverable	Water	3005A	
500-103245-2	MW-04	Total Recoverable	Water	3005A	
500-103245-3	MW-05	Total Recoverable	Water	3005A	
500-103245-4	MW-10	Total Recoverable	Water	3005A	
500-103245-5	Dup	Total Recoverable	Water	3005A	
LCS 500-310648/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 500-310648/2-A ^2	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-310648/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 311097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	7470A	
500-103245-1 DU	MW-03	Total/NA	Water	7470A	
500-103245-1 MS	MW-03	Total/NA	Water	7470A	
500-103245-1 MSD	MW-03	Total/NA	Water	7470A	
500-103245-2	MW-04	Total/NA	Water	7470A	
500-103245-3	MW-05	Total/NA	Water	7470A	
500-103245-4	MW-10	Total/NA	Water	7470A	
500-103245-5	Dup	Total/NA	Water	7470A	
LCS 500-311126/2-B	Lab Control Sample	Total/NA	Water	7470A	311126
MB 500-311126/1-B	Method Blank	Total/NA	Water	7470A	311126

Filtration Batch: 311126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-311126/2-B	Lab Control Sample	Total/NA	Water	FILTRATION	
MB 500-311126/1-B	Method Blank	Total/NA	Water	FILTRATION	

Prep Batch: 311140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	3010A	
500-103245-2	MW-04	Total/NA	Water	3010A	
500-103245-3	MW-05	Total/NA	Water	3010A	
500-103245-4	MW-10	Total/NA	Water	3010A	
500-103245-5	Dup	Total/NA	Water	3010A	
LCS 500-311140/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 500-311140/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 311303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	7470A	311097
500-103245-1 DU	MW-03	Total/NA	Water	7470A	311097
500-103245-1 MS	MW-03	Total/NA	Water	7470A	311097
500-103245-1 MSD	MW-03	Total/NA	Water	7470A	311097
500-103245-2	MW-04	Total/NA	Water	7470A	311097
500-103245-3	MW-05	Total/NA	Water	7470A	311097
500-103245-4	MW-10	Total/NA	Water	7470A	311097
500-103245-5	Dup	Total/NA	Water	7470A	311097
LCS 500-311126/2-B	Lab Control Sample	Total/NA	Water	7470A	311097
MB 500-311126/1-B	Method Blank	Total/NA	Water	7470A	311097

Metals (Continued)

Analysis Batch: 311447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total Recoverable	Water	6020A	310648
500-103245-2	MW-04	Total Recoverable	Water	6020A	310648
500-103245-3	MW-05	Total Recoverable	Water	6020A	310648
500-103245-4	MW-10	Total Recoverable	Water	6020A	310648
500-103245-5	Dup	Total Recoverable	Water	6020A	310648
LCS 500-310648/2-A ^2	Lab Control Sample	Total Recoverable	Water	6020A	310648
MB 500-310648/1-A	Method Blank	Total Recoverable	Water	6020A	310648

Analysis Batch: 311448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	6010C	311140
500-103245-2	MW-04	Total/NA	Water	6010C	311140
500-103245-3	MW-05	Total/NA	Water	6010C	311140
500-103245-4	MW-10	Total/NA	Water	6010C	311140
500-103245-5	Dup	Total/NA	Water	6010C	311140
LCS 500-311140/2-A	Lab Control Sample	Total/NA	Water	6010C	311140
MB 500-311140/1-A	Method Blank	Total/NA	Water	6010C	311140

Analysis Batch: 311812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total Recoverable	Water	6020A	310648
500-103245-2	MW-04	Total Recoverable	Water	6020A	310648
500-103245-3	MW-05	Total Recoverable	Water	6020A	310648
500-103245-4	MW-10	Total Recoverable	Water	6020A	310648
500-103245-5	Dup	Total Recoverable	Water	6020A	310648
LCS 500-310648/2-A	Lab Control Sample	Total Recoverable	Water	6020A	310648
MB 500-310648/1-A	Method Blank	Total Recoverable	Water	6020A	310648

General Chemistry

Analysis Batch: 310329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	SM 2540C	
500-103245-1 DU	MW-03	Total/NA	Water	SM 2540C	
500-103245-2	MW-04	Total/NA	Water	SM 2540C	
500-103245-3	MW-05	Total/NA	Water	SM 2540C	
500-103245-4	MW-10	Total/NA	Water	SM 2540C	
500-103245-5	Dup	Total/NA	Water	SM 2540C	
LCS 500-310329/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-310329/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 310754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-103245-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-103245-2 MS	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-103245-2 MSD	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-103245-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-103245-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-103245-5	Dup	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 310754 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-310754/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-310754/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 310966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-103245-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
LCS 500-310966/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-310966/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 310997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	SM 4500 F C	
500-103245-2	MW-04	Total/NA	Water	SM 4500 F C	
500-103245-3	MW-05	Total/NA	Water	SM 4500 F C	
500-103245-4	MW-10	Total/NA	Water	SM 4500 F C	
500-103245-5	Dup	Total/NA	Water	SM 4500 F C	
LCS 500-310997/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-310997/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 311400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-103245-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-103245-5	Dup	Total/NA	Water	SM 4500 SO4 E	
500-103245-5 MS	Dup	Total/NA	Water	SM 4500 SO4 E	
500-103245-5 MSD	Dup	Total/NA	Water	SM 4500 SO4 E	
LCS 500-311400/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-311400/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-311140/1-A
Matrix: Water
Analysis Batch: 311448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/04/15 19:39	11/06/15 01:19	1

Lab Sample ID: LCS 500-311140/2-A
Matrix: Water
Analysis Batch: 311448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.516		mg/L		103	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-310648/1-A
Matrix: Water
Analysis Batch: 311447

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 310648

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/02/15 11:25	11/05/15 18:55	1
Arsenic	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 18:55	1
Barium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 18:55	1
Beryllium	<0.0010	^	0.0010		mg/L		11/02/15 11:25	11/05/15 18:55	1
Cadmium	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 18:55	1
Chromium	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 18:55	1
Cobalt	<0.0010		0.0010		mg/L		11/02/15 11:25	11/05/15 18:55	1
Lead	<0.00050		0.00050		mg/L		11/02/15 11:25	11/05/15 18:55	1
Molybdenum	<0.0050		0.0050		mg/L		11/02/15 11:25	11/05/15 18:55	1
Selenium	<0.0025		0.0025		mg/L		11/02/15 11:25	11/05/15 18:55	1
Thallium	<0.0020		0.0020		mg/L		11/02/15 11:25	11/05/15 18:55	1

Lab Sample ID: MB 500-310648/1-A
Matrix: Water
Analysis Batch: 311812

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 310648

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/02/15 11:25	11/09/15 12:16	1
Calcium	<0.20		0.20		mg/L		11/02/15 11:25	11/09/15 12:16	1

Lab Sample ID: LCS 500-310648/2-A
Matrix: Water
Analysis Batch: 311812

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120
Calcium	10.0	12.0		mg/L		120	80 - 120

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

Lab Sample ID: LCS 500-310648/2-A ^2
Matrix: Water
Analysis Batch: 311447

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 310648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.499		mg/L		100	80 - 120
Arsenic	0.100	0.0997		mg/L		100	80 - 120
Barium	0.500	0.518		mg/L		104	80 - 120
Beryllium	0.0500	0.0537	^	mg/L		107	80 - 120
Cadmium	0.0500	0.0515		mg/L		103	80 - 120
Chromium	0.200	0.210		mg/L		105	80 - 120
Cobalt	0.500	0.531		mg/L		106	80 - 120
Lead	0.100	0.103		mg/L		103	80 - 120
Molybdenum	1.00	0.977		mg/L		98	80 - 120
Selenium	0.100	0.0983		mg/L		98	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-311126/1-B
Matrix: Water
Analysis Batch: 311303

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/04/15 16:30	11/05/15 08:29	1

Lab Sample ID: LCS 500-311126/2-B
Matrix: Water
Analysis Batch: 311303

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00200		mg/L		100	80 - 120

Lab Sample ID: 500-103245-1 MS
Matrix: Water
Analysis Batch: 311303

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 311097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00104		mg/L		104	75 - 125

Lab Sample ID: 500-103245-1 MSD
Matrix: Water
Analysis Batch: 311303

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 311097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000996		mg/L		100	75 - 125	4	20

Lab Sample ID: 500-103245-1 DU
Matrix: Water
Analysis Batch: 311303

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 311097

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-310329/1
Matrix: Water
Analysis Batch: 310329

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/29/15 21:45	1

Lab Sample ID: LCS 500-310329/2
Matrix: Water
Analysis Batch: 310329

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	272		mg/L		109	80 - 120

Lab Sample ID: 500-103245-1 DU
Matrix: Water
Analysis Batch: 310329

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	920		874		mg/L		5	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-310754/12
Matrix: Water
Analysis Batch: 310754

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/02/15 19:45	1

Lab Sample ID: LCS 500-310754/13
Matrix: Water
Analysis Batch: 310754

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.9		mg/L		98	80 - 120

Lab Sample ID: 500-103245-2 MS
Matrix: Water
Analysis Batch: 310754

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	F1	50.0	228	F1	mg/L		60	75 - 125

Lab Sample ID: 500-103245-2 MSD
Matrix: Water
Analysis Batch: 310754

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200	F1	50.0	233	F1	mg/L		69	75 - 125	2	20

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-310997/3
Matrix: Water
Analysis Batch: 310997

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/03/15 19:35	1

Lab Sample ID: LCS 500-310997/4
Matrix: Water
Analysis Batch: 310997

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-310966/3
Matrix: Water
Analysis Batch: 310966

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/04/15 00:52	1

Lab Sample ID: LCS 500-310966/4
Matrix: Water
Analysis Batch: 310966

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.6		mg/L		98	80 - 120

Lab Sample ID: MB 500-311400/3
Matrix: Water
Analysis Batch: 311400

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/06/15 04:14	1

Lab Sample ID: LCS 500-311400/4
Matrix: Water
Analysis Batch: 311400

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.3		mg/L		97	80 - 120

Lab Sample ID: 500-103245-5 MS
Matrix: Water
Analysis Batch: 311400

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	110		200	310		mg/L		98	75 - 125

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-103245-5 MSD
Matrix: Water
Analysis Batch: 311400

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	110		200	313		mg/L		100	75 - 125	1	20

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

500-103245 COC

Client Information	Sampler: Ian John Howieson	Lab PM: Stadelmann, Bonnie M	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.		Analysis Requested	Job #: 12313.0 500- 103245
Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:		Preservation Codes:
City: Brookfield	TAT Requested (days): 15 days		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		Other:
Email: richardg@kprginc.com	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	10-28-15	11:30	3	Water	—		X	X	X		
2	MW-04	10-28-15	09:40	3	Water	—		X	X	X		
3	MW-05	10-28-15	13:20	3	Water	—		X	X	X		
4	MW-10	10-28-15	14:40	3	Water	—		X	X	X		
5	Dup	10-28-15	—	3	Water	—		X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		10-29-15 1335	KPRG		10/29/15 1335	TAL
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ~ Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103245-1

Login Number: 103245
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-03
Date Collected: 10/28/15 11:30
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			311140	11/04/15 19:39	PJH	TAL CHI
Total/NA	Analysis	6010C		1	311448	11/06/15 02:29	PJ1	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		1	311447	11/05/15 19:54	BJH	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		5	311812	11/09/15 12:23	BJH	TAL CHI
Total/NA	Prep	7470A			311097	11/04/15 16:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	311303	11/05/15 08:32	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	310329	10/29/15 22:10	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	310754	11/02/15 20:39	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	310997	11/03/15 20:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	310966		CLB	TAL CHI
					(Start)	11/04/15 00:55		
					(End)	11/04/15 00:56		

Client Sample ID: MW-04
Date Collected: 10/28/15 09:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			311140	11/04/15 19:39	PJH	TAL CHI
Total/NA	Analysis	6010C		1	311448	11/06/15 02:33	PJ1	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		1	311447	11/05/15 19:58	BJH	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		5	311812	11/09/15 12:27	BJH	TAL CHI
Total/NA	Prep	7470A			311097	11/04/15 16:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	311303	11/05/15 08:40	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	310329	10/29/15 22:15	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	310754	11/02/15 20:39	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	310997	11/03/15 20:20	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	310966		CLB	TAL CHI
					(Start)	11/04/15 00:56		
					(End)	11/04/15 00:57		

Client Sample ID: MW-05
Date Collected: 10/28/15 13:20
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			311140	11/04/15 19:39	PJH	TAL CHI
Total/NA	Analysis	6010C		1	311448	11/06/15 02:37	PJ1	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: MW-05

Date Collected: 10/28/15 13:20
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	311447	11/05/15 20:02	BJH	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		5	311812	11/09/15 12:30	BJH	TAL CHI
Total/NA	Prep	7470A			311097	11/04/15 16:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	311303	11/05/15 08:42	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	310329	10/29/15 22:17	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	310754	11/02/15 20:41	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	310997	11/03/15 20:23	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	311400		CLB	TAL CHI
					(Start)	11/06/15 04:16		
					(End)	11/06/15 04:17		

Client Sample ID: MW-10

Date Collected: 10/28/15 14:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			311140	11/04/15 19:39	PJH	TAL CHI
Total/NA	Analysis	6010C		1	311448	11/06/15 02:41	PJ1	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		1	311447	11/05/15 20:05	BJH	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		5	311812	11/09/15 12:34	BJH	TAL CHI
Total/NA	Prep	7470A			311097	11/04/15 16:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	311303	11/05/15 08:44	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	310329	10/29/15 22:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	310754	11/02/15 20:41	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	310997	11/03/15 20:25	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	311400		CLB	TAL CHI
					(Start)	11/06/15 04:17		
					(End)	11/06/15 04:18		

Client Sample ID: Dup

Date Collected: 10/28/15 00:00
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			311140	11/04/15 19:39	PJH	TAL CHI
Total/NA	Analysis	6010C		1	311448	11/06/15 02:46	PJ1	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		1	311447	11/05/15 20:09	BJH	TAL CHI
Total Recoverable	Prep	3005A			310648	11/02/15 11:25	PFK	TAL CHI
Total Recoverable	Analysis	6020A		5	311812	11/09/15 12:38	BJH	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-1

Client Sample ID: Dup

Date Collected: 10/28/15 00:00
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			311097	11/04/15 16:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	311303	11/05/15 08:46	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	310329	10/29/15 22:22	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	310754	11/02/15 20:42	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	310997	11/03/15 20:28	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	311400		CLB	TAL CHI
					(Start)	11/06/15 04:18		
					(End)	11/06/15 04:19		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103245-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/11/2015 2:01:57 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

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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.

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Job ID: 500-103245-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103245-2

Comments
No additional comments.

Receipt
The samples were received on 10/29/2015 1:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.3º C.

RAD
Method(s) 9320: Radium-228 Prep Batch 160-222676 and Total Alpha Radium Prep Batch 160-223431: The was a mistake made in the preparation of the following samples and the samples were lost: Dup (500-103245-5). There is no sample volume left to re-prep. Sample 500-103245-5 was recollected on 11/11/15 and logged as sample 500-103245-6.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103245-1	MW-03	Water	10/28/15 11:30	10/29/15 13:35
500-103245-2	MW-04	Water	10/28/15 09:40	10/29/15 13:35
500-103245-3	MW-05	Water	10/28/15 13:20	10/29/15 13:35
500-103245-4	MW-10	Water	10/28/15 14:40	10/29/15 13:35
500-103245-6	DUPLICATE	Water	11/11/15 14:15	11/11/15 16:00

Client Sample ID: MW-03

Date Collected: 10/28/15 11:30
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.189**		0.0797	0.0815	0.104	pCi/L	11/03/15 16:43	11/27/15 18:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*11/03/15 16:43*	*11/27/15 18:47*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.221	U	0.240	0.241	0.393	pCi/L	11/04/15 11:01	11/20/15 13:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*
Y Carrier	*90.5*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.410**		0.253	0.254	0.393	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-04

Date Collected: 10/28/15 09:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.101		0.0575	0.0582	0.0776	pCi/L	11/03/15 16:43	11/27/15 18:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*11/03/15 16:43*	*11/27/15 18:47*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.640		0.248	0.255	0.339	pCi/L	11/04/15 11:01	11/20/15 13:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*
Y Carrier	*90.1*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.741		0.255	0.262	0.339	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-05

Date Collected: 10/28/15 13:20
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0801		0.0531	0.0536	0.0746	pCi/L	11/03/15 16:43	11/27/15 18:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*11/03/15 16:43*	*11/27/15 18:48*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.543		0.286	0.290	0.430	pCi/L	11/04/15 11:01	11/20/15 13:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*
Y Carrier	*90.1*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.6231		0.291	0.295	0.430	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-10

Date Collected: 10/28/15 14:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.0811**		0.0549	0.0554	0.0784	pCi/L	11/03/15 16:43	11/27/15 18:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*11/03/15 16:43*	*11/27/15 18:49*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.217	U	0.271	0.271	0.448	pCi/L	11/04/15 11:01	11/20/15 13:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*
Y Carrier	*90.5*		*40 - 110*	*11/04/15 11:01*	*11/20/15 13:16*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.2981**		0.277	0.277	0.448	pCi/L		12/10/15 14:35	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Client Sample ID: DUPLICATE
Date Collected: 11/11/15 14:15
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103245-6
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.208**		0.116	0.118	0.162	pCi/L	11/17/15 16:50	12/09/15 07:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:18*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0540	U	0.466	0.466	0.843	pCi/L	11/17/15 15:54	11/20/15 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*
Y Carrier	*89.7*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.154**		0.480	0.481	0.843	pCi/L		12/10/15 14:35	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Rad

Prep Batch: 219974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	PrecSep-21	
500-103245-2	MW-04	Total/NA	Water	PrecSep-21	
500-103245-3	MW-05	Total/NA	Water	PrecSep-21	
500-103245-4	MW-10	Total/NA	Water	PrecSep-21	
LCS 160-219974/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-219974/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-219974/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 220164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-1	MW-03	Total/NA	Water	PrecSep_0	
500-103245-2	MW-04	Total/NA	Water	PrecSep_0	
500-103245-3	MW-05	Total/NA	Water	PrecSep_0	
500-103245-4	MW-10	Total/NA	Water	PrecSep_0	
LCS 160-220164/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-220164/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-220164/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 222513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-6	DUPLICATE	Total/NA	Water	PrecSep_0	
LCS 160-222513/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-222513/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-222513/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 222515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103245-6	DUPLICATE	Total/NA	Water	PrecSep-21	
LCS 160-222515/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-222515/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-222515/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-219974/1-A
Matrix: Water
Analysis Batch: 224381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 219974

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01211	U	0.0438	0.0438	0.0877	pCi/L	11/03/15 16:43	11/27/15 18:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*11/03/15 16:43*	*11/27/15 18:47*	*1*

Lab Sample ID: LCS 160-219974/2-A
Matrix: Water
Analysis Batch: 224381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 219974

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	12.40		1.20		0.0741	pCi/L	111	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*

Lab Sample ID: LCSD 160-219974/3-A
Matrix: Water
Analysis Batch: 224381

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 219974

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	11.27		1.10		0.0867	pCi/L	101	68 - 137	0.49	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*

Lab Sample ID: MB 160-222515/1-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222515

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08674		0.0578	0.0583	0.0862	pCi/L	11/17/15 16:50	12/09/15 07:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:18*	*1*

Lab Sample ID: LCS 160-222515/2-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222515

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	11.89		1.15		0.0957	pCi/L	106	68 - 137		

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-222515/2-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222515

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	84.4		40 - 110

Lab Sample ID: LCSD 160-222515/3-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 222515

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	12.64		1.23		0.0586	pCi/L	113	68 - 137	0.32	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	94.7		40 - 110

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-220164/1-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220164

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1662	U	0.221	0.221	0.367	pCi/L	11/04/15 11:01	11/20/15 13:15	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	104		40 - 110	11/04/15 11:01	11/20/15 13:15	1
Y Carrier	92.3		40 - 110	11/04/15 11:01	11/20/15 13:15	1

Lab Sample ID: LCS 160-220164/2-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 220164

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.21	3.384		0.520		0.365	pCi/L	105	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.4		40 - 110
Y Carrier	90.8		40 - 110

Lab Sample ID: LCSD 160-220164/3-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220164

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.21	2.936		0.473		0.351	pCi/L	91	56 - 140	0.45	1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-220164/3-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 220164

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	100		40 - 110
Y Carrier	90.8		40 - 110

Lab Sample ID: MB 160-222513/1-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222513

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2209	U	0.224	0.225	0.365	pCi/L	11/17/15 15:54	11/20/15 13:17	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110	11/17/15 15:54	11/20/15 13:17	1
Y Carrier	92.0		40 - 110	11/17/15 15:54	11/20/15 13:17	1

Lab Sample ID: LCS 160-222513/2-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222513

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.21	2.873		0.502		0.408	pCi/L	89	56 - 140		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	84.4		40 - 110
Y Carrier	92.7		40 - 110

Lab Sample ID: LCSD 160-222513/3-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 222513

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.21	2.851		0.478		0.375	pCi/L	89	56 - 140	0.02	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	94.7		40 - 110
Y Carrier	92.7		40 - 110

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

500-103245 COC

Client Information	Sampler: Ian John Howieson	Lab PM: Stadelmann, Bonnie M	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.		Analysis Requested	Job #: 12313.0 500- 103245
Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:		Preservation Codes:
City: Brookfield	TAT Requested (days): 15 days		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		Other:
Email: richardg@kprginc.com	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	10-28-15	11:30	3	Water	—		X	X	X		
2	MW-04	10-28-15	09:40	3	Water	—		X	X	X		
3	MW-05	10-28-15	13:20	3	Water	—		X	X	X		
4	MW-10	10-28-15	14:40	3	Water	—		X	X	X		
5	Dup	10-28-15	—	3	Water	—		X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10-29-15 1335	KPRG		10/29/15 1335	TAL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ~ Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-103245 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Stadelmann, Bonnie M	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com	Page: Page 1 of 1 103245
Company: KPRG & Associates Inc.			Job #: 12313.0 500- 103879
Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:		
City: Brookfield	TAT Requested (days): 15 days		
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		
Email: richardg@kprginc.com	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
6 MWC8 DUPLICATE	11-11-15	14:15	—	Water			—	—	X	—	
MWC8				Water							
MWC8				Water							
MWA10				Water							
Dup #1				Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	IJH	11-11-15 16:00	KPRG		11/11/15 1600	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-66896.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-103245-1
Address: 13715 Rider Trail North,	Due Date Requested: 11/10/2015			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 50011568			
Project Name: Joliet #29 CCR	SSOW#:			
Site: NRG Midwest Generation LSQ Joliet#29 CCR				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226_Ra228	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-103245-1)	10/28/15	11:30 Central		Water			X	X	X	1	
MW-04 (500-103245-2)	10/28/15	09:40 Central		Water			X	X	X	1	
MW-05 (500-103245-3)	10/28/15	13:20 Central		Water			X	X	X	1	
MW-10 (500-103245-4)	10/28/15	14:40 Central		Water			X	X	X	1	
Dup (500-103245-5)	10/28/15	Central		Water			X	X	X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	10/29/15 1600	TAL	[signature] Clark	11-2-15 0930	TA SR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

12/11/2015

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103245-2

Login Number: 103245
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103245-2

Login Number: 103245
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 11/02/15 12:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	22.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Client Sample ID: MW-03
Date Collected: 10/28/15 11:30
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			219974	11/03/15 16:43	CMT	TAL SL
Total/NA	Analysis	903.0		1	224381	11/27/15 18:47	ALS	TAL SL
Total/NA	Prep	PrecSep_0			220164	11/04/15 11:01	CMC	TAL SL
Total/NA	Analysis	904.0		1	222924	11/20/15 13:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	226651	12/10/15 14:35	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 10/28/15 09:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			219974	11/03/15 16:43	CMT	TAL SL
Total/NA	Analysis	903.0		1	224381	11/27/15 18:47	ALS	TAL SL
Total/NA	Prep	PrecSep_0			220164	11/04/15 11:01	CMC	TAL SL
Total/NA	Analysis	904.0		1	222924	11/20/15 13:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	226651	12/10/15 14:35	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 10/28/15 13:20
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			219974	11/03/15 16:43	CMT	TAL SL
Total/NA	Analysis	903.0		1	224511	11/27/15 18:48	RTM	TAL SL
Total/NA	Prep	PrecSep_0			220164	11/04/15 11:01	CMC	TAL SL
Total/NA	Analysis	904.0		1	222924	11/20/15 13:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	226651	12/10/15 14:35	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 10/28/15 14:40
Date Received: 10/29/15 13:35

Lab Sample ID: 500-103245-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			219974	11/03/15 16:43	CMT	TAL SL
Total/NA	Analysis	903.0		1	224511	11/27/15 18:49	RTM	TAL SL
Total/NA	Prep	PrecSep_0			220164	11/04/15 11:01	CMC	TAL SL
Total/NA	Analysis	904.0		1	222924	11/20/15 13:16	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	226651	12/10/15 14:35	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Client Sample ID: DUPLICATE

Date Collected: 11/11/15 14:15
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103245-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			222515	11/17/15 16:50	MMS	TAL SL
Total/NA	Analysis	903.0		1	226173	12/09/15 07:18	RTM	TAL SL
Total/NA	Prep	PrecSep_0			222513	11/17/15 15:54	MMS	TAL SL
Total/NA	Analysis	904.0		1	222853	11/20/15 13:25	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	226651	12/10/15 14:35	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-103245-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-103245-1	MW-03	95.3
500-103245-2	MW-04	97.1
500-103245-3	MW-05	91.2
500-103245-4	MW-10	89.4
500-103245-6	DUPLICATE	88.8
LCS 160-219974/2-A	Lab Control Sample	99.4
LCS 160-222515/2-A	Lab Control Sample	84.4
LCSD 160-219974/3-A	Lab Control Sample Dup	100
LCSD 160-222515/3-A	Lab Control Sample Dup	94.7
MB 160-219974/1-A	Method Blank	104
MB 160-222515/1-A	Method Blank	93.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-103245-1	MW-03	95.3	90.5
500-103245-2	MW-04	97.1	90.1
500-103245-3	MW-05	91.2	90.1
500-103245-4	MW-10	89.4	90.5
500-103245-6	DUPLICATE	88.8	89.7
LCS 160-220164/2-A	Lab Control Sample	99.4	90.8
LCS 160-222513/2-A	Lab Control Sample	84.4	92.7
LCSD 160-220164/3-A	Lab Control Sample Dup	100	90.8
LCSD 160-222513/3-A	Lab Control Sample Dup	94.7	92.7
MB 160-220164/1-A	Method Blank	104	92.3
MB 160-222513/1-A	Method Blank	93.5	92.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-107512-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
2/25/2016 12:29:21 PM
Robin Kintz, Project Manager II
(708)534-5200
robinm.kintz@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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Visit us at: www.testamericainc.com

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.

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Job ID: 500-107512-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-107512-1

Comments
No additional comments.

Receipt
The samples were received on 2/11/2016 4:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

Metals
Method(s) 3005A: An initial volume(s) of 25ml was used for 500-107512-1. This deviates from the standard procedure and the reporting limits (RLs) have been adjusted proportionately.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-107512-1	MW-03	Water	02/10/16 16:30	02/11/16 16:55
500-107512-2	MW-04	Water	02/10/16 15:10	02/11/16 16:55
500-107512-3	MW-05	Water	02/10/16 11:30	02/11/16 16:55
500-107512-4	MW-10	Water	02/10/16 13:20	02/11/16 16:55
500-107512-5	Dup	Water	02/10/16 00:00	02/11/16 16:55

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-03
Date Collected: 02/10/16 16:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		02/19/16 16:49	02/20/16 20:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 14:33	1
Arsenic	**0.0017**		0.0010		mg/L		02/15/16 09:03	02/16/16 14:33	1
Barium	**0.10**		0.0025		mg/L		02/15/16 09:03	02/16/16 14:33	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 14:33	1
Boron	**0.49**		0.050		mg/L		02/15/16 09:03	02/18/16 11:42	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 14:33	1
Calcium	**100**		0.20		mg/L		02/15/16 09:03	02/16/16 14:33	1
Chromium	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 14:33	1
Cobalt	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 14:33	1
Lead	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 14:33	1
Molybdenum	**0.0060**		0.0050		mg/L		02/15/16 09:03	02/16/16 14:33	1
Selenium	**0.0045**		0.0025		mg/L		02/15/16 09:03	02/16/16 14:33	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 14:33	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			02/15/16 23:11	1
Chloride	**220**		10		mg/L			02/18/16 18:42	5
Fluoride	**0.44**		0.10		mg/L			02/17/16 13:38	1
Sulfate	**130**		25		mg/L			02/22/16 06:10	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-04
Date Collected: 02/10/16 15:10
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		02/19/16 16:49	02/20/16 21:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 14:37	1
Arsenic	**0.0018**		0.0010		mg/L		02/15/16 09:03	02/16/16 14:37	1
Barium	**0.088**		0.0025		mg/L		02/15/16 09:03	02/16/16 14:37	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 14:37	1
Boron	**0.32**		0.050		mg/L		02/15/16 09:03	02/18/16 11:46	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 14:37	1
Calcium	**97**		0.20		mg/L		02/15/16 09:03	02/16/16 14:37	1
Chromium	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 14:37	1
Cobalt	**0.0074**		0.0010		mg/L		02/15/16 09:03	02/16/16 14:37	1
Lead	**0.00062**		0.00050		mg/L		02/15/16 09:03	02/16/16 14:37	1
Molybdenum	**0.0063**		0.0050		mg/L		02/15/16 09:03	02/16/16 14:37	1
Selenium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 14:37	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 14:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 17:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**810**		10		mg/L			02/15/16 23:17	1
Chloride	**210**		10		mg/L			02/18/16 18:42	5
Fluoride	**0.47**		0.10		mg/L			02/17/16 13:40	1
Sulfate	**140**		25		mg/L			02/22/16 06:13	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-05

Date Collected: 02/10/16 11:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		02/19/16 16:49	02/20/16 21:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 14:41	1
Arsenic	**0.0028**		0.0010		mg/L		02/15/16 09:03	02/16/16 14:41	1
Barium	**0.071**		0.0025		mg/L		02/15/16 09:03	02/16/16 14:41	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 14:41	1
Boron	**0.46**		0.050		mg/L		02/15/16 09:03	02/18/16 11:50	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 14:41	1
Calcium	**110**		0.20		mg/L		02/15/16 09:03	02/16/16 14:41	1
Chromium	**0.0062**		0.0050		mg/L		02/15/16 09:03	02/16/16 14:41	1
Cobalt	**0.0013**		0.0010		mg/L		02/15/16 09:03	02/16/16 14:41	1
Lead	**0.0022**		0.00050		mg/L		02/15/16 09:03	02/16/16 14:41	1
Molybdenum	**0.0053**	**F1**	0.0050		mg/L		02/15/16 09:03	02/16/16 14:41	1
Selenium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 14:41	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 14:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			02/15/16 23:19	1
Chloride	**220**		10		mg/L			02/18/16 18:43	5
Fluoride	**0.39**		0.10		mg/L			02/17/16 13:43	1
Sulfate	**120**		25		mg/L			02/22/16 06:14	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-10

Date Collected: 02/10/16 13:20
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		02/19/16 16:49	02/20/16 21:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 15:00	1
Arsenic	**0.0010**		0.0010		mg/L		02/15/16 09:03	02/16/16 15:00	1
Barium	**0.043**		0.0025		mg/L		02/15/16 09:03	02/16/16 15:00	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 15:00	1
Boron	**0.41**		0.050		mg/L		02/15/16 09:03	02/18/16 12:08	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 15:00	1
Calcium	**100**		0.20		mg/L		02/15/16 09:03	02/16/16 15:00	1
Chromium	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 15:00	1
Cobalt	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 15:00	1
Lead	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 15:00	1
Molybdenum	**0.0067**		0.0050		mg/L		02/15/16 09:03	02/16/16 15:00	1
Selenium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 15:00	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 15:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 17:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**820**		10		mg/L			02/15/16 23:22	1
Chloride	**210**		10		mg/L			02/18/16 18:43	5
Fluoride	**0.44**		0.10		mg/L			02/17/16 13:45	1
Sulfate	**120**		25		mg/L			02/22/16 06:15	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: Dup

Date Collected: 02/10/16 00:00
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		02/19/16 16:49	02/20/16 21:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 15:03	1
Arsenic	**0.0011**		0.0010		mg/L		02/15/16 09:03	02/16/16 15:03	1
Barium	**0.044**		0.0025		mg/L		02/15/16 09:03	02/16/16 15:03	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 15:03	1
Boron	**0.40**		0.050		mg/L		02/15/16 09:03	02/18/16 12:23	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 15:03	1
Calcium	**110**		0.20		mg/L		02/15/16 09:03	02/16/16 15:03	1
Chromium	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 15:03	1
Cobalt	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 15:03	1
Lead	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 15:03	1
Molybdenum	**0.0066**		0.0050		mg/L		02/15/16 09:03	02/16/16 15:03	1
Selenium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 15:03	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 15:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 17:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**810**		10		mg/L			02/15/16 23:25	1
Chloride	**210**		10		mg/L			02/18/16 18:45	5
Fluoride	**0.44**		0.10		mg/L			02/17/16 13:48	1
Sulfate	**120**		25		mg/L			02/22/16 06:18	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Metals

Prep Batch: 322659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	7470A	
500-107512-2	MW-04	Total/NA	Water	7470A	
500-107512-3	MW-05	Total/NA	Water	7470A	
500-107512-4	MW-10	Total/NA	Water	7470A	
500-107512-5	Dup	Total/NA	Water	7470A	
LCS 500-322659/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-322659/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 322853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total Recoverable	Water	3005A	
500-107512-2	MW-04	Total Recoverable	Water	3005A	
500-107512-3	MW-05	Total Recoverable	Water	3005A	
500-107512-3 DU	MW-05	Total Recoverable	Water	3005A	
500-107512-3 MS	MW-05	Total Recoverable	Water	3005A	
500-107512-3 MSD	MW-05	Total Recoverable	Water	3005A	
500-107512-4	MW-10	Total Recoverable	Water	3005A	
500-107512-5	Dup	Total Recoverable	Water	3005A	
LCS 500-322853/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-322853/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 322866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	7470A	322659
500-107512-2	MW-04	Total/NA	Water	7470A	322659
500-107512-3	MW-05	Total/NA	Water	7470A	322659
500-107512-4	MW-10	Total/NA	Water	7470A	322659
500-107512-5	Dup	Total/NA	Water	7470A	322659
LCS 500-322659/13-A	Lab Control Sample	Total/NA	Water	7470A	322659
MB 500-322659/12-A	Method Blank	Total/NA	Water	7470A	322659

Analysis Batch: 323181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total Recoverable	Water	6020A	322853
500-107512-2	MW-04	Total Recoverable	Water	6020A	322853
500-107512-3	MW-05	Total Recoverable	Water	6020A	322853
500-107512-3 DU	MW-05	Total Recoverable	Water	6020A	322853
500-107512-3 MS	MW-05	Total Recoverable	Water	6020A	322853
500-107512-3 MSD	MW-05	Total Recoverable	Water	6020A	322853
500-107512-4	MW-10	Total Recoverable	Water	6020A	322853
500-107512-5	Dup	Total Recoverable	Water	6020A	322853
LCS 500-322853/2-A	Lab Control Sample	Total Recoverable	Water	6020A	322853
MB 500-322853/1-A	Method Blank	Total Recoverable	Water	6020A	322853

Analysis Batch: 323537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total Recoverable	Water	6020A	322853
500-107512-2	MW-04	Total Recoverable	Water	6020A	322853
500-107512-3	MW-05	Total Recoverable	Water	6020A	322853
500-107512-3 DU	MW-05	Total Recoverable	Water	6020A	322853
500-107512-3 MS	MW-05	Total Recoverable	Water	6020A	322853

Metals (Continued)

Analysis Batch: 323537 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-3 MSD	MW-05	Total Recoverable	Water	6020A	322853
500-107512-4	MW-10	Total Recoverable	Water	6020A	322853
500-107512-5	Dup	Total Recoverable	Water	6020A	322853
LCS 500-322853/2-A	Lab Control Sample	Total Recoverable	Water	6020A	322853
MB 500-322853/1-A	Method Blank	Total Recoverable	Water	6020A	322853

Prep Batch: 323651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total Recoverable	Water	3005A	
500-107512-2	MW-04	Total Recoverable	Water	3005A	
500-107512-3	MW-05	Total Recoverable	Water	3005A	
500-107512-4	MW-10	Total Recoverable	Water	3005A	
500-107512-5	Dup	Total Recoverable	Water	3005A	
LCS 500-323651/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 500-323651/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 500-323651/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 323879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total Recoverable	Water	6010C	323651
500-107512-2	MW-04	Total Recoverable	Water	6010C	323651
500-107512-3	MW-05	Total Recoverable	Water	6010C	323651
500-107512-4	MW-10	Total Recoverable	Water	6010C	323651
500-107512-5	Dup	Total Recoverable	Water	6010C	323651
LCS 500-323651/2-A	Lab Control Sample	Total Recoverable	Water	6010C	323651
LCSD 500-323651/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	323651
MB 500-323651/1-A	Method Blank	Total Recoverable	Water	6010C	323651

General Chemistry

Analysis Batch: 322964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	SM 2540C	
500-107512-1 DU	MW-03	Total/NA	Water	SM 2540C	
500-107512-2	MW-04	Total/NA	Water	SM 2540C	
500-107512-3	MW-05	Total/NA	Water	SM 2540C	
500-107512-4	MW-10	Total/NA	Water	SM 2540C	
500-107512-5	Dup	Total/NA	Water	SM 2540C	
LCS 500-322964/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-322964/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 323254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	SM 4500 F C	
500-107512-2	MW-04	Total/NA	Water	SM 4500 F C	
500-107512-3	MW-05	Total/NA	Water	SM 4500 F C	
500-107512-4	MW-10	Total/NA	Water	SM 4500 F C	
500-107512-5	Dup	Total/NA	Water	SM 4500 F C	
LCS 500-323254/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-323254/3	Method Blank	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 323472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-107512-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-107512-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-107512-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-107512-4 MS	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-107512-4 MSD	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-107512-5	Dup	Total/NA	Water	SM 4500 Cl- E	
LCS 500-323472/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-323472/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 323847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-107512-1 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-107512-1 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-107512-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-107512-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-107512-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-107512-5	Dup	Total/NA	Water	SM 4500 SO4 E	
LCS 500-323847/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-323847/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-323651/1-A
Matrix: Water
Analysis Batch: 323879

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 323651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		02/19/16 16:49	02/20/16 20:44	1

Lab Sample ID: LCS 500-323651/2-A
Matrix: Water
Analysis Batch: 323879

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 323651

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.526		mg/L		105	80 - 120

Lab Sample ID: LCSD 500-323651/3-A
Matrix: Water
Analysis Batch: 323879

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 323651

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.500	0.551		mg/L		110	80 - 120	5	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-322853/1-A
Matrix: Water
Analysis Batch: 323181

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/15/16 09:03	02/16/16 12:38	1
Arsenic	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 12:38	1
Barium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 12:38	1
Beryllium	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 12:38	1
Cadmium	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 12:38	1
Calcium	<0.20		0.20		mg/L		02/15/16 09:03	02/16/16 12:38	1
Chromium	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 12:38	1
Cobalt	<0.0010		0.0010		mg/L		02/15/16 09:03	02/16/16 12:38	1
Lead	<0.00050		0.00050		mg/L		02/15/16 09:03	02/16/16 12:38	1
Molybdenum	<0.0050		0.0050		mg/L		02/15/16 09:03	02/16/16 12:38	1
Selenium	<0.0025		0.0025		mg/L		02/15/16 09:03	02/16/16 12:38	1
Thallium	<0.0020		0.0020		mg/L		02/15/16 09:03	02/16/16 12:38	1

Lab Sample ID: MB 500-322853/1-A
Matrix: Water
Analysis Batch: 323537

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		02/15/16 09:03	02/18/16 11:35	1

Lab Sample ID: LCS 500-322853/2-A
Matrix: Water
Analysis Batch: 323181

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.529		mg/L		106	80 - 120

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

Lab Sample ID: LCS 500-322853/2-A
Matrix: Water
Analysis Batch: 323181

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.103		mg/L		103	80 - 120
Barium	0.500	0.527		mg/L		105	80 - 120
Beryllium	0.0500	0.0482		mg/L		96	80 - 120
Cadmium	0.0500	0.0532		mg/L		106	80 - 120
Calcium	10.0	11.3		mg/L		113	80 - 120
Chromium	0.200	0.207		mg/L		103	80 - 120
Cobalt	0.500	0.539		mg/L		108	80 - 120
Lead	0.100	0.102		mg/L		102	80 - 120
Molybdenum	1.00	1.04		mg/L		104	80 - 120
Selenium	0.100	0.104		mg/L		104	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120

Lab Sample ID: LCS 500-322853/2-A
Matrix: Water
Analysis Batch: 323537

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.996		mg/L		100	80 - 120

Lab Sample ID: 500-107512-3 MS
Matrix: Water
Analysis Batch: 323181

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.548		mg/L		110	75 - 125
Arsenic	0.0028		0.100	0.106		mg/L		103	75 - 125
Barium	0.071		0.500	0.570		mg/L		100	75 - 125
Beryllium	<0.0010		0.0500	0.0528		mg/L		106	75 - 125
Cadmium	<0.00050		0.0500	0.0518		mg/L		104	75 - 125
Calcium	110		10.0	122	4	mg/L		74	75 - 125
Chromium	0.0062		0.200	0.199		mg/L		97	75 - 125
Cobalt	0.0013		0.500	0.506		mg/L		101	75 - 125
Lead	0.0022		0.100	0.103		mg/L		101	75 - 125
Molybdenum	0.0053	F1	1.00	0.733	F1	mg/L		73	75 - 125
Selenium	<0.0025		0.100	0.105		mg/L		103	75 - 125
Thallium	<0.0020		0.100	0.101		mg/L		101	75 - 125

Lab Sample ID: 500-107512-3 MS
Matrix: Water
Analysis Batch: 323537

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.46		1.00	1.54		mg/L		109	75 - 125

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

Lab Sample ID: 500-107512-3 MSD
Matrix: Water
Analysis Batch: 323181

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.548		mg/L		110	75 - 125	0	20
Arsenic	0.0028		0.100	0.105		mg/L		103	75 - 125	1	20
Barium	0.071		0.500	0.569		mg/L		100	75 - 125	0	20
Beryllium	<0.0010		0.0500	0.0517		mg/L		103	75 - 125	2	20
Cadmium	<0.00050		0.0500	0.0522		mg/L		104	75 - 125	1	20
Calcium	110		10.0	123	4	mg/L		84	75 - 125	1	20
Chromium	0.0062		0.200	0.205		mg/L		100	75 - 125	3	20
Cobalt	0.0013		0.500	0.508		mg/L		101	75 - 125	0	20
Lead	0.0022		0.100	0.104		mg/L		102	75 - 125	1	20
Molybdenum	0.0053	F1	1.00	0.727	F1	mg/L		72	75 - 125	1	20
Selenium	<0.0025		0.100	0.104		mg/L		102	75 - 125	1	20
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125	1	20

Lab Sample ID: 500-107512-3 MSD
Matrix: Water
Analysis Batch: 323537

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.46		1.00	1.41		mg/L		95	75 - 125	9	20

Lab Sample ID: 500-107512-3 DU
Matrix: Water
Analysis Batch: 323181

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0028			0.00273		mg/L				0.8	20
Barium	0.071			0.0695		mg/L				2	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	110			114		mg/L				1	20
Chromium	0.0062			<0.0050		mg/L				NC	20
Cobalt	0.0013			0.00132		mg/L				0.5	20
Lead	0.0022			0.00220		mg/L				0.5	20
Molybdenum	0.0053	F1		0.00530		mg/L				0.2	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-107512-3 DU
Matrix: Water
Analysis Batch: 323537

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 322853

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	0.46			0.442		mg/L				3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-322659/12-A
Matrix: Water
Analysis Batch: 322866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 322659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/12/16 15:50	02/14/16 16:23	1

Lab Sample ID: LCS 500-322659/13-A
Matrix: Water
Analysis Batch: 322866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 322659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00190		mg/L		95	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-322964/1
Matrix: Water
Analysis Batch: 322964

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/16 22:52	1

Lab Sample ID: LCS 500-322964/2
Matrix: Water
Analysis Batch: 322964

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

Lab Sample ID: 500-107512-1 DU
Matrix: Water
Analysis Batch: 322964

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	790		806		mg/L		2	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-323472/12
Matrix: Water
Analysis Batch: 323472

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			02/18/16 18:05	1

Lab Sample ID: LCS 500-323472/13
Matrix: Water
Analysis Batch: 323472

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.8		mg/L		100	80 - 120

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-107512-4 MS
Matrix: Water
Analysis Batch: 323472

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	210		50.0	254	4	mg/L		82	75 - 125

Lab Sample ID: 500-107512-4 MSD
Matrix: Water
Analysis Batch: 323472

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	210		50.0	254	4	mg/L		83	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-323254/3
Matrix: Water
Analysis Batch: 323254

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			02/17/16 12:58	1

Lab Sample ID: LCS 500-323254/4
Matrix: Water
Analysis Batch: 323254

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.2		mg/L		102	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-323847/3
Matrix: Water
Analysis Batch: 323847

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			02/22/16 06:06	1

Lab Sample ID: LCS 500-323847/4
Matrix: Water
Analysis Batch: 323847

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		99	80 - 120

Lab Sample ID: 500-107512-1 MS
Matrix: Water
Analysis Batch: 323847

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	130		200	346		mg/L		106	75 - 125

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-107512-1 MSD
Matrix: Water
Analysis Batch: 323847

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	130		200	358		mg/L		112	75 - 125	4	20

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

ERIC LANG

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: ~~Stadelmann, Bonnie M~~	Carrier Tracking No(s):	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 12313.0 500-107512

Address: 14665 W. Lisbon Rd, Suite 2B
City: Brookfield
State, Zip: WI, 53005
Phone: 262-781-0475
Email: richardg@kprginc.com
Project Name: Quarterly MWG Joliet #29 CCR
Site: Illinois

500-107512 COC

Due Date Requested:
TAT Requested (days): 15 days
PO #: 4501575426 Line Item 00040
WO #: 35589579
Project #: 50011568
SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	2-10-16	16:30	5	Water	N		X	X	X		
2	MW-04	2-10-16	15:10	5	Water	N		X	X	X		
3	MW-05	2-10-16	11:30	5	Water	N		X	X	X		
4	MW-10	2-10-16	13:20	5	Water	N		X	X	X		
5	Dup	2-10-16	—	5	Water	N		X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2-11-16 16:55	KPRG		02/11/16 16:55	TA-CHI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.3, 0.9, 3.6, 1.5, 4.1
AS 02/11/16

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107512-1

Login Number: 107512
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-03
Date Collected: 02/10/16 16:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			323651	02/19/16 16:49	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	323879	02/20/16 20:57	PJ1	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323181	02/16/16 14:33	PFK	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323537	02/18/16 11:42	PFK	TAL CHI
Total/NA	Prep	7470A			322659	02/12/16 15:50	MJD	TAL CHI
Total/NA	Analysis	7470A		1	322866	02/14/16 17:08	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	322964	02/15/16 23:11	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	323472	02/18/16 18:42	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	323254	02/17/16 13:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	323847		CLB	TAL CHI
					(Start)	02/22/16 06:10		
					(End)	02/22/16 06:11		

Client Sample ID: MW-04
Date Collected: 02/10/16 15:10
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			323651	02/19/16 16:49	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	323879	02/20/16 21:01	PJ1	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323181	02/16/16 14:37	PFK	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323537	02/18/16 11:46	PFK	TAL CHI
Total/NA	Prep	7470A			322659	02/12/16 15:50	MJD	TAL CHI
Total/NA	Analysis	7470A		1	322866	02/14/16 17:09	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	322964	02/15/16 23:17	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	323472	02/18/16 18:42	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	323254	02/17/16 13:40	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	323847		CLB	TAL CHI
					(Start)	02/22/16 06:13		
					(End)	02/22/16 06:14		

Client Sample ID: MW-05
Date Collected: 02/10/16 11:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			323651	02/19/16 16:49	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	323879	02/20/16 21:05	PJ1	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: MW-05

Date Collected: 02/10/16 11:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	323181	02/16/16 14:41	PFK	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323537	02/18/16 11:50	PFK	TAL CHI
Total/NA	Prep	7470A			322659	02/12/16 15:50	MJD	TAL CHI
Total/NA	Analysis	7470A		1	322866	02/14/16 17:11	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	322964	02/15/16 23:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	323472	02/18/16 18:43	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	323254	02/17/16 13:43	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	323847		CLB	TAL CHI
					(Start)	02/22/16 06:14		
					(End)	02/22/16 06:15		

Client Sample ID: MW-10

Date Collected: 02/10/16 13:20
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			323651	02/19/16 16:49	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	323879	02/20/16 21:09	PJ1	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323181	02/16/16 15:00	PFK	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323537	02/18/16 12:08	PFK	TAL CHI
Total/NA	Prep	7470A			322659	02/12/16 15:50	MJD	TAL CHI
Total/NA	Analysis	7470A		1	322866	02/14/16 17:13	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	322964	02/15/16 23:22	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	323472	02/18/16 18:43	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	323254	02/17/16 13:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	323847		CLB	TAL CHI
					(Start)	02/22/16 06:15		
					(End)	02/22/16 06:16		

Client Sample ID: Dup

Date Collected: 02/10/16 00:00
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			323651	02/19/16 16:49	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	323879	02/20/16 21:13	PJ1	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323181	02/16/16 15:03	PFK	TAL CHI
Total Recoverable	Prep	3005A			322853	02/15/16 09:03	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	323537	02/18/16 12:23	PFK	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-1

Client Sample ID: Dup

Date Collected: 02/10/16 00:00
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			322659	02/12/16 15:50	MJD	TAL CHI
Total/NA	Analysis	7470A		1	322866	02/14/16 17:19	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	322964	02/15/16 23:25	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	323472	02/18/16 18:45	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	323254	02/17/16 13:48	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	323847		CLB	TAL CHI
					(Start)	02/22/16 06:18		
					(End)	02/22/16 06:19		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-107512-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/11/2016 2:44:18 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Job ID: 500-107512-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-107512-2

Comments
No additional comments.

Receipt
The samples were received on 2/11/2016 4:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1º C.

RAD
Method(s) 904.0: Radium-228 Prep Batch 160-236585:
The radium-228 detection goal was not met for the following samples due to the reduced sample volume attributed to the presence of matrix interferences (see prep NCM 78398): MW-03 (500-107512-1) and MW-04 (500-107512-2). Analytical results are reported with the detection limit achieved.

Method(s) PrecSep_0: Radium-226 Prep Batch 160-236650:The following sample were prepared at a reduced aliquot due to cloudiness and slightly discolored: MW-03 (500-107512-1), MW-04 (500-107512-2), MW-05 (500-107512-3) and MW-10 (500-107512-4) .

Method(s) PrecSep-21: Radium-226 Prep Batch 160-236650:The following sample were prepared at a reduced aliquot due to cloudiness and slightly discolored: MW-03 (500-107512-1), MW-04 (500-107512-2), MW-05 (500-107512-3) and MW-10 (500-107512-4) .

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-107512-1	MW-03	Water	02/10/16 16:30	02/11/16 16:55
500-107512-2	MW-04	Water	02/10/16 15:10	02/11/16 16:55
500-107512-3	MW-05	Water	02/10/16 11:30	02/11/16 16:55
500-107512-4	MW-10	Water	02/10/16 13:20	02/11/16 16:55
500-107512-5	Dup	Water	02/10/16 00:00	02/11/16 16:55

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Client Sample ID: MW-03

Date Collected: 02/10/16 16:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.213	U	0.179	0.180	1.00	0.270	pCi/L	02/15/16 14:09	03/08/16 06:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.3*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.668	U G	1.00	1.01	1.00	1.68	pCi/L	02/15/16 13:44	02/29/16 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.3*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*
Y Carrier	*89.0*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.882	U	1.02	1.02	5.00	1.68	pCi/L		03/10/16 20:52	1

Client Sample ID: MW-04

Date Collected: 02/10/16 15:10
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.615**		0.264	0.269	1.00	0.315	pCi/L	02/15/16 14:09	03/08/16 06:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.4*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.550	U G	0.899	0.900	1.00	1.52	pCi/L	02/15/16 13:44	02/29/16 12:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.4*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*
Y Carrier	*93.5*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.16	U	0.936	0.939	5.00	1.52	pCi/L		03/10/16 20:52	1

Client Sample ID: MW-05

Date Collected: 02/10/16 11:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.194		0.114	0.115	1.00	0.157	pCi/L	02/15/16 14:09	03/08/16 06:44	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:44*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.892		0.513	0.520	1.00	0.777	pCi/L	02/15/16 13:44	02/29/16 12:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*
Y Carrier	*85.6*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.09		0.526	0.533	5.00	0.777	pCi/L		03/10/16 20:52	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Client Sample ID: MW-10

Date Collected: 02/10/16 13:20
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0724		0.0505	0.0509	1.00	0.0697	pCi/L	02/15/16 14:09	03/08/16 06:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0260	U	0.248	0.248	1.00	0.438	pCi/L	02/15/16 13:44	02/29/16 12:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.1*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*
Y Carrier	*93.1*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0984	U	0.253	0.253	5.00	0.438	pCi/L		03/10/16 20:52	1

Client Sample ID: Dup

Date Collected: 02/10/16 00:00
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.237		0.109	0.111	1.00	0.119	pCi/L	02/15/16 14:09	03/08/16 06:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:45*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0634	U	0.500	0.500	1.00	0.900	pCi/L	02/15/16 13:44	02/29/16 12:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.7*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*
Y Carrier	*92.3*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:35*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.174	U	0.512	0.512	5.00	0.900	pCi/L		03/10/16 20:52	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Rad

Prep Batch: 236585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	PrecSep_0	
500-107512-2	MW-04	Total/NA	Water	PrecSep_0	
500-107512-3	MW-05	Total/NA	Water	PrecSep_0	
500-107512-4	MW-10	Total/NA	Water	PrecSep_0	
500-107512-5	Dup	Total/NA	Water	PrecSep_0	
LCS 160-236585/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-236585/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-236585/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 236650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107512-1	MW-03	Total/NA	Water	PrecSep-21	
500-107512-2	MW-04	Total/NA	Water	PrecSep-21	
500-107512-3	MW-05	Total/NA	Water	PrecSep-21	
500-107512-4	MW-10	Total/NA	Water	PrecSep-21	
500-107512-5	Dup	Total/NA	Water	PrecSep-21	
LCS 160-236650/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-236650/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-236650/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-236650/1-A
Matrix: Water
Analysis Batch: 239470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236650

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04415	U	0.0673	0.0674	1.00	0.116	pCi/L	02/15/16 14:09	03/08/16 06:44	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/15/16 14:09*	*03/08/16 06:44*	*1*

Lab Sample ID: LCS 160-236650/2-A
Matrix: Water
Analysis Batch: 239470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236650

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			22.3	22.90		2.23	1.00	0.119	pCi/L	103	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Lab Sample ID: LCSD 160-236650/3-A
Matrix: Water
Analysis Batch: 239470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236650

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			22.3	24.06		2.34	1.00	0.121	pCi/L	108	68 - 137	0.25	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*107*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-236585/1-A
Matrix: Water
Analysis Batch: 238459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236585

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2938	U	0.484	0.484	1.00	0.814	pCi/L	02/15/16 13:44	02/29/16 12:34	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*
Y Carrier	*92.7*		*40 - 110*	*02/15/16 13:44*	*02/29/16 12:34*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-236585/2-A
Matrix: Water
Analysis Batch: 238459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236585

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			18.7	18.71		2.13	1.00	0.709	pCi/L	100	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*91.2*		*40 - 110*

Lab Sample ID: LCSD 160-236585/3-A
Matrix: Water
Analysis Batch: 238459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236585

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			18.7	17.54		2.00	1.00	0.716	pCi/L	94	56 - 140	0.28	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*107*		*40 - 110*
Y Carrier	*95.7*		*40 - 110*

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

ERIC LANG

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: ~~Stadelmann, Bonnie M~~	Carrier Tracking No(s):	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 12313.0 500-107512

Address: 14665 W. Lisbon Rd, Suite 2B
City: Brookfield
State, Zip: WI, 53005
Phone: 262-781-0475
Email: richardg@kprginc.com
Project Name: Quarterly MWG Joliet #29 CCR
Site: Illinois

500-107512 COC

Due Date Requested:
TAT Requested (days): 15 days
PO #: 4501575426 Line Item 00040
WO #: 35589579
Project #: 50011568
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	2-10-16	16:30	5	Water	N		X	X	X		
2	MW-04	2-10-16	15:10	5	Water	N		X	X	X		
3	MW-05	2-10-16	11:30	5	Water	N		X	X	X		
4	MW-10	2-10-16	13:20	5	Water	N		X	X	X		
5	Dup	2-10-16	—	5	Water	N		X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		2-11-16 16:55	KPRG		02/11/16 16:55	TA-CHI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.3, 0.9, 3.6, 1.5, 4.1 AS 02/11/16

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

ERIC LANG

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: ~~Stadelmann, Bonnie M~~	Carrier Tracking No(s):	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850 : ianh@kprginc.com	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 12313.0 500-107512

Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Brookfield	TAT Requested (days): 15 days		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WI, 53005			Other:
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		
Email: richardg@kprginc.com	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

500-107512 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	D		
MW-03	2-10-16	16:30	5	Water	N		X	X	X		
MW-04	2-10-16	15:10	5	Water	N		X	X	X		
MW-05	2-10-16	11:30	5	Water	N		X	X	X		
MW-10	2-10-16	13:20	5	Water	N		X	X	X		
Dup	2-10-16	—	5	Water	N		X	X	X		

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Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 2-11-16 16:55	Company: KPRG	Received by:	Date/Time: 02/11/16 16:55	Company: TA-CHI
Relinquished by: FEDEX	Date/Time:	Company	Received by: C McK	Date/Time: 021316 0850	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: ~~2.3~~, ~~0.9~~, ~~3.6~~, ~~1.5~~, 4.1 Le 0.1.1.

3/11/2016

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

C500-107512

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-70538.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-107512-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/23/2016			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-03 (500-107512-1)	2/10/16	16:30 Central		Water			X	X	3	
MW-04 (500-107512-2)	2/10/16	15:10 Central		Water			X	X	3	
MW-05 (500-107512-3)	2/10/16	11:30 Central		Water			X	X	3	
MW-10 (500-107512-4)	2/10/16	13:20 Central		Water			X	X	3	
Dup (500-107512-5)	2/10/16	Central		Water			X	X	3	

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	[signature]	02/12/16 17:00	TA ETA	[signature]	02 13 16 0850	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

3/11/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107512-2

Login Number: 107512
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107512-2

Login Number: 107512
List Number: 2
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis
List Creation: 02/13/16 10:19 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	9.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Client Sample ID: MW-03
Date Collected: 02/10/16 16:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			236650	02/15/16 14:09	CMS	TAL SL
Total/NA	Analysis	903.0		1	239470	03/08/16 06:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			236585	02/15/16 13:44	CMS	TAL SL
Total/NA	Analysis	904.0		1	238459	02/29/16 12:34	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	240008	03/10/16 20:52	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 02/10/16 15:10
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			236650	02/15/16 14:09	CMS	TAL SL
Total/NA	Analysis	903.0		1	239470	03/08/16 06:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			236585	02/15/16 13:44	CMS	TAL SL
Total/NA	Analysis	904.0		1	238459	02/29/16 12:34	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	240008	03/10/16 20:52	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 02/10/16 11:30
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			236650	02/15/16 14:09	CMS	TAL SL
Total/NA	Analysis	903.0		1	239470	03/08/16 06:44	RTM	TAL SL
Total/NA	Prep	PrecSep_0			236585	02/15/16 13:44	CMS	TAL SL
Total/NA	Analysis	904.0		1	238459	02/29/16 12:35	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	240008	03/10/16 20:52	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 02/10/16 13:20
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			236650	02/15/16 14:09	CMS	TAL SL
Total/NA	Analysis	903.0		1	239470	03/08/16 06:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			236585	02/15/16 13:44	CMS	TAL SL
Total/NA	Analysis	904.0		1	238459	02/29/16 12:35	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	240008	03/10/16 20:52	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Client Sample ID: Dup

Date Collected: 02/10/16 00:00
Date Received: 02/11/16 16:55

Lab Sample ID: 500-107512-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			236650	02/15/16 14:09	CMS	TAL SL
Total/NA	Analysis	903.0		1	239470	03/08/16 06:45	RTM	TAL SL
Total/NA	Prep	PrecSep_0			236585	02/15/16 13:44	CMS	TAL SL
Total/NA	Analysis	904.0		1	238459	02/29/16 12:35	ALS	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	240008	03/10/16 20:52	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-107512-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-107512-1	MW-03	98.3
500-107512-2	MW-04	92.4
500-107512-3	MW-05	99.4
500-107512-4	MW-10	94.1
500-107512-5	Dup	88.7
LCS 160-236650/2-A	Lab Control Sample	106
LCSD 160-236650/3-A	Lab Control Sample Dup	107
MB 160-236650/1-A	Method Blank	101

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-107512-1	MW-03	98.3	89.0
500-107512-2	MW-04	92.4	93.5
500-107512-3	MW-05	99.4	85.6
500-107512-4	MW-10	94.1	93.1
500-107512-5	Dup	88.7	92.3
LCS 160-236585/2-A	Lab Control Sample	106	91.2
LCSD 160-236585/3-A	Lab Control Sample Dup	107	95.7
MB 160-236585/1-A	Method Blank	101	92.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-111523-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/31/2016 5:33:24 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Job ID: 500-111523-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-111523-1

Comments
No additional comments.

Receipt
The samples were received on 5/12/2016 1:44 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.9º C and 2.8º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-111523-1	MW-03	Water	05/10/16 14:04	05/12/16 13:44
500-111523-2	MW-04	Water	05/10/16 12:43	05/12/16 13:44
500-111523-3	MW-05	Water	05/10/16 15:48	05/12/16 13:44
500-111523-4	MW-10	Water	05/12/16 08:25	05/12/16 13:44
500-111523-5	Dup	Water	05/10/16 00:00	05/12/16 13:44

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-03
Date Collected: 05/10/16 14:04
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		05/17/16 15:24	05/18/16 18:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 18:07	1
Arsenic	**0.0011**		0.0010		mg/L		05/17/16 15:24	05/19/16 18:07	1
Barium	**0.095**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:07	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:07	1
Boron	**0.48**		0.050		mg/L		05/17/16 15:24	05/20/16 17:46	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 18:07	1
Calcium	**95**		0.20		mg/L		05/17/16 15:24	05/19/16 18:07	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 18:07	1
Cobalt	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:07	1
Lead	<0.00050		0.00050		mg/L		05/17/16 15:24	05/20/16 17:46	1
Molybdenum	**0.0062**		0.0050		mg/L		05/17/16 15:24	05/19/16 18:07	1
Selenium	**0.0030**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:07	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 17:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 12:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**800**		10		mg/L			05/13/16 02:24	1
Chloride	**240**		10		mg/L			05/20/16 23:43	5
Fluoride	**0.44**		0.10		mg/L			05/21/16 18:41	1
Sulfate	**130**		25		mg/L			05/24/16 08:08	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-04
Date Collected: 05/10/16 12:43
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		05/17/16 15:24	05/18/16 18:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 18:10	1
Arsenic	**0.0014**		0.0010		mg/L		05/17/16 15:24	05/19/16 18:10	1
Barium	**0.088**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:10	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:10	1
Boron	**0.47**		0.050		mg/L		05/17/16 15:24	05/20/16 17:50	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 18:10	1
Calcium	**100**		0.20		mg/L		05/17/16 15:24	05/19/16 18:10	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 18:10	1
Cobalt	**0.0086**		0.0010		mg/L		05/17/16 15:24	05/19/16 18:10	1
Lead	<0.00050		0.00050		mg/L		05/17/16 15:24	05/20/16 17:50	1
Molybdenum	**0.0088**		0.0050		mg/L		05/17/16 15:24	05/19/16 18:10	1
Selenium	<0.0025		0.0025		mg/L		05/17/16 15:24	05/19/16 18:10	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 17:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**900**		10		mg/L			05/13/16 02:30	1
Chloride	**260**		10		mg/L			05/20/16 23:43	5
Fluoride	**0.46**		0.10		mg/L			05/21/16 18:52	1
Sulfate	**150**		50		mg/L			05/24/16 08:09	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-05
Date Collected: 05/10/16 15:48
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		05/17/16 15:24	05/18/16 18:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 18:14	1
Arsenic	**0.0023**		0.0010		mg/L		05/17/16 15:24	05/19/16 18:14	1
Barium	**0.075**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:14	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:14	1
Boron	**0.80**		0.050		mg/L		05/17/16 15:24	05/20/16 17:54	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 18:14	1
Calcium	**150**		0.20		mg/L		05/17/16 15:24	05/19/16 18:14	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 18:14	1
Cobalt	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:14	1
Lead	**0.0022**		0.00050		mg/L		05/17/16 15:24	05/20/16 17:54	1
Molybdenum	**0.0080**		0.0050		mg/L		05/17/16 15:24	05/19/16 18:14	1
Selenium	**0.019**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:14	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 17:54	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**950**		10		mg/L			05/13/16 02:32	1
Chloride	**220**		10		mg/L			05/20/16 23:44	5
Fluoride	**0.46**		0.10		mg/L			05/21/16 18:59	1
Sulfate	**290**		50		mg/L			05/24/16 08:10	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-10
Date Collected: 05/12/16 08:25
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		05/17/16 15:24	05/18/16 18:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 18:18	1
Arsenic	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:18	1
Barium	**0.046**		0.0025		mg/L		05/17/16 15:24	05/19/16 18:18	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:18	1
Boron	**0.29**		0.050		mg/L		05/17/16 15:24	05/20/16 17:58	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 18:18	1
Calcium	**100**		0.20		mg/L		05/17/16 15:24	05/19/16 18:18	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 18:18	1
Cobalt	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:18	1
Lead	<0.00050		0.00050		mg/L		05/17/16 15:24	05/20/16 17:58	1
Molybdenum	**0.0051**		0.0050		mg/L		05/17/16 15:24	05/19/16 18:18	1
Selenium	<0.0025		0.0025		mg/L		05/17/16 15:24	05/19/16 18:18	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 17:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 12:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**920**		10		mg/L			05/13/16 02:35	1
Chloride	**300**		10		mg/L			05/20/16 23:44	5
Fluoride	**0.42**		0.10		mg/L			05/21/16 19:11	1
Sulfate	**110**		25		mg/L			05/24/16 08:11	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: Dup
Date Collected: 05/10/16 00:00
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.014		0.010		mg/L		05/17/16 15:24	05/18/16 19:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 18:22	1
Arsenic	0.0029		0.0010		mg/L		05/17/16 15:24	05/19/16 18:22	1
Barium	0.071		0.0025		mg/L		05/17/16 15:24	05/19/16 18:22	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 18:22	1
Boron	0.74		0.050		mg/L		05/17/16 15:24	05/20/16 18:01	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 18:22	1
Calcium	150		0.20		mg/L		05/17/16 15:24	05/19/16 18:22	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 18:22	1
Cobalt	0.0012		0.0010		mg/L		05/17/16 15:24	05/19/16 18:22	1
Lead	0.0030		0.00050		mg/L		05/17/16 15:24	05/20/16 18:01	1
Molybdenum	0.0068		0.0050		mg/L		05/13/16 13:14	05/23/16 22:26	1
Selenium	0.018		0.0025		mg/L		05/17/16 15:24	05/19/16 18:22	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 18:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 12:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/13/16 02:38	1
Chloride	230		10		mg/L			05/20/16 23:45	5
Fluoride	0.46		0.10		mg/L			05/21/16 19:14	1
Sulfate	290		50		mg/L			05/24/16 08:12	10

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Metals

Prep Batch: 335378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-5	Dup	Total Recoverable	Water	3005A	
LCS 500-335378/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-335378/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 335892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total Recoverable	Water	3005A	
500-111523-2	MW-04	Total Recoverable	Water	3005A	
500-111523-3	MW-05	Total Recoverable	Water	3005A	
500-111523-4	MW-10	Total Recoverable	Water	3005A	
500-111523-5	Dup	Total Recoverable	Water	3005A	
LCS 500-335892/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-335892/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 336164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total Recoverable	Water	6010C	335892
500-111523-2	MW-04	Total Recoverable	Water	6010C	335892
500-111523-3	MW-05	Total Recoverable	Water	6010C	335892
500-111523-4	MW-10	Total Recoverable	Water	6010C	335892
500-111523-5	Dup	Total Recoverable	Water	6010C	335892
LCS 500-335892/2-A	Lab Control Sample	Total Recoverable	Water	6010C	335892
MB 500-335892/1-A	Method Blank	Total Recoverable	Water	6010C	335892

Analysis Batch: 336337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total Recoverable	Water	6020A	335892
500-111523-2	MW-04	Total Recoverable	Water	6020A	335892
500-111523-3	MW-05	Total Recoverable	Water	6020A	335892
500-111523-4	MW-10	Total Recoverable	Water	6020A	335892
500-111523-5	Dup	Total Recoverable	Water	6020A	335892
LCS 500-335892/2-A	Lab Control Sample	Total Recoverable	Water	6020A	335892
MB 500-335892/1-A	Method Blank	Total Recoverable	Water	6020A	335892

Analysis Batch: 336668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total Recoverable	Water	6020A	335892
500-111523-2	MW-04	Total Recoverable	Water	6020A	335892
500-111523-3	MW-05	Total Recoverable	Water	6020A	335892
500-111523-4	MW-10	Total Recoverable	Water	6020A	335892
500-111523-5	Dup	Total Recoverable	Water	6020A	335892
LCS 500-335892/2-A	Lab Control Sample	Total Recoverable	Water	6020A	335892
MB 500-335892/1-A	Method Blank	Total Recoverable	Water	6020A	335892

Analysis Batch: 336858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-5	Dup	Total Recoverable	Water	6020A	335378
LCS 500-335378/2-A	Lab Control Sample	Total Recoverable	Water	6020A	335378
MB 500-335378/1-A	Method Blank	Total Recoverable	Water	6020A	335378

Metals (Continued)

Prep Batch: 336919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	7470A	
500-111523-2	MW-04	Total/NA	Water	7470A	
500-111523-3	MW-05	Total/NA	Water	7470A	
500-111523-4	MW-10	Total/NA	Water	7470A	
500-111523-5	Dup	Total/NA	Water	7470A	
LCS 500-336919/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-336919/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 337097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	7470A	336919
500-111523-2	MW-04	Total/NA	Water	7470A	336919
500-111523-3	MW-05	Total/NA	Water	7470A	336919
500-111523-4	MW-10	Total/NA	Water	7470A	336919
500-111523-5	Dup	Total/NA	Water	7470A	336919
LCS 500-336919/13-A	Lab Control Sample	Total/NA	Water	7470A	336919
MB 500-336919/12-A	Method Blank	Total/NA	Water	7470A	336919

General Chemistry

Analysis Batch: 335274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	SM 2540C	
500-111523-1 DU	MW-03	Total/NA	Water	SM 2540C	
500-111523-2	MW-04	Total/NA	Water	SM 2540C	
500-111523-3	MW-05	Total/NA	Water	SM 2540C	
500-111523-4	MW-10	Total/NA	Water	SM 2540C	
500-111523-5	Dup	Total/NA	Water	SM 2540C	
LCS 500-335274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-335274/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 336515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	SM 4500 F C	
500-111523-2	MW-04	Total/NA	Water	SM 4500 F C	
500-111523-2 MS	MW-04	Total/NA	Water	SM 4500 F C	
500-111523-2 MSD	MW-04	Total/NA	Water	SM 4500 F C	
500-111523-3	MW-05	Total/NA	Water	SM 4500 F C	
500-111523-4	MW-10	Total/NA	Water	SM 4500 F C	
500-111523-5	Dup	Total/NA	Water	SM 4500 F C	
LCS 500-336515/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-336515/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-336515/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-336515/31	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 336544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-111523-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-111523-3	MW-05	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 336544 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-111523-5	Dup	Total/NA	Water	SM 4500 Cl- E	
LCS 500-336544/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-336544/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 336829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-111523-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-111523-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-111523-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-111523-5	Dup	Total/NA	Water	SM 4500 SO4 E	
LCS 500-336829/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-336829/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-335892/1-A
Matrix: Water
Analysis Batch: 336164

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/17/16 15:24	05/18/16 18:36	1

Lab Sample ID: LCS 500-335892/2-A
Matrix: Water
Analysis Batch: 336164

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.527		mg/L		105	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-335378/1-A
Matrix: Water
Analysis Batch: 336858

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 335378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<0.0050		0.0050		mg/L		05/13/16 13:14	05/23/16 20:56	1

Lab Sample ID: LCS 500-335378/2-A
Matrix: Water
Analysis Batch: 336858

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 335378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	1.00	0.920		mg/L		92	80 - 120

Lab Sample ID: MB 500-335892/1-A
Matrix: Water
Analysis Batch: 336337

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/17/16 15:24	05/19/16 17:25	1
Arsenic	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 17:25	1
Barium	<0.0025		0.0025		mg/L		05/17/16 15:24	05/19/16 17:25	1
Beryllium	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 17:25	1
Cadmium	<0.00050		0.00050		mg/L		05/17/16 15:24	05/19/16 17:25	1
Calcium	<0.20		0.20		mg/L		05/17/16 15:24	05/19/16 17:25	1
Chromium	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 17:25	1
Cobalt	<0.0010		0.0010		mg/L		05/17/16 15:24	05/19/16 17:25	1
Molybdenum	<0.0050		0.0050		mg/L		05/17/16 15:24	05/19/16 17:25	1
Selenium	<0.0025		0.0025		mg/L		05/17/16 15:24	05/19/16 17:25	1

Lab Sample ID: MB 500-335892/1-A
Matrix: Water
Analysis Batch: 336668

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/17/16 15:24	05/20/16 17:39	1
Lead	<0.00050		0.00050		mg/L		05/17/16 15:24	05/20/16 17:39	1
Thallium	<0.0020		0.0020		mg/L		05/17/16 15:24	05/20/16 17:39	1

Lab Sample ID: LCS 500-335892/2-A
Matrix: Water
Analysis Batch: 336337

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.488		mg/L		98	80 - 120
Arsenic	0.100	0.100		mg/L		100	80 - 120
Barium	2.00	2.05		mg/L		102	80 - 120
Beryllium	0.0500	0.0499		mg/L		100	80 - 120
Cadmium	0.0500	0.0507		mg/L		101	80 - 120
Calcium	10.0	10.7		mg/L		107	80 - 120
Chromium	0.200	0.201		mg/L		100	80 - 120
Cobalt	0.500	0.506		mg/L		101	80 - 120
Molybdenum	1.00	0.974		mg/L		97	80 - 120
Selenium	0.100	0.0999		mg/L		100	80 - 120

Lab Sample ID: LCS 500-335892/2-A
Matrix: Water
Analysis Batch: 336668

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 335892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120
Lead	0.100	0.105		mg/L		105	80 - 120
Thallium	0.100	0.105		mg/L		105	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-336919/12-A
Matrix: Water
Analysis Batch: 337097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 336919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/24/16 15:30	05/25/16 11:45	1

Lab Sample ID: LCS 500-336919/13-A
Matrix: Water
Analysis Batch: 337097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 336919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00207		mg/L		103	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-335274/1
Matrix: Water
Analysis Batch: 335274

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/13/16 01:35	1

Lab Sample ID: LCS 500-335274/2
Matrix: Water
Analysis Batch: 335274

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Lab Sample ID: 500-111523-1 DU
Matrix: Water
Analysis Batch: 335274

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	800			826		mg/L				3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-336544/4
Matrix: Water
Analysis Batch: 336544

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/20/16 22:47	1

Lab Sample ID: LCS 500-336544/5
Matrix: Water
Analysis Batch: 336544

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	53.1		mg/L		106	80 - 120		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-336515/3
Matrix: Water
Analysis Batch: 336515

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/21/16 17:24	1

Lab Sample ID: MB 500-336515/31
Matrix: Water
Analysis Batch: 336515

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/21/16 18:47	1

Lab Sample ID: LCS 500-336515/32
Matrix: Water
Analysis Batch: 336515

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.1		mg/L		101	80 - 120		

Lab Sample ID: LCS 500-336515/4
Matrix: Water
Analysis Batch: 336515

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	9.89		mg/L		99	80 - 120		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-111523-2 MS
Matrix: Water
Analysis Batch: 336515

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.46		5.00	5.51		mg/L		101	75 - 125		

Lab Sample ID: 500-111523-2 MSD
Matrix: Water
Analysis Batch: 336515

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.46		5.00	5.49		mg/L		101	75 - 125	0	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-336829/3
Matrix: Water
Analysis Batch: 336829

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/24/16 07:53	1

Lab Sample ID: LCS 500-336829/4
Matrix: Water
Analysis Batch: 336829

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.3		mg/L		101	80 - 120		

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

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500-111523 COC

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.		Analysis Requested	Job #: 500 - 111523
Address: 14665 W. Lisbon Rd	Due Date Requested:		Preservation Codes:
City: Brookfield	TAT Requested (days): 15 days		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		Other:
Email:	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Joliet, Illinois	SSOW#:		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	5-10-16	14:04	G	Water	N	N	X	X	X		
2	MW-04	5-10-16	12:43	G	Water	N	N	X	X	X		
3	MW-05	5-10-16	15:48	G	Water	N	N	X	X	X		
4	MW-10	5-12-16	08:25	G	Water	N	N	X	X	X		
5	Dup	5-10-16	—	G	Water	N	N	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5-12-16 13:44	KPRG		05/12/16 1344	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: (2.8) (1.9)c

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-111523-1

Login Number: 111523
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(2.8)(1.9)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-03

Date Collected: 05/10/16 14:04
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	336164	05/18/16 18:45	PJ1	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336337	05/19/16 18:07	FXG	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336668	05/20/16 17:46	PFK	TAL CHI
Total/NA	Prep	7470A			336919	05/24/16 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	337097	05/25/16 12:16	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	335274	05/13/16 02:24	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	336544	05/20/16 23:43	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	336515	05/21/16 18:41	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	336829		CLB	TAL CHI
					(Start)	05/24/16 08:08		
					(End)	05/24/16 08:09		

Client Sample ID: MW-04

Date Collected: 05/10/16 12:43
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	336164	05/18/16 18:49	PJ1	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336337	05/19/16 18:10	FXG	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336668	05/20/16 17:50	PFK	TAL CHI
Total/NA	Prep	7470A			336919	05/24/16 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	337097	05/25/16 12:18	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	335274	05/13/16 02:30	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	336544	05/20/16 23:43	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	336515	05/21/16 18:52	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	336829		CLB	TAL CHI
					(Start)	05/24/16 08:09		
					(End)	05/24/16 08:10		

Client Sample ID: MW-05

Date Collected: 05/10/16 15:48
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	336164	05/18/16 18:53	PJ1	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: MW-05

Date Collected: 05/10/16 15:48
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	336337	05/19/16 18:14	FXG	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336668	05/20/16 17:54	PFK	TAL CHI
Total/NA	Prep	7470A			336919	05/24/16 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	337097	05/25/16 12:24	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	335274	05/13/16 02:32	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	336544	05/20/16 23:44	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	336515	05/21/16 18:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	336829		CLB	TAL CHI
					(Start)	05/24/16 08:10		
					(End)	05/24/16 08:11		

Client Sample ID: MW-10

Date Collected: 05/12/16 08:25
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	336164	05/18/16 18:58	PJ1	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336337	05/19/16 18:18	FXG	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336668	05/20/16 17:58	PFK	TAL CHI
Total/NA	Prep	7470A			336919	05/24/16 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	337097	05/25/16 12:26	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	335274	05/13/16 02:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	336544	05/20/16 23:44	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	336515	05/21/16 19:11	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	336829		CLB	TAL CHI
					(Start)	05/24/16 08:11		
					(End)	05/24/16 08:12		

Client Sample ID: Dup

Date Collected: 05/10/16 00:00
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	336164	05/18/16 19:02	PJ1	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336337	05/19/16 18:22	FXG	TAL CHI
Total Recoverable	Prep	3005A			335892	05/17/16 15:24	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336668	05/20/16 18:01	PFK	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-1

Client Sample ID: Dup

Date Collected: 05/10/16 00:00
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			335378	05/13/16 13:14	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	336858	05/23/16 22:26	FXG	TAL CHI
Total/NA	Prep	7470A			336919	05/24/16 15:30	MJD	TAL CHI
Total/NA	Analysis	7470A		1	337097	05/25/16 12:28	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	335274	05/13/16 02:38	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	336544	05/20/16 23:45	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	336515	05/21/16 19:14	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	336829		CLB	TAL CHI
					(Start)	05/24/16 08:12		
					(End)	05/24/16 08:13		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-111523-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
6/10/2016 8:29:24 AM
Richard Wright, Senior Project Manager
richard.wright@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Job ID: 500-111523-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-111523-2

Comments
No additional comments.

Receipt
The samples were received on 5/12/2016 1:44 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.9º C and 2.8º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-111523-1	MW-03	Water	05/10/16 14:04	05/12/16 13:44
500-111523-2	MW-04	Water	05/10/16 12:43	05/12/16 13:44
500-111523-3	MW-05	Water	05/10/16 15:48	05/12/16 13:44
500-111523-4	MW-10	Water	05/12/16 08:25	05/12/16 13:44
500-111523-5	Dup	Water	05/10/16 00:00	05/12/16 13:44

Client Sample ID: MW-03

Date Collected: 05/10/16 14:04
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0721		0.0429	0.0434	1.00	0.0555	pCi/L	05/17/16 10:19	06/08/16 07:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:20*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.141	U	0.195	0.196	1.00	0.326	pCi/L	05/17/16 10:43	05/25/16 11:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*
Y Carrier	*89.3*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.213	U	0.200	0.200	5.00	0.326	pCi/L		06/09/16 19:09	1

Client Sample ID: MW-04

Date Collected: 05/10/16 12:43
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.161		0.0691	0.0706	1.00	0.0896	pCi/L	05/17/16 10:19	06/08/16 07:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.2*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:20*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0124	U	0.204	0.204	1.00	0.365	pCi/L	05/17/16 10:43	05/25/16 11:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.2*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*
Y Carrier	*87.9*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.174	U	0.216	0.216	5.00	0.365	pCi/L		06/09/16 19:09	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Client Sample ID: MW-05

Date Collected: 05/10/16 15:48
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.162**		0.0582	0.0600	1.00	0.0603	pCi/L	05/17/16 10:19	06/08/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:21*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0205	U	0.223	0.223	1.00	0.400	pCi/L	05/17/16 10:43	05/25/16 11:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.6*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*
Y Carrier	*91.2*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.141	U	0.230	0.231	5.00	0.400	pCi/L		06/09/16 19:09	1

Client Sample ID: MW-10

Date Collected: 05/12/16 08:25
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.104		0.0557	0.0565	1.00	0.0697	pCi/L	05/17/16 10:19	06/08/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:21*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.266	U	0.256	0.257	1.00	0.414	pCi/L	05/17/16 10:43	05/25/16 11:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*
Y Carrier	*91.6*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.371	U	0.262	0.263	5.00	0.414	pCi/L		06/09/16 19:09	1

Client Sample ID: Dup

Date Collected: 05/10/16 00:00
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.222**		0.0686	0.0715	1.00	0.0643	pCi/L	05/17/16 10:19	06/08/16 07:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:21*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.305	U	0.252	0.254	1.00	0.402	pCi/L	05/17/16 10:43	05/25/16 11:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*
Y Carrier	*91.2*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.528**		0.262	0.264	5.00	0.402	pCi/L		06/09/16 19:09	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Rad

Prep Batch: 251447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	PrecSep-21	
500-111523-2	MW-04	Total/NA	Water	PrecSep-21	
500-111523-2 DU	MW-04	Total/NA	Water	PrecSep-21	
500-111523-3	MW-05	Total/NA	Water	PrecSep-21	
500-111523-4	MW-10	Total/NA	Water	PrecSep-21	
500-111523-5	Dup	Total/NA	Water	PrecSep-21	
LCS 160-251447/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-251447/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 251452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-111523-1	MW-03	Total/NA	Water	PrecSep_0	
500-111523-2	MW-04	Total/NA	Water	PrecSep_0	
500-111523-2 DU	MW-04	Total/NA	Water	PrecSep_0	
500-111523-3	MW-05	Total/NA	Water	PrecSep_0	
500-111523-4	MW-10	Total/NA	Water	PrecSep_0	
500-111523-5	Dup	Total/NA	Water	PrecSep_0	
LCS 160-251452/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-251452/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-251447/1-A
Matrix: Water
Analysis Batch: 255465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251447

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03293	U	0.0407	0.0408	1.00	0.0674	pCi/L	05/17/16 10:19	06/08/16 07:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*05/17/16 10:19*	*06/08/16 07:19*	*1*

Lab Sample ID: LCS 160-251447/2-A
Matrix: Water
Analysis Batch: 255465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251447

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.30		1.37	1.00	0.0734	pCi/L	128	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*

Lab Sample ID: 500-111523-2 DU
Matrix: Water
Analysis Batch: 255465

Client Sample ID: MW-04
Prep Type: Total/NA
Prep Batch: 251447

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.161			0.1848		0.0623	1.00	0.0591	pCi/L			0.17	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*92.0*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-251452/1-A
Matrix: Water
Analysis Batch: 253018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251452

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.07204	U	0.180	0.180	1.00	0.338	pCi/L	05/17/16 10:43	05/25/16 11:38	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:38*	*1*
Y Carrier	*93.8*		*40 - 110*	*05/17/16 10:43*	*05/25/16 11:38*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-251452/2-A
Matrix: Water
Analysis Batch: 253018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251452

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.1	17.56		1.82	1.00	0.330	pCi/L	116	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.2*		*40 - 110*
Y Carrier	*92.3*		*40 - 110*

Lab Sample ID: 500-111523-2 DU
Matrix: Water
Analysis Batch: 253018

Client Sample ID: MW-04
Prep Type: Total/NA
Prep Batch: 251452

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.0124	U		0.04975	U	0.188	1.00	0.329	pCi/L			0.1	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*92.0*		*40 - 110*
Y Carrier	*91.2*		*40 - 110*

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

500-111523 COC

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.		Analysis Requested	Job #: 500 - 111523
Address: 14665 W. Lisbon Rd	Due Date Requested:		Preservation Codes:
City: Brookfield	TAT Requested (days): 15 days		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		Other:
Email:	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Joliet, Illinois	SSOW#:		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	5-10-16	14:04	G	Water	N	N	X	X	X		
2	MW-04	5-10-16	12:43	G	Water	N	N	X	X	X		
3	MW-05	5-10-16	15:48	G	Water	N	N	X	X	X		
4	MW-10	5-12-16	08:25	G	Water	N	N	X	X	X		
5	Dup	5-10-16	—	G	Water	N	N	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company
	[signature]	5-12-16 13:44	KPRG	[signature]	05/12/16 1344	TAL
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (2.8) (1.9)c

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-73211.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-111523-1

Address: 13715 Rider Trail North, ,	Due Date Requested: 5/24/2016
City: Earth City	TAT Requested (days):
State, Zip: MO, 63045	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:
Email:	WO #:
Project Name: Joliet #29 CCR	Project #: 50011568
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-111523-1)	5/10/16	14:04 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-111523-2)	5/10/16	12:43 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-111523-3)	5/10/16	15:48 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-111523-4)	5/12/16	08:25 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Dup (500-111523-5)	5/10/16	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

500-111523 Chain of Custody

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		05/12/16 1530	TAL		05 17 16 0920	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

6/10/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-111523-2

Login Number: 111523
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(2.8)(1.9)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-111523-2

Login Number: 111523
List Number: 2
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis
List Creation: 05/13/16 02:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Client Sample ID: MW-03

Date Collected: 05/10/16 14:04
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			251447	05/17/16 10:19	MCJ	TAL SL
Total/NA	Analysis	903.0		1	255465	06/08/16 07:20	RTM	TAL SL
Total/NA	Prep	PrecSep_0			251452	05/17/16 10:43	MCJ	TAL SL
Total/NA	Analysis	904.0		1	253018	05/25/16 11:39	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	255885	06/09/16 19:09	RTM	TAL SL

Client Sample ID: MW-04

Date Collected: 05/10/16 12:43
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			251447	05/17/16 10:19	MCJ	TAL SL
Total/NA	Analysis	903.0		1	255465	06/08/16 07:20	RTM	TAL SL
Total/NA	Prep	PrecSep_0			251452	05/17/16 10:43	MCJ	TAL SL
Total/NA	Analysis	904.0		1	253018	05/25/16 11:39	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	255885	06/09/16 19:09	RTM	TAL SL

Client Sample ID: MW-05

Date Collected: 05/10/16 15:48
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			251447	05/17/16 10:19	MCJ	TAL SL
Total/NA	Analysis	903.0		1	255465	06/08/16 07:21	RTM	TAL SL
Total/NA	Prep	PrecSep_0			251452	05/17/16 10:43	MCJ	TAL SL
Total/NA	Analysis	904.0		1	253018	05/25/16 11:39	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	255885	06/09/16 19:09	RTM	TAL SL

Client Sample ID: MW-10

Date Collected: 05/12/16 08:25
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			251447	05/17/16 10:19	MCJ	TAL SL
Total/NA	Analysis	903.0		1	255465	06/08/16 07:21	RTM	TAL SL
Total/NA	Prep	PrecSep_0			251452	05/17/16 10:43	MCJ	TAL SL
Total/NA	Analysis	904.0		1	253018	05/25/16 11:39	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	255885	06/09/16 19:09	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Client Sample ID: Dup

Date Collected: 05/10/16 00:00
Date Received: 05/12/16 13:44

Lab Sample ID: 500-111523-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			251447	05/17/16 10:19	MCJ	TAL SL
Total/NA	Analysis	903.0		1	255465	06/08/16 07:21	RTM	TAL SL
Total/NA	Prep	PrecSep_0			251452	05/17/16 10:43	MCJ	TAL SL
Total/NA	Analysis	904.0		1	253018	05/25/16 11:39	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	255885	06/09/16 19:09	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-111523-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-111523-1	MW-03	92.6
500-111523-2	MW-04	89.2
500-111523-2 DU	MW-04	92.0
500-111523-3	MW-05	86.6
500-111523-4	MW-10	86.0
500-111523-5	Dup	81.8
LCS 160-251447/2-A	Lab Control Sample	93.2
MB 160-251447/1-A	Method Blank	87.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-111523-1	MW-03	92.6	89.3
500-111523-2	MW-04	89.2	87.9
500-111523-2 DU	MW-04	92.0	91.2
500-111523-3	MW-05	86.6	91.2
500-111523-4	MW-10	86.0	91.6
500-111523-5	Dup	81.8	91.2
LCS 160-251452/2-A	Lab Control Sample	93.2	92.3
MB 160-251452/1-A	Method Blank	87.5	93.8

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Table 2. Groundwater Analytical Results - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

	Well Location		Downgradient															
	Well ID		MW-04								MW-05							
	Date		10/28/2015		2/10/2016		5/10/2016		8/31/2016		10/28/2015		2/10/2016		5/10/2016		8/31/2016	
Parameter	Federal MCLs	State Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Appendix III - Constituents for Detection Monitoring																		
Boron	NS	2.0	0.25	0.34	0.050	0.32	0.050	0.47	0.050	0.42	0.25	0.64	0.050	0.46	0.050	0.80	0.050	1.0
Calcium	NS	NA	1.0	94	0.20	97	0.20	100	0.20	100	1.0	100	0.20	110	0.20	150	0.20	140
Chloride	NE	200	10	200 F1	10	**210**	10	**260**	10	**210**	10	160	10	**220**	10	**220**	10	99
Fluoride	4.0	4.0	0.10	0.45	0.10	0.47	0.10	0.46	0.10	0.45	0.10	0.39	0.10	0.39	0.10	0.46	0.10	0.56
pH (in standard units)	NE	6.5 - 9.0	NA	7.07	NA	7.22	NA	6.71	NA	7.07	NA	7.12	NA	7.25	NA	6.88	NA	6.81
Sulfate	NE	400	20	83	25	140	50	150	25	120	50	120	25	120	50	290	50	260
Total Dissolved Solids	NE	1,200	10	740	10	810	10	900	10	890	10	790	10	790	10	950	10	820
Appendix IV - Constituents for Assessment Monitoring																		
Antimony	0.006	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.01	0.01	0.0010	0.0013	0.0010	0.0018	0.0010	0.0014	0.0010	0.0014	0.0010	0.0011	0.0010	0.0028	0.0010	0.0023	0.0010	ND
Barium	2.0	2.0	0.0025	0.082	0.0025	0.088	0.0025	0.088	0.0025	0.086	0.0025	0.057	0.0025	0.071	0.0025	0.075	0.0025	0.070
Beryllium	0.004	0.004	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND ^
Cadmium	0.005	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chromium	0.1	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0062	0.0050	ND	0.0050	ND
Cobalt	NS	1.0	0.0010	0.0063	0.0010	0.0074	0.0010	0.0086	0.0010	0.0035	0.0010	0.0013	0.0010	0.0013	0.0010	ND	0.0010	ND
Fluoride	4.0	4.0	0.10	0.45	0.10	0.47	0.10	0.46	0.10	0.45	0.10	0.39	0.10	0.39	0.10	0.46	0.10	0.56
Lead	NS	0.0075	0.00050	ND	0.00050	0.00062	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0022	0.00050	0.0022	0.00050	ND
Lithium	NS	NA	0.010	0.013	0.010	0.011	0.010	0.012	0.010	0.011	0.010	0.018	0.020	ND	0.010	0.014	0.010	ND
Mercury	0.002	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Molybdenum	NS	NA	0.0050	0.0065	0.0050	0.0063	0.0050	0.0088	0.0050	0.0083	0.0050	0.0088	0.0050	0.0053 F1	0.0050	0.0080	0.0050	0.012
Selenium	0.05	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0031	0.0025	ND	0.0025	0.019	0.0025	0.020
Thallium	0.002	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Radium 226 + 228 comb	5 pCi/L	40 pCi/L	5.00	0.741	1.52	ND	0.365	ND	0.374	0.432	5.00	0.6231	0.777	1.09	0.400	ND	0.420	ND

Notes: State Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
Federal Maximum Contaminant Levels (MCLs) obtained from Code of Federal Regulations (CFR) Title 40, Chapter I, Subchapter D, Part 141.
All samples were unfiltered, therefore, the results represent total metals. All MCLs and standards are also for total metals.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection Limit
NA - Not Applicable
ND - Not Detected
NS - No Standard
NE - Not Established. Unenforceable, federal secondary drinking water guidelines available.
^ - Denotes instrument related QC exceeds the control limits
F1 - MS and/or MSD Recovery outside of limits.
BOLD - Exceeds State Standard
BOLD - Exceeds Federal MCL

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-116524-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
9/22/2016 3:46:32 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Job ID: 500-116524-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-116524-1

Comments
No additional comments.

Receipt
The samples were received on 9/1/2016 4:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.3º C and 5.8º C.

Metals
Method(s) 6020A: The initial calibration verification low level (ICVL) result for batch 500-350471 was above the upper control limit for Beryllium. The samples were bracketed by CCVL that were within control limits therefore, the data have been reported.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-116524-1	MW-03	Water	08/31/16 16:16	09/01/16 16:20
500-116524-2	MW-04	Water	08/31/16 14:48	09/01/16 16:20
500-116524-3	MW-05	Water	08/31/16 11:11	09/01/16 16:20
500-116524-4	MW-10	Water	08/31/16 12:55	09/01/16 16:20
500-116524-5	Dup	Water	08/31/16 00:00	09/01/16 16:20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-03

Date Collected: 08/31/16 16:16
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		09/02/16 08:08	09/03/16 08:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 15:37	1
Arsenic	**0.0013**		0.0010		mg/L		09/02/16 08:08	09/02/16 15:37	1
Barium	**0.095**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:37	1
Beryllium	<0.0010	^	0.0010		mg/L		09/02/16 08:08	09/02/16 15:37	1
Boron	**0.49**		0.050		mg/L		09/02/16 08:08	09/06/16 11:19	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:37	1
Calcium	**100**		0.20		mg/L		09/02/16 08:08	09/02/16 15:37	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:37	1
Cobalt	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:37	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:37	1
Molybdenum	**0.0086**		0.0050		mg/L		09/02/16 08:08	09/02/16 15:37	1
Selenium	**0.0051**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:37	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 15:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 11:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**920**		10		mg/L			09/02/16 05:34	1
Chloride	**250**		10		mg/L			09/11/16 22:46	5
Fluoride	**0.45**		0.10		mg/L			09/08/16 12:10	1
Sulfate	**120**		25		mg/L			09/21/16 08:48	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-04

Date Collected: 08/31/16 14:48
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		09/02/16 08:08	09/03/16 09:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 15:40	1
Arsenic	**0.0014**		0.0010		mg/L		09/02/16 08:08	09/02/16 15:40	1
Barium	**0.086**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:40	1
Beryllium	<0.0010	^	0.0010		mg/L		09/02/16 08:08	09/02/16 15:40	1
Boron	**0.42**		0.050		mg/L		09/02/16 08:08	09/06/16 11:22	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:40	1
Calcium	**100**		0.20		mg/L		09/02/16 08:08	09/02/16 15:40	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:40	1
Cobalt	**0.0035**		0.0010		mg/L		09/02/16 08:08	09/02/16 15:40	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:40	1
Molybdenum	**0.0083**		0.0050		mg/L		09/02/16 08:08	09/02/16 15:40	1
Selenium	<0.0025		0.0025		mg/L		09/02/16 08:08	09/02/16 15:40	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 15:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 11:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**890**		10		mg/L			09/02/16 05:42	1
Chloride	**210**		10		mg/L			09/11/16 22:46	5
Fluoride	**0.45**		0.10		mg/L			09/08/16 12:13	1
Sulfate	**120**		25		mg/L			09/21/16 08:52	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-05
Date Collected: 08/31/16 11:11
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/02/16 08:08	09/03/16 09:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 15:44	1
Arsenic	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:44	1
Barium	**0.070**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:44	1
Beryllium	<0.0010	^	0.0010		mg/L		09/02/16 08:08	09/02/16 15:44	1
Boron	**1.0**		0.050		mg/L		09/02/16 08:08	09/06/16 11:26	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:44	1
Calcium	**140**		0.20		mg/L		09/02/16 08:08	09/02/16 15:44	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:44	1
Cobalt	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:44	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:44	1
Molybdenum	**0.012**		0.0050		mg/L		09/02/16 08:08	09/02/16 15:44	1
Selenium	**0.020**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:44	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 15:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 11:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**820**		10		mg/L			09/02/16 05:45	1
Chloride	**99**		10		mg/L			09/11/16 22:48	5
Fluoride	**0.56**		0.10		mg/L			09/08/16 12:24	1
Sulfate	**260**		50		mg/L			09/21/16 08:55	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-10

Date Collected: 08/31/16 12:55
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.010**		0.010		mg/L		09/02/16 08:08	09/03/16 09:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 15:48	1
Arsenic	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:48	1
Barium	**0.039**		0.0025		mg/L		09/02/16 08:08	09/02/16 15:48	1
Beryllium	<0.0010	^	0.0010		mg/L		09/02/16 08:08	09/02/16 15:48	1
Boron	**0.36**		0.050		mg/L		09/02/16 08:08	09/06/16 11:30	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:48	1
Calcium	**89**		0.20		mg/L		09/02/16 08:08	09/02/16 15:48	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:48	1
Cobalt	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:48	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:48	1
Molybdenum	**0.0077**		0.0050		mg/L		09/02/16 08:08	09/02/16 15:48	1
Selenium	<0.0025		0.0025		mg/L		09/02/16 08:08	09/02/16 15:48	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 15:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 11:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**760**		10		mg/L			09/02/16 05:49	1
Chloride	**170**		10		mg/L			09/11/16 22:49	5
Fluoride	**0.46**		0.10		mg/L			09/08/16 12:31	1
Sulfate	**100**		20		mg/L			09/21/16 08:57	4

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: Dup
Date Collected: 08/31/16 00:00
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.010**		0.010		mg/L		09/02/16 08:08	09/03/16 09:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 16:15	1
Arsenic	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 16:15	1
Barium	**0.038**		0.0025		mg/L		09/02/16 08:08	09/02/16 16:15	1
Beryllium	<0.0010	^	0.0010		mg/L		09/02/16 08:08	09/02/16 16:15	1
Boron	**0.35**		0.050		mg/L		09/02/16 08:08	09/09/16 11:32	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 16:15	1
Calcium	**92**		0.20		mg/L		09/02/16 08:08	09/02/16 16:15	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 16:15	1
Cobalt	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 16:15	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 16:15	1
Molybdenum	**0.0080**		0.0050		mg/L		09/02/16 08:08	09/02/16 16:15	1
Selenium	<0.0025		0.0025		mg/L		09/02/16 08:08	09/02/16 16:15	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 16:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**730**		10		mg/L			09/02/16 05:53	1
Chloride	**170**		10		mg/L			09/11/16 22:49	5
Fluoride	**0.45**		0.10		mg/L			09/08/16 12:33	1
Sulfate	**77**		25		mg/L			09/21/16 08:58	5

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC 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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Metals

Prep Batch: 350356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total Recoverable	Water	3005A	
500-116524-2	MW-04	Total Recoverable	Water	3005A	
500-116524-3	MW-05	Total Recoverable	Water	3005A	
500-116524-4	MW-10	Total Recoverable	Water	3005A	
500-116524-5	Dup	Total Recoverable	Water	3005A	
MB 500-350356/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-350356/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-116524-4 MS	MW-10	Total Recoverable	Water	3005A	
500-116524-4 MSD	MW-10	Total Recoverable	Water	3005A	
500-116524-4 DU	MW-10	Total Recoverable	Water	3005A	

Prep Batch: 350445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	7470A	
500-116524-2	MW-04	Total/NA	Water	7470A	
500-116524-3	MW-05	Total/NA	Water	7470A	
500-116524-4	MW-10	Total/NA	Water	7470A	
500-116524-5	Dup	Total/NA	Water	7470A	
MB 500-350445/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-350445/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 350471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total Recoverable	Water	6020A	350356
500-116524-2	MW-04	Total Recoverable	Water	6020A	350356
500-116524-3	MW-05	Total Recoverable	Water	6020A	350356
500-116524-4	MW-10	Total Recoverable	Water	6020A	350356
500-116524-5	Dup	Total Recoverable	Water	6020A	350356
MB 500-350356/1-A	Method Blank	Total Recoverable	Water	6020A	350356
LCS 500-350356/2-A	Lab Control Sample	Total Recoverable	Water	6020A	350356
500-116524-4 MS	MW-10	Total Recoverable	Water	6020A	350356
500-116524-4 MSD	MW-10	Total Recoverable	Water	6020A	350356
500-116524-4 DU	MW-10	Total Recoverable	Water	6020A	350356

Analysis Batch: 350507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total Recoverable	Water	6010C	350356
500-116524-2	MW-04	Total Recoverable	Water	6010C	350356
500-116524-3	MW-05	Total Recoverable	Water	6010C	350356
500-116524-4	MW-10	Total Recoverable	Water	6010C	350356
500-116524-5	Dup	Total Recoverable	Water	6010C	350356
MB 500-350356/1-A	Method Blank	Total Recoverable	Water	6010C	350356
LCS 500-350356/2-A	Lab Control Sample	Total Recoverable	Water	6010C	350356
500-116524-4 MS	MW-10	Total Recoverable	Water	6010C	350356
500-116524-4 MSD	MW-10	Total Recoverable	Water	6010C	350356
500-116524-4 DU	MW-10	Total Recoverable	Water	6010C	350356

Analysis Batch: 350678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	7470A	350445
500-116524-2	MW-04	Total/NA	Water	7470A	350445

Metals (Continued)

Analysis Batch: 350678 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-3	MW-05	Total/NA	Water	7470A	350445
500-116524-4	MW-10	Total/NA	Water	7470A	350445
500-116524-5	Dup	Total/NA	Water	7470A	350445
MB 500-350445/12-A	Method Blank	Total/NA	Water	7470A	350445
LCS 500-350445/13-A	Lab Control Sample	Total/NA	Water	7470A	350445

Analysis Batch: 350692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total Recoverable	Water	6020A	350356
500-116524-2	MW-04	Total Recoverable	Water	6020A	350356
500-116524-3	MW-05	Total Recoverable	Water	6020A	350356
500-116524-4	MW-10	Total Recoverable	Water	6020A	350356
MB 500-350356/1-A	Method Blank	Total Recoverable	Water	6020A	350356
LCS 500-350356/2-A	Lab Control Sample	Total Recoverable	Water	6020A	350356
500-116524-4 MS	MW-10	Total Recoverable	Water	6020A	350356
500-116524-4 MSD	MW-10	Total Recoverable	Water	6020A	350356
500-116524-4 DU	MW-10	Total Recoverable	Water	6020A	350356

Analysis Batch: 351110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-5	Dup	Total Recoverable	Water	6020A	350356

General Chemistry

Analysis Batch: 350341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	SM 2540C	
500-116524-2	MW-04	Total/NA	Water	SM 2540C	
500-116524-3	MW-05	Total/NA	Water	SM 2540C	
500-116524-4	MW-10	Total/NA	Water	SM 2540C	
500-116524-5	Dup	Total/NA	Water	SM 2540C	
MB 500-350341/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-350341/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-116524-1 DU	MW-03	Total/NA	Water	SM 2540C	

Analysis Batch: 350973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	SM 4500 F C	
500-116524-2	MW-04	Total/NA	Water	SM 4500 F C	
500-116524-3	MW-05	Total/NA	Water	SM 4500 F C	
500-116524-4	MW-10	Total/NA	Water	SM 4500 F C	
500-116524-5	Dup	Total/NA	Water	SM 4500 F C	
MB 500-350973/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-350973/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-350973/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-350973/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-116524-3 MS	MW-05	Total/NA	Water	SM 4500 F C	
500-116524-3 MSD	MW-05	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 351394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-116524-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-116524-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-116524-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-116524-5	Dup	Total/NA	Water	SM 4500 Cl- E	
MB 500-351394/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-351394/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-116524-2 MS	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-116524-2 MSD	MW-04	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 352645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-116524-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-116524-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-116524-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-116524-5	Dup	Total/NA	Water	SM 4500 SO4 E	
MB 500-352645/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-352645/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-116524-1 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-116524-1 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-350356/1-A
Matrix: Water
Analysis Batch: 350507

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/02/16 08:08	09/03/16 08:40	1

Lab Sample ID: LCS 500-350356/2-A
Matrix: Water
Analysis Batch: 350507

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.510		mg/L		102	80 - 120

Lab Sample ID: 500-116524-4 MS
Matrix: Water
Analysis Batch: 350507

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.010		0.500	0.480		mg/L		94	75 - 125

Lab Sample ID: 500-116524-4 MSD
Matrix: Water
Analysis Batch: 350507

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.010		0.500	0.499		mg/L		98	75 - 125	4	20

Lab Sample ID: 500-116524-4 DU
Matrix: Water
Analysis Batch: 350507

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-350356/1-A
Matrix: Water
Analysis Batch: 350471

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/02/16 08:08	09/02/16 15:21	1
Arsenic	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:21	1
Barium	<0.0025		0.0025		mg/L		09/02/16 08:08	09/02/16 15:21	1
Beryllium	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:21	1
Cadmium	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:21	1
Calcium	<0.20		0.20		mg/L		09/02/16 08:08	09/02/16 15:21	1
Chromium	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:21	1
Cobalt	<0.0010		0.0010		mg/L		09/02/16 08:08	09/02/16 15:21	1
Lead	<0.00050		0.00050		mg/L		09/02/16 08:08	09/02/16 15:21	1
Molybdenum	<0.0050		0.0050		mg/L		09/02/16 08:08	09/02/16 15:21	1
Selenium	<0.0025		0.0025		mg/L		09/02/16 08:08	09/02/16 15:21	1
Thallium	<0.0020		0.0020		mg/L		09/02/16 08:08	09/02/16 15:21	1

QC Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Lab Sample ID: MB 500-350356/1-A
Matrix: Water
Analysis Batch: 350692

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		09/02/16 08:08	09/06/16 11:11	1

Lab Sample ID: LCS 500-350356/2-A
Matrix: Water
Analysis Batch: 350471

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.516		mg/L		103	80 - 120
Arsenic	0.100	0.102		mg/L		102	80 - 120
Barium	2.00	2.06		mg/L		103	80 - 120
Beryllium	0.0500	0.0517		mg/L		103	80 - 120
Cadmium	0.0500	0.0537		mg/L		107	80 - 120
Calcium	10.0	8.87		mg/L		89	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.500	0.516		mg/L		103	80 - 120
Lead	0.100	0.108		mg/L		108	80 - 120
Molybdenum	1.00	0.999		mg/L		100	80 - 120
Selenium	0.100	0.102		mg/L		102	80 - 120
Thallium	0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: LCS 500-350356/2-A
Matrix: Water
Analysis Batch: 350692

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 500-116524-4 MS
Matrix: Water
Analysis Batch: 350471

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.485		mg/L		97	75 - 125
Arsenic	<0.0010		0.100	0.0981		mg/L		97	75 - 125
Barium	0.039		2.00	1.95		mg/L		96	75 - 125
Beryllium	<0.0010	^	0.0500	0.0475	^	mg/L		95	75 - 125
Cadmium	<0.00050		0.0500	0.0488		mg/L		98	75 - 125
Calcium	89		10.0	91.3	4	mg/L		20	75 - 125
Chromium	<0.0050		0.200	0.186		mg/L		92	75 - 125
Cobalt	<0.0010		0.500	0.454		mg/L		91	75 - 125
Lead	<0.00050		0.100	0.0982		mg/L		98	75 - 125
Molybdenum	0.0077		1.00	0.943		mg/L		94	75 - 125
Selenium	<0.0025		0.100	0.0963		mg/L		95	75 - 125
Thallium	<0.0020		0.100	0.0989		mg/L		99	75 - 125

Lab Sample ID: 500-116524-4 MS
Matrix: Water
Analysis Batch: 350692

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 350356

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.36		1.00	1.32		mg/L		96	75 - 125

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

Lab Sample ID: 500-116524-4 MSD — **Client Sample ID: MW-10**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 350471 — **Prep Batch: 350356**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.506		mg/L		101	75 - 125	4	20
Arsenic	<0.0010		0.100	0.102		mg/L		102	75 - 125	4	20
Barium	0.039		2.00	2.05		mg/L		100	75 - 125	5	20
Beryllium	<0.0010	^	0.0500	0.0467	^	mg/L		93	75 - 125	2	20
Cadmium	<0.00050		0.0500	0.0501		mg/L		100	75 - 125	3	20
Calcium	89		10.0	99.6	4	mg/L		102	75 - 125	9	20
Chromium	<0.0050		0.200	0.194		mg/L		96	75 - 125	4	20
Cobalt	<0.0010		0.500	0.474		mg/L		95	75 - 125	4	20
Lead	<0.00050		0.100	0.0994		mg/L		99	75 - 125	1	20
Molybdenum	0.0077		1.00	0.948		mg/L		94	75 - 125	1	20
Selenium	<0.0025		0.100	0.103		mg/L		101	75 - 125	6	20
Thallium	<0.0020		0.100	0.100		mg/L		100	75 - 125	2	20

Lab Sample ID: 500-116524-4 MSD — **Client Sample ID: MW-10**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 350692 — **Prep Batch: 350356**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.36		1.00	1.39		mg/L		103	75 - 125	5	20

Lab Sample ID: 500-116524-4 DU — **Client Sample ID: MW-10**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 350471 — **Prep Batch: 350356**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	<0.0010			<0.0010		mg/L				NC	20
Barium	0.039			0.0388		mg/L				0.6	20
Beryllium	<0.0010	^		<0.0010	^	mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	89			94.4		mg/L				6	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Molybdenum	0.0077			0.00776		mg/L				0.9	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-116524-4 DU — **Client Sample ID: MW-10**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 350692 — **Prep Batch: 350356**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	0.36			0.338		mg/L				5	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-350445/12-A
Matrix: Water
Analysis Batch: 350678

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350445

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/02/16 15:00	09/06/16 10:33	1

Lab Sample ID: LCS 500-350445/13-A
Matrix: Water
Analysis Batch: 350678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350445

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00177		mg/L		88	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-350341/1
Matrix: Water
Analysis Batch: 350341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			09/02/16 04:28	1

Lab Sample ID: LCS 500-350341/2
Matrix: Water
Analysis Batch: 350341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	284		mg/L		114	80 - 120

Lab Sample ID: 500-116524-1 DU
Matrix: Water
Analysis Batch: 350341

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	920		904		mg/L		2	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-351394/4
Matrix: Water
Analysis Batch: 351394

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			09/11/16 21:58	1

Lab Sample ID: LCS 500-351394/5
Matrix: Water
Analysis Batch: 351394

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	80 - 120

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-116524-2 MS
Matrix: Water
Analysis Batch: 351394

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	210		50.0	259	4	mg/L		95	75 - 125

Lab Sample ID: 500-116524-2 MSD
Matrix: Water
Analysis Batch: 351394

Client Sample ID: MW-04
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	210		50.0	252	4	mg/L		81	75 - 125	3	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-350973/3
Matrix: Water
Analysis Batch: 350973

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			09/08/16 10:59	1

Lab Sample ID: MB 500-350973/31
Matrix: Water
Analysis Batch: 350973

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			09/08/16 12:19	1

Lab Sample ID: LCS 500-350973/32
Matrix: Water
Analysis Batch: 350973

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: LCS 500-350973/4
Matrix: Water
Analysis Batch: 350973

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.0		mg/L		100	80 - 120

Lab Sample ID: 500-116524-3 MS
Matrix: Water
Analysis Batch: 350973

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.56		5.00	5.93		mg/L		107	75 - 125

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-116524-3 MSD
Matrix: Water
Analysis Batch: 350973

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.56		5.00	5.96		mg/L		108	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-352645/3
Matrix: Water
Analysis Batch: 352645

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			09/21/16 08:43	1

Lab Sample ID: LCS 500-352645/4
Matrix: Water
Analysis Batch: 352645

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	21.5		mg/L		108	80 - 120

Lab Sample ID: 500-116524-1 MS
Matrix: Water
Analysis Batch: 352645

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	120		200	316		mg/L		98	75 - 125

Lab Sample ID: 500-116524-1 MSD
Matrix: Water
Analysis Batch: 352645

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	120		200	325		mg/L		103	75 - 125	3	20

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	Carrier Tracking No(s):	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 500-116524
Address: 14665 W. Lisbon Rd	Due Date Requested:			
City: Brookfield	TAT Requested (days): 15 days			
State, Zip: WI, 53005				
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040			
Email:	WO #: 35589579			
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568			
Site: Joliet, Illinois	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	8-31-16	16:16	G	Water	N	-	X	X	X		
2	MW-04	8-31-16	14:48	G	Water	N	-	X	X	X		
3	MW-05	8-31-16	11:11	G	Water	N	-	X	X	X		
4	MW-10	8-31-16	12:55	G	Water	N	-	X	X	X		
5	Dup	8-31-16	—	G	Water	N	-	X	X	X		

500-116524 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
IJH	9-1-16 16:20	KPRG		09/01/16 16:20	TALE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.8 4.3

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-116524-1

Login Number: 116524
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3,5.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-03

Date Collected: 08/31/16 16:16
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	350507	09/03/16 08:56	KML	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350471	09/02/16 15:37	FXG	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350692	09/06/16 11:19	FXG	TAL CHI
Total/NA	Prep	7470A			350445	09/02/16 15:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	350678	09/06/16 11:05	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	350341	09/02/16 05:34	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	351394	09/11/16 22:46	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	350973	09/08/16 12:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	352645		CLB	TAL CHI
					(Start)	09/21/16 08:48		
					(End)	09/21/16 08:49		

Client Sample ID: MW-04

Date Collected: 08/31/16 14:48
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	350507	09/03/16 09:00	KML	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350471	09/02/16 15:40	FXG	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350692	09/06/16 11:22	FXG	TAL CHI
Total/NA	Prep	7470A			350445	09/02/16 15:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	350678	09/06/16 11:06	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	350341	09/02/16 05:42	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	351394	09/11/16 22:46	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	350973	09/08/16 12:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	352645		CLB	TAL CHI
					(Start)	09/21/16 08:52		
					(End)	09/21/16 08:53		

Client Sample ID: MW-05

Date Collected: 08/31/16 11:11
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	350507	09/03/16 09:05	KML	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: MW-05

Date Collected: 08/31/16 11:11
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	350471	09/02/16 15:44	FXG	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350692	09/06/16 11:26	FXG	TAL CHI
Total/NA	Prep	7470A			350445	09/02/16 15:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	350678	09/06/16 11:08	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	350341	09/02/16 05:45	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	351394	09/11/16 22:48	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	350973	09/08/16 12:24	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	352645		CLB	TAL CHI
					(Start)	09/21/16 08:55		
					(End)	09/21/16 08:57		

Client Sample ID: MW-10

Date Collected: 08/31/16 12:55
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	350507	09/03/16 09:09	KML	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350471	09/02/16 15:48	FXG	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350692	09/06/16 11:30	FXG	TAL CHI
Total/NA	Prep	7470A			350445	09/02/16 15:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	350678	09/06/16 11:09	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	350341	09/02/16 05:49	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	351394	09/11/16 22:49	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	350973	09/08/16 12:31	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	352645		CLB	TAL CHI
					(Start)	09/21/16 08:57		
					(End)	09/21/16 08:58		

Client Sample ID: Dup

Date Collected: 08/31/16 00:00
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	350507	09/03/16 09:30	KML	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	350471	09/02/16 16:15	FXG	TAL CHI
Total Recoverable	Prep	3005A			350356	09/02/16 08:08	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	351110	09/09/16 11:32	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-1

Client Sample ID: Dup

Date Collected: 08/31/16 00:00
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			350445	09/02/16 15:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	350678	09/06/16 11:11	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	350341	09/02/16 05:53	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	351394	09/11/16 22:49	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	350973	09/08/16 12:33	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	352645		CLB	TAL CHI
					(Start)	09/21/16 08:58		
					(End)	09/21/16 08:59		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-116524-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
10/3/2016 2:49:27 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Job ID: 500-116524-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-116524-2

Comments
No additional comments.

Receipt
The samples were received on 9/1/2016 4:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.3º C and 5.8º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-116524-1	MW-03	Water	08/31/16 16:16	09/01/16 16:20
500-116524-2	MW-04	Water	08/31/16 14:48	09/01/16 16:20
500-116524-3	MW-05	Water	08/31/16 11:11	09/01/16 16:20
500-116524-4	MW-10	Water	08/31/16 12:55	09/01/16 16:20
500-116524-5	Dup	Water	08/31/16 00:00	09/01/16 16:20

Client Sample ID: MW-03

Date Collected: 08/31/16 16:16
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.234**		0.0798	0.0826	1.00	0.0922	pCi/L	09/11/16 13:27	10/02/16 20:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:41*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.128	U	0.219	0.220	1.00	0.373	pCi/L	09/11/16 13:38	09/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*
Y Carrier	*88.6*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.362	U	0.234	0.235	5.00	0.373	pCi/L		10/03/16 02:30	1

Client Sample ID: MW-04

Date Collected: 08/31/16 14:48
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.0961**		0.0591	0.0597	1.00	0.0829	pCi/L	09/11/16 13:27	10/02/16 20:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.0*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.336	U	0.241	0.243	1.00	0.374	pCi/L	09/11/16 13:38	09/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.0*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*
Y Carrier	*87.5*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.432**		0.248	0.250	5.00	0.374	pCi/L		10/03/16 02:30	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Client Sample ID: MW-05

Date Collected: 08/31/16 11:11
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.106**		0.0701	0.0707	1.00	0.104	pCi/L	09/11/16 13:27	10/02/16 20:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.218	U	0.255	0.256	1.00	0.420	pCi/L	09/11/16 13:38	09/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*
Y Carrier	*84.9*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.324	U	0.264	0.265	5.00	0.420	pCi/L		10/03/16 02:30	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Client Sample ID: MW-10
Date Collected: 08/31/16 12:55
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-4
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0630	U	0.0610	0.0612	1.00	0.0973	pCi/L	09/11/16 13:27	10/02/16 20:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.225	U	0.241	0.242	1.00	0.394	pCi/L	09/11/16 13:38	09/23/16 13:23	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*
Y Carrier	*89.3*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:23*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.288	U	0.249	0.250	5.00	0.394	pCi/L		10/03/16 02:30	1

Client Sample ID: Dup

Date Collected: 08/31/16 00:00
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.126**		0.0598	0.0608	1.00	0.0762	pCi/L	09/11/16 13:27	10/02/16 20:42	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.9*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:42*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.126	U	0.192	0.192	1.00	0.371	pCi/L	09/11/16 13:38	09/23/16 13:24	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.9*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:24*	*1*
Y Carrier	*86.7*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:24*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.000615	U	0.201	0.201	5.00	0.371	pCi/L		10/03/16 02:30	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Rad

Prep Batch: 269047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	PrecSep-21	
500-116524-2	MW-04	Total/NA	Water	PrecSep-21	
500-116524-3	MW-05	Total/NA	Water	PrecSep-21	
500-116524-4	MW-10	Total/NA	Water	PrecSep-21	
500-116524-5	Dup	Total/NA	Water	PrecSep-21	
MB 160-269047/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-269047/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-116524-3 DU	MW-05	Total/NA	Water	PrecSep-21	

Prep Batch: 269048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-116524-1	MW-03	Total/NA	Water	PrecSep_0	
500-116524-2	MW-04	Total/NA	Water	PrecSep_0	
500-116524-3	MW-05	Total/NA	Water	PrecSep_0	
500-116524-4	MW-10	Total/NA	Water	PrecSep_0	
500-116524-5	Dup	Total/NA	Water	PrecSep_0	
MB 160-269048/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-269048/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-116524-3 DU	MW-05	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-269047/1-A
Matrix: Water
Analysis Batch: 272622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269047

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06244	U	0.0497	0.0500	1.00	0.0742	pCi/L	09/11/16 13:27	10/02/16 20:32	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.9*		*40 - 110*	*09/11/16 13:27*	*10/02/16 20:32*	*1*

Lab Sample ID: LCS 160-269047/2-A
Matrix: Water
Analysis Batch: 272622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269047

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.1	14.19		1.37	1.00	0.0731	pCi/L	128	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.0*		*40 - 110*

Lab Sample ID: 500-116524-3 DU
Matrix: Water
Analysis Batch: 272623

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 269047

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.106			0.1502		0.0749	1.00	0.101	pCi/L			0.31	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*89.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-269048/1-A
Matrix: Water
Analysis Batch: 271443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 269048

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3967	U	0.322	0.324	1.00	0.515	pCi/L	09/11/16 13:38	09/23/16 13:15	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.9*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:15*	*1*
Y Carrier	*86.7*		*40 - 110*	*09/11/16 13:38*	*09/23/16 13:15*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-269048/2-A
Matrix: Water
Analysis Batch: 271443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 269048

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.5	18.20		1.94	1.00	0.462	pCi/L	125	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.0*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

Lab Sample ID: 500-116524-3 DU
Matrix: Water
Analysis Batch: 271334

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 269048

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.218	U		0.4358		0.249	1.00	0.365	pCi/L			0.43	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*89.5*		*40 - 110*
Y Carrier	*86.4*		*40 - 110*

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	Carrier Tracking No(s):	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 500-116524
Address: 14665 W. Lisbon Rd	Due Date Requested:			
City: Brookfield	TAT Requested (days): 15 days			
State, Zip: WI, 53005				
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040			
Email:	WO #: 35589579			
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568			
Site: Joliet, Illinois	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	8-31-16	16:16	G	Water	N	-	X	X	X		
2	MW-04	8-31-16	14:48	G	Water	N	-	X	X	X		
3	MW-05	8-31-16	11:11	G	Water	N	-	X	X	X		
4	MW-10	8-31-16	12:55	G	Water	N	-	X	X	X		
5	Dup	8-31-16	—	G	Water	N	-	X	X	X		

500-116524 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
IJH	9-1-16 16:20	KPRG		09/01/16 TACHE	16:20
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.8 4.3

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-116524 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-77584.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested	Job #: 500-116524-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/30/2016		Preservation Codes:
City: Earth City	TAT Requested (days):		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: Joliet #29 CCR	Project #: 50011568		
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-116524-1)	8/31/16	16:16 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-116524-2)	8/31/16	14:48 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-116524-3)	8/31/16	11:11 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-116524-4)	8/31/16	12:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Dup (500-116524-5)	8/31/16	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 09/02/16 1600	Company TA	Received by:	Date/Time: 9/3/16 1155	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

10/3/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-116524-2

Login Number: 116524
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3,5.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-116524-2

Login Number: 116524
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 09/06/16 02:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	False	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	21
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Client Sample ID: MW-03
Date Collected: 08/31/16 16:16
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			269047	09/11/16 13:27	MCJ	TAL SL
Total/NA	Analysis	903.0		1	272623	10/02/16 20:41	ALS	TAL SL
Total/NA	Prep	PrecSep_0			269048	09/11/16 13:38	MCJ	TAL SL
Total/NA	Analysis	904.0		1	271334	09/23/16 13:23	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272640	10/03/16 02:30	ALS	TAL SL

Client Sample ID: MW-04
Date Collected: 08/31/16 14:48
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			269047	09/11/16 13:27	MCJ	TAL SL
Total/NA	Analysis	903.0		1	272623	10/02/16 20:42	ALS	TAL SL
Total/NA	Prep	PrecSep_0			269048	09/11/16 13:38	MCJ	TAL SL
Total/NA	Analysis	904.0		1	271334	09/23/16 13:23	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272640	10/03/16 02:30	ALS	TAL SL

Client Sample ID: MW-05
Date Collected: 08/31/16 11:11
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			269047	09/11/16 13:27	MCJ	TAL SL
Total/NA	Analysis	903.0		1	272623	10/02/16 20:42	ALS	TAL SL
Total/NA	Prep	PrecSep_0			269048	09/11/16 13:38	MCJ	TAL SL
Total/NA	Analysis	904.0		1	271334	09/23/16 13:23	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272640	10/03/16 02:30	ALS	TAL SL

Client Sample ID: MW-10
Date Collected: 08/31/16 12:55
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			269047	09/11/16 13:27	MCJ	TAL SL
Total/NA	Analysis	903.0		1	272623	10/02/16 20:42	ALS	TAL SL
Total/NA	Prep	PrecSep_0			269048	09/11/16 13:38	MCJ	TAL SL
Total/NA	Analysis	904.0		1	271334	09/23/16 13:23	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272640	10/03/16 02:30	ALS	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Client Sample ID: Dup

Date Collected: 08/31/16 00:00
Date Received: 09/01/16 16:20

Lab Sample ID: 500-116524-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			269047	09/11/16 13:27	MCJ	TAL SL
Total/NA	Analysis	903.0		1	272623	10/02/16 20:42	ALS	TAL SL
Total/NA	Prep	PrecSep_0			269048	09/11/16 13:38	MCJ	TAL SL
Total/NA	Analysis	904.0		1	271334	09/23/16 13:24	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	272640	10/03/16 02:30	ALS	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-116524-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-116524-1	MW-03	87.5
500-116524-2	MW-04	84.0
500-116524-3	MW-05	80.3
500-116524-3 DU	MW-05	89.5
500-116524-4	MW-10	86.0
500-116524-5	Dup	90.9
LCS 160-269047/2-A	Lab Control Sample	84.0
MB 160-269047/1-A	Method Blank	86.9

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-116524-1	MW-03	87.5	88.6
500-116524-2	MW-04	84.0	87.5
500-116524-3	MW-05	80.3	84.9
500-116524-3 DU	MW-05	89.5	86.4
500-116524-4	MW-10	86.0	89.3
500-116524-5	Dup	90.9	86.7
LCS 160-269048/2-A	Lab Control Sample	84.0	83.4
MB 160-269048/1-A	Method Blank	86.9	86.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-119618-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Therese Hargraves

Authorized for release by:
11/15/2016 2:15:53 PM
Therese Hargraves, Project Manager I
therese.hargraves@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Job ID: 500-119618-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-119618-1

Comments
No additional comments.

Receipt
The samples were received on 11/4/2016 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.1º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-119618-1	MW-03	Water	11/02/16 15:30	11/04/16 09:40
500-119618-2	MW-04	Water	11/02/16 14:44	11/04/16 09:40
500-119618-3	MW-05	Water	11/02/16 09:55	11/04/16 09:40
500-119618-4	MW-10	Water	11/02/16 11:00	11/04/16 09:40
500-119618-5	Dup	Water	11/02/16 00:00	11/04/16 09:40

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-03
Date Collected: 11/02/16 15:30
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/05/16 09:36	11/06/16 18:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 13:56	1
Arsenic	**0.0019**		0.0010		mg/L		11/05/16 09:36	11/07/16 15:53	1
Barium	**0.082**		0.0025		mg/L		11/05/16 09:36	11/08/16 13:56	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 13:56	1
Boron	**0.34**		0.050		mg/L		11/05/16 09:36	11/08/16 13:56	1
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 13:56	1
Calcium	**87**		0.20		mg/L		11/05/16 09:36	11/08/16 13:56	1
Chromium	**0.0051**		0.0050		mg/L		11/05/16 09:36	11/08/16 13:56	1
Cobalt	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 13:56	1
Lead	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 13:56	1
Molybdenum	**0.0059**		0.0050		mg/L		11/05/16 09:36	11/08/16 13:56	1
Selenium	**0.0032**		0.0025		mg/L		11/05/16 09:36	11/07/16 15:53	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 13:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**780**		10		mg/L			11/05/16 20:45	1
Chloride	**190**		10		mg/L			11/12/16 00:10	5
Fluoride	**0.44**		0.10		mg/L			11/11/16 14:19	1
Sulfate	**94**		20		mg/L			11/07/16 06:28	4

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-04
Date Collected: 11/02/16 14:44
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		11/05/16 09:36	11/06/16 18:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 14:20	1
Arsenic	**0.0025**		0.0010		mg/L		11/05/16 09:36	11/07/16 16:20	1
Barium	**0.079**		0.0025		mg/L		11/05/16 09:36	11/08/16 14:20	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:20	1
Boron	**0.32**		0.050		mg/L		11/05/16 09:36	11/08/16 14:20	1
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 14:20	1
Calcium	**98**		0.20		mg/L		11/05/16 09:36	11/08/16 14:20	1
Chromium	<0.0050		0.0050		mg/L		11/05/16 09:36	11/08/16 14:20	1
Cobalt	**0.010**		0.0010		mg/L		11/05/16 09:36	11/08/16 14:20	1
Lead	**0.0012**		0.00050		mg/L		11/05/16 09:36	11/08/16 14:20	1
Molybdenum	**0.0070**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:20	1
Selenium	<0.0025		0.0025		mg/L		11/05/16 09:36	11/07/16 16:20	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 14:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**750**		10		mg/L			11/05/16 20:49	1
Chloride	**160**		10		mg/L			11/12/16 00:10	5
Fluoride	**0.43**		0.10		mg/L			11/11/16 14:29	1
Sulfate	**83**		20		mg/L			11/07/16 06:29	4

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-05
Date Collected: 11/02/16 09:55
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.015**		0.010		mg/L		11/05/16 09:36	11/06/16 18:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 14:25	1
Arsenic	**0.0022**		0.0010		mg/L		11/05/16 09:36	11/07/16 16:24	1
Barium	**0.056**		0.0025		mg/L		11/05/16 09:36	11/08/16 14:25	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:25	1
Boron	**0.41**		0.050		mg/L		11/05/16 09:36	11/08/16 14:25	1
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 14:25	1
Calcium	**98**		0.20		mg/L		11/05/16 09:36	11/08/16 14:25	1
Chromium	**0.0051**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:25	1
Cobalt	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:25	1
Lead	**0.0017**		0.00050		mg/L		11/05/16 09:36	11/08/16 14:25	1
Molybdenum	**0.0061**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:25	1
Selenium	<0.0025		0.0025		mg/L		11/05/16 09:36	11/07/16 16:24	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 14:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**700**		10		mg/L			11/05/16 20:54	1
Chloride	**130**		10		mg/L			11/12/16 00:11	5
Fluoride	**0.37**		0.10		mg/L			11/11/16 14:32	1
Sulfate	**100**		25		mg/L			11/07/16 06:30	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-10

Date Collected: 11/02/16 11:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		11/05/16 09:36	11/06/16 18:33	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 14:29	1
Arsenic	**0.0018**		0.0010		mg/L		11/05/16 09:36	11/07/16 16:27	1
Barium	**0.035**		0.0025		mg/L		11/05/16 09:36	11/08/16 14:29	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:29	1
Boron	**0.48**		0.050		mg/L		11/05/16 09:36	11/08/16 14:29	1
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 14:29	1
Calcium	**100**		0.20		mg/L		11/05/16 09:36	11/08/16 14:29	1
Chromium	<0.0050		0.0050		mg/L		11/05/16 09:36	11/08/16 14:29	1
Cobalt	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:29	1
Lead	**0.0014**		0.00050		mg/L		11/05/16 09:36	11/08/16 14:29	1
Molybdenum	**0.0061**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:29	1
Selenium	<0.0025		0.0025		mg/L		11/05/16 09:36	11/07/16 16:27	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 14:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**720**		10		mg/L			11/07/16 01:19	1
Chloride	**130**		10		mg/L			11/12/16 00:11	5
Fluoride	**0.45**		0.10		mg/L			11/11/16 14:47	1
Sulfate	**95**		20		mg/L			11/07/16 06:31	4

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: Dup
Date Collected: 11/02/16 00:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/05/16 09:36	11/06/16 18:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 14:34	1
Arsenic	**0.0020**		0.0010		mg/L		11/05/16 09:36	11/07/16 16:31	1
Barium	**0.085**		0.0025		mg/L		11/05/16 09:36	11/08/16 14:34	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:34	1
Boron	**0.35**		0.050		mg/L		11/05/16 09:36	11/08/16 14:34	1
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 14:34	1
Calcium	**86**		0.20		mg/L		11/05/16 09:36	11/08/16 14:34	1
Chromium	**0.0071**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:34	1
Cobalt	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 14:34	1
Lead	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 14:34	1
Molybdenum	**0.0059**		0.0050		mg/L		11/05/16 09:36	11/08/16 14:34	1
Selenium	**0.0033**		0.0025		mg/L		11/05/16 09:36	11/07/16 16:31	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 14:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**780**		10		mg/L			11/07/16 01:23	1
Chloride	**180**		10		mg/L			11/12/16 00:12	5
Fluoride	**0.46**		0.10		mg/L			11/11/16 14:50	1
Sulfate	**100**		20		mg/L			11/10/16 08:23	4

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Qualifiers

Metals

Qualifier	Qualifier Description
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Metals

Prep Batch: 359444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total Recoverable	Water	3005A	
500-119618-2	MW-04	Total Recoverable	Water	3005A	
500-119618-3	MW-05	Total Recoverable	Water	3005A	
500-119618-4	MW-10	Total Recoverable	Water	3005A	
500-119618-5	Dup	Total Recoverable	Water	3005A	
MB 500-359444/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-359444/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-119618-1 MS	MW-03	Total Recoverable	Water	3005A	
500-119618-1 MSD	MW-03	Total Recoverable	Water	3005A	
500-119618-1 DU	MW-03	Total Recoverable	Water	3005A	

Analysis Batch: 359565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total Recoverable	Water	6010C	359444
500-119618-2	MW-04	Total Recoverable	Water	6010C	359444
500-119618-3	MW-05	Total Recoverable	Water	6010C	359444
500-119618-4	MW-10	Total Recoverable	Water	6010C	359444
500-119618-5	Dup	Total Recoverable	Water	6010C	359444
MB 500-359444/1-A	Method Blank	Total Recoverable	Water	6010C	359444
LCS 500-359444/2-A	Lab Control Sample	Total Recoverable	Water	6010C	359444
500-119618-1 MS	MW-03	Total Recoverable	Water	6010C	359444
500-119618-1 MSD	MW-03	Total Recoverable	Water	6010C	359444
500-119618-1 DU	MW-03	Total Recoverable	Water	6010C	359444

Analysis Batch: 359727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total Recoverable	Water	6020A	359444
500-119618-2	MW-04	Total Recoverable	Water	6020A	359444
500-119618-3	MW-05	Total Recoverable	Water	6020A	359444
500-119618-4	MW-10	Total Recoverable	Water	6020A	359444
500-119618-5	Dup	Total Recoverable	Water	6020A	359444
MB 500-359444/1-A	Method Blank	Total Recoverable	Water	6020A	359444
LCS 500-359444/2-A	Lab Control Sample	Total Recoverable	Water	6020A	359444
500-119618-1 MS	MW-03	Total Recoverable	Water	6020A	359444
500-119618-1 MSD	MW-03	Total Recoverable	Water	6020A	359444
500-119618-1 DU	MW-03	Total Recoverable	Water	6020A	359444

Prep Batch: 359777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	7470A	
500-119618-2	MW-04	Total/NA	Water	7470A	
500-119618-3	MW-05	Total/NA	Water	7470A	
500-119618-4	MW-10	Total/NA	Water	7470A	
500-119618-5	Dup	Total/NA	Water	7470A	
MB 500-359777/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-359777/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 359816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total Recoverable	Water	6020A	359444
500-119618-2	MW-04	Total Recoverable	Water	6020A	359444

Metals (Continued)

Analysis Batch: 359816 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-3	MW-05	Total Recoverable	Water	6020A	359444
500-119618-4	MW-10	Total Recoverable	Water	6020A	359444
500-119618-5	Dup	Total Recoverable	Water	6020A	359444
MB 500-359444/1-A	Method Blank	Total Recoverable	Water	6020A	359444
LCS 500-359444/2-A	Lab Control Sample	Total Recoverable	Water	6020A	359444
500-119618-1 MS	MW-03	Total Recoverable	Water	6020A	359444
500-119618-1 MSD	MW-03	Total Recoverable	Water	6020A	359444
500-119618-1 DU	MW-03	Total Recoverable	Water	6020A	359444

Analysis Batch: 360028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	7470A	359777
500-119618-2	MW-04	Total/NA	Water	7470A	359777
500-119618-3	MW-05	Total/NA	Water	7470A	359777
500-119618-4	MW-10	Total/NA	Water	7470A	359777
500-119618-5	Dup	Total/NA	Water	7470A	359777
MB 500-359777/12-A	Method Blank	Total/NA	Water	7470A	359777
LCS 500-359777/13-A	Lab Control Sample	Total/NA	Water	7470A	359777

General Chemistry

Analysis Batch: 359470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	SM 2540C	
500-119618-2	MW-04	Total/NA	Water	SM 2540C	
500-119618-3	MW-05	Total/NA	Water	SM 2540C	
MB 500-359470/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-359470/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 359525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-4	MW-10	Total/NA	Water	SM 2540C	
500-119618-5	Dup	Total/NA	Water	SM 2540C	
MB 500-359525/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-359525/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 359576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-119618-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-119618-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-119618-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
MB 500-359576/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-359576/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 360173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-5	Dup	Total/NA	Water	SM 4500 SO4 E	
MB 500-360173/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-360173/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 360497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	SM 4500 F C	
500-119618-2	MW-04	Total/NA	Water	SM 4500 F C	
500-119618-3	MW-05	Total/NA	Water	SM 4500 F C	
500-119618-4	MW-10	Total/NA	Water	SM 4500 F C	
500-119618-5	Dup	Total/NA	Water	SM 4500 F C	
MB 500-360497/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-360497/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-360497/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-360497/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-119618-3 MS	MW-05	Total/NA	Water	SM 4500 F C	
500-119618-3 MSD	MW-05	Total/NA	Water	SM 4500 F C	
500-119618-5 MS	Dup	Total/NA	Water	SM 4500 F C	
500-119618-5 MSD	Dup	Total/NA	Water	SM 4500 F C	

Analysis Batch: 360527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-119618-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-119618-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-119618-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-119618-5	Dup	Total/NA	Water	SM 4500 Cl- E	
MB 500-360527/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-360527/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-359444/1-A
Matrix: Water
Analysis Batch: 359565

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/05/16 09:36	11/06/16 17:59	1

Lab Sample ID: LCS 500-359444/2-A
Matrix: Water
Analysis Batch: 359565

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.512		mg/L		102	80 - 120

Lab Sample ID: 500-119618-1 MS
Matrix: Water
Analysis Batch: 359565

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.528		mg/L		104	75 - 125

Lab Sample ID: 500-119618-1 MSD
Matrix: Water
Analysis Batch: 359565

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.555		mg/L		109	75 - 125	5	20

Lab Sample ID: 500-119618-1 DU
Matrix: Water
Analysis Batch: 359565

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-359444/1-A
Matrix: Water
Analysis Batch: 359727

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		11/05/16 09:36	11/07/16 15:46	1
Selenium	<0.0025		0.0025		mg/L		11/05/16 09:36	11/07/16 15:46	1

Lab Sample ID: MB 500-359444/1-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/05/16 09:36	11/08/16 13:28	1
Barium	<0.0025		0.0025		mg/L		11/05/16 09:36	11/08/16 13:28	1
Beryllium	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 13:28	1
Boron	<0.050		0.050		mg/L		11/05/16 09:36	11/08/16 13:28	1

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

Lab Sample ID: MB 500-359444/1-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 13:28	1
Calcium	<0.20		0.20		mg/L		11/05/16 09:36	11/08/16 13:28	1
Chromium	<0.0050		0.0050		mg/L		11/05/16 09:36	11/08/16 13:28	1
Cobalt	<0.0010		0.0010		mg/L		11/05/16 09:36	11/08/16 13:28	1
Lead	<0.00050		0.00050		mg/L		11/05/16 09:36	11/08/16 13:28	1
Molybdenum	<0.0050		0.0050		mg/L		11/05/16 09:36	11/08/16 13:28	1
Thallium	<0.0020		0.0020		mg/L		11/05/16 09:36	11/08/16 13:28	1

Lab Sample ID: LCS 500-359444/2-A
Matrix: Water
Analysis Batch: 359727

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.109		mg/L		109	80 - 120
Selenium	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: LCS 500-359444/2-A
Matrix: Water
Analysis Batch: 359816

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.498		mg/L		100	80 - 120
Barium	2.00	1.95		mg/L		97	80 - 120
Beryllium	0.0500	0.0501		mg/L		100	80 - 120
Boron	1.00	1.01		mg/L		101	80 - 120
Cadmium	0.0500	0.0479		mg/L		96	80 - 120
Calcium	10.0	10.7		mg/L		107	80 - 120
Chromium	0.200	0.199		mg/L		99	80 - 120
Cobalt	0.500	0.497		mg/L		99	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120
Molybdenum	1.00	0.973		mg/L		97	80 - 120
Thallium	0.100	0.110		mg/L		110	80 - 120

Lab Sample ID: 500-119618-1 MS
Matrix: Water
Analysis Batch: 359727

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0019		0.100	0.114		mg/L		112	75 - 125
Selenium	0.0032		0.100	0.108		mg/L		105	75 - 125

Lab Sample ID: 500-119618-1 MS
Matrix: Water
Analysis Batch: 359816

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.499		mg/L		100	75 - 125
Barium	0.082		2.00	2.03		mg/L		97	75 - 125
Beryllium	<0.0010		0.0500	0.0503		mg/L		101	75 - 125

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

Lab Sample ID: 500-119618-1 MS — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 359816 — **Prep Batch: 359444**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.34		1.00	1.38		mg/L		104	75 - 125
Cadmium	<0.00050		0.0500	0.0468		mg/L		94	75 - 125
Calcium	87		10.0	101	4	mg/L		136	75 - 125
Chromium	0.0051		0.200	0.199		mg/L		97	75 - 125
Cobalt	<0.0010		0.500	0.476		mg/L		95	75 - 125
Lead	<0.00050		0.100	0.102		mg/L		101	75 - 125
Molybdenum	0.0059		1.00	0.967		mg/L		96	75 - 125
Thallium	<0.0020		0.100	0.105		mg/L		105	75 - 125

Lab Sample ID: 500-119618-1 MSD — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 359727 — **Prep Batch: 359444**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0019		0.100	0.120		mg/L		118	75 - 125	6	20
Selenium	0.0032		0.100	0.115		mg/L		112	75 - 125	6	20

Lab Sample ID: 500-119618-1 MSD — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 359816 — **Prep Batch: 359444**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.514		mg/L		103	75 - 125	3	20
Barium	0.082		2.00	2.11		mg/L		101	75 - 125	4	20
Beryllium	<0.0010		0.0500	0.0526		mg/L		105	75 - 125	4	20
Boron	0.34		1.00	1.45		mg/L		111	75 - 125	5	20
Cadmium	<0.00050		0.0500	0.0481		mg/L		96	75 - 125	3	20
Calcium	87		10.0	103	4	mg/L		158	75 - 125	2	20
Chromium	0.0051		0.200	0.208		mg/L		101	75 - 125	4	20
Cobalt	<0.0010		0.500	0.501		mg/L		100	75 - 125	5	20
Lead	<0.00050		0.100	0.105		mg/L		105	75 - 125	3	20
Molybdenum	0.0059		1.00	1.01		mg/L		100	75 - 125	4	20
Thallium	<0.0020		0.100	0.109		mg/L		109	75 - 125	4	20

Lab Sample ID: 500-119618-1 DU — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 359727 — **Prep Batch: 359444**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0019		0.00192		mg/L		2	20
Selenium	0.0032		0.00313		mg/L		1	20

Lab Sample ID: 500-119618-1 DU — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 359816 — **Prep Batch: 359444**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Barium	0.082		0.0856		mg/L		4	20

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

Lab Sample ID: 500-119618-1 DU
Matrix: Water
Analysis Batch: 359816

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 359444

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.34		0.351		mg/L		3	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	87		88.8		mg/L		2	20
Chromium	0.0051		0.00533		mg/L		4	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Molybdenum	0.0059		0.00616		mg/L		5	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-359777/12-A
Matrix: Water
Analysis Batch: 360028

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359777

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/08/16 12:15	11/09/16 11:20	1

Lab Sample ID: LCS 500-359777/13-A
Matrix: Water
Analysis Batch: 360028

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359777

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00187		mg/L		93	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-359470/1
Matrix: Water
Analysis Batch: 359470

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/05/16 19:07	1

Lab Sample ID: LCS 500-359470/2
Matrix: Water
Analysis Batch: 359470

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	268		mg/L		107	80 - 120

Lab Sample ID: MB 500-359525/1
Matrix: Water
Analysis Batch: 359525

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/07/16 00:15	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-359525/2
Matrix: Water
Analysis Batch: 359525

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	278		mg/L		111	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-360527/12
Matrix: Water
Analysis Batch: 360527

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/11/16 23:31	1

Lab Sample ID: LCS 500-360527/13
Matrix: Water
Analysis Batch: 360527

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.3		mg/L		101	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-360497/3
Matrix: Water
Analysis Batch: 360497

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/11/16 13:13	1

Lab Sample ID: MB 500-360497/31
Matrix: Water
Analysis Batch: 360497

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/11/16 14:41	1

Lab Sample ID: LCS 500-360497/32
Matrix: Water
Analysis Batch: 360497

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.5		mg/L		105	80 - 120

Lab Sample ID: LCS 500-360497/4
Matrix: Water
Analysis Batch: 360497

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-119618-3 MS
Matrix: Water
Analysis Batch: 360497

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.37		5.00	5.52		mg/L		103	75 - 125		

Lab Sample ID: 500-119618-3 MSD
Matrix: Water
Analysis Batch: 360497

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.37		5.00	5.57		mg/L		104	75 - 125	1	20

Lab Sample ID: 500-119618-5 MS
Matrix: Water
Analysis Batch: 360497

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.46		5.00	5.60		mg/L		103	75 - 125		

Lab Sample ID: 500-119618-5 MSD
Matrix: Water
Analysis Batch: 360497

Client Sample ID: Dup
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.46		5.00	5.71		mg/L		105	75 - 125	2	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-359576/3
Matrix: Water
Analysis Batch: 359576

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/07/16 06:11	1

Lab Sample ID: LCS 500-359576/4
Matrix: Water
Analysis Batch: 359576

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.7		mg/L		104	80 - 120		

Lab Sample ID: MB 500-360173/3
Matrix: Water
Analysis Batch: 360173

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/10/16 08:21	1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: LCS 500-360173/4
Matrix: Water
Analysis Batch: 360173

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.3		mg/L		96	80 - 120

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-119618 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.			Job #: 12313.0 500-119618
Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:		Analysis Requested
City: Brookfield	TAT Requested (days): 15 days		
State, Zip: WI, 53005			
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		
Email: richardg@kprginc.com	WO #: 35589579		
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	11-2-16	15:30	G	Water	N	N	X	X	X	5	
2	MW-04	11-2-16	14:44	G	Water	N	N	X	X	X	5	
3	MW-05	11-2-16	09:55	G	Water	N	N	X	X	X	5	
4	MW-10	11-2-16	11:00	G	Water	N	N	X	X	X	5	
5	Dup	11-2-16	—	G	Water	N	N	X	X	X	5	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
IBH	11-4-16 09:40	KPRG		11/04/16 0940	TAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.9, 1.1

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119618-1

Login Number: 119618
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(0.9)(1.1)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-03

Date Collected: 11/02/16 15:30
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	359565	11/06/16 18:07	PJ1	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359816	11/08/16 13:56	FXG	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359727	11/07/16 15:53	FXG	TAL CHI
Total/NA	Prep	7470A			359777	11/08/16 12:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	360028	11/09/16 11:28	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	359470	11/05/16 20:45	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	360527	11/12/16 00:10	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	360497	11/11/16 14:19	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	359576		CLB	TAL CHI
					(Start)	11/07/16 06:28		
					(End)	11/07/16 06:29		

Client Sample ID: MW-04

Date Collected: 11/02/16 14:44
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	359565	11/06/16 18:26	PJ1	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359816	11/08/16 14:20	FXG	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359727	11/07/16 16:20	FXG	TAL CHI
Total/NA	Prep	7470A			359777	11/08/16 12:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	360028	11/09/16 11:29	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	359470	11/05/16 20:49	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	360527	11/12/16 00:10	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	360497	11/11/16 14:29	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	359576		CLB	TAL CHI
					(Start)	11/07/16 06:29		
					(End)	11/07/16 06:30		

Client Sample ID: MW-05

Date Collected: 11/02/16 09:55
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	359565	11/06/16 18:29	PJ1	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: MW-05

Date Collected: 11/02/16 09:55
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	359816	11/08/16 14:25	FXG	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359727	11/07/16 16:24	FXG	TAL CHI
Total/NA	Prep	7470A			359777	11/08/16 12:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	360028	11/09/16 11:31	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	359470	11/05/16 20:54	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	360527	11/12/16 00:11	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	360497	11/11/16 14:32	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	359576		CLB	TAL CHI
					(Start)	11/07/16 06:30		
					(End)	11/07/16 06:31		

Client Sample ID: MW-10

Date Collected: 11/02/16 11:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	359565	11/06/16 18:33	PJ1	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359816	11/08/16 14:29	FXG	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359727	11/07/16 16:27	FXG	TAL CHI
Total/NA	Prep	7470A			359777	11/08/16 12:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	360028	11/09/16 11:32	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	359525	11/07/16 01:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	360527	11/12/16 00:11	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	360497	11/11/16 14:47	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	359576		CLB	TAL CHI
					(Start)	11/07/16 06:31		
					(End)	11/07/16 06:32		

Client Sample ID: Dup

Date Collected: 11/02/16 00:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6010C		1	359565	11/06/16 18:44	PJ1	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359816	11/08/16 14:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			359444	11/05/16 09:36	JNH	TAL CHI
Total Recoverable	Analysis	6020A		1	359727	11/07/16 16:31	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-1

Client Sample ID: Dup

Date Collected: 11/02/16 00:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			359777	11/08/16 12:15	MJD	TAL CHI
Total/NA	Analysis	7470A		1	360028	11/09/16 11:34	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	359525	11/07/16 01:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	360527	11/12/16 00:12	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	360497	11/11/16 14:50	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	360173		CLB	TAL CHI
					(Start)	11/10/16 08:23		
					(End)	11/10/16 08:24		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-119618-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/14/2016 2:20:55 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Job ID: 500-119618-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-119618-2

Comments
No additional comments.

Receipt
The samples were received on 11/4/2016 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.1º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-119618-1	MW-03	Water	11/02/16 15:30	11/04/16 09:40
500-119618-2	MW-04	Water	11/02/16 14:44	11/04/16 09:40
500-119618-3	MW-05	Water	11/02/16 09:55	11/04/16 09:40
500-119618-4	MW-10	Water	11/02/16 11:00	11/04/16 09:40
500-119618-5	Dup	Water	11/02/16 00:00	11/04/16 09:40

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Client Sample ID: MW-03

Date Collected: 11/02/16 15:30
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.427		0.288	0.291	1.00	0.397	pCi/L	11/09/16 15:20	12/12/16 19:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.0*		*40 - 110*	*11/09/16 15:20*	*12/12/16 19:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.538		0.277	0.281	1.00	0.410	pCi/L	11/09/16 15:36	12/12/16 14:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.0*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:35*	*1*
Y Carrier	*85.6*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:35*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.965		0.400	0.405	5.00	0.410	pCi/L		12/14/16 10:54	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Client Sample ID: MW-04

Date Collected: 11/02/16 14:44
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.225	0.226	1.00	0.376	pCi/L	11/09/16 15:20	12/12/16 19:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.7*		*40 - 110*	*11/09/16 15:20*	*12/12/16 19:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0577	U	0.265	0.265	1.00	0.463	pCi/L	11/09/16 15:36	12/12/16 14:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.7*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:36*	*1*
Y Carrier	*81.9*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:36*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.230	U	0.348	0.348	5.00	0.463	pCi/L		12/14/16 10:54	1

Client Sample ID: MW-05

Date Collected: 11/02/16 09:55
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.137	U	0.152	0.152	1.00	0.241	pCi/L	11/09/16 15:20	12/13/16 16:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*11/09/16 15:20*	*12/13/16 16:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.301	U	0.255	0.257	1.00	0.408	pCi/L	11/09/16 15:36	12/12/16 14:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:36*	*1*
Y Carrier	*88.6*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:36*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.438**		0.297	0.299	5.00	0.408	pCi/L		12/14/16 10:54	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Client Sample ID: MW-10

Date Collected: 11/02/16 11:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.106	U	0.218	0.218	1.00	0.393	pCi/L	11/09/16 15:20	12/12/16 19:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.9*		*40 - 110*	*11/09/16 15:20*	*12/12/16 19:16*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.520**		0.268	0.273	1.00	0.399	pCi/L	11/09/16 15:36	12/12/16 14:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.9*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:37*	*1*
Y Carrier	*89.3*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:37*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.626**		0.346	0.349	5.00	0.399	pCi/L		12/14/16 10:54	1

Client Sample ID: Dup

Date Collected: 11/02/16 00:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.162	U	0.234	0.235	1.00	0.399	pCi/L	11/09/16 15:20	12/12/16 19:16	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.7*		*40 - 110*	*11/09/16 15:20*	*12/12/16 19:16*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.359	U	0.250	0.252	1.00	0.387	pCi/L	11/09/16 15:36	12/12/16 14:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.7*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:37*	*1*
Y Carrier	*85.6*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:37*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.521**		0.343	0.344	5.00	0.399	pCi/L		12/14/16 10:54	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Rad

Prep Batch: 278477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	PrecSep-21	
500-119618-2	MW-04	Total/NA	Water	PrecSep-21	
500-119618-3	MW-05	Total/NA	Water	PrecSep-21	
500-119618-4	MW-10	Total/NA	Water	PrecSep-21	
500-119618-5	Dup	Total/NA	Water	PrecSep-21	
MB 160-278477/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-278477/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-119618-3 DU	MW-05	Total/NA	Water	PrecSep-21	

Prep Batch: 278482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119618-1	MW-03	Total/NA	Water	PrecSep_0	
500-119618-2	MW-04	Total/NA	Water	PrecSep_0	
500-119618-3	MW-05	Total/NA	Water	PrecSep_0	
500-119618-4	MW-10	Total/NA	Water	PrecSep_0	
500-119618-5	Dup	Total/NA	Water	PrecSep_0	
MB 160-278482/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-278482/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-119618-3 DU	MW-05	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-278477/1-A
Matrix: Water
Analysis Batch: 283553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278477

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.08916	U	0.179	0.179	1.00	0.429	pCi/L	11/09/16 15:20	12/12/16 19:22	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.3*		*40 - 110*	*11/09/16 15:20*	*12/12/16 19:22*	*1*

Lab Sample ID: LCS 160-278477/2-A
Matrix: Water
Analysis Batch: 283553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278477

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.1	14.97		1.88	1.00	0.466	pCi/L	135	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.5*		*40 - 110*

Lab Sample ID: 500-119618-3 DU
Matrix: Water
Analysis Batch: 283771

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 278477

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.137	U		0.05293	U	0.162	1.00	0.303	pCi/L			0.27	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*89.5*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-278482/1-A
Matrix: Water
Analysis Batch: 283553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278482

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1287	U	0.270	0.270	1.00	0.461	pCi/L	11/09/16 15:36	12/12/16 14:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.3*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:35*	*1*
Y Carrier	*88.2*		*40 - 110*	*11/09/16 15:36*	*12/12/16 14:35*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-278482/2-A
Matrix: Water
Analysis Batch: 283553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278482

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.1	14.38		1.57	1.00	0.406	pCi/L	102	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*85.5*		*40 - 110*
Y Carrier	*87.9*		*40 - 110*

Lab Sample ID: 500-119618-3 DU
Matrix: Water
Analysis Batch: 283554

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 278482

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.301	U		0.2268	U	0.260	1.00	0.426	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*89.5*		*40 - 110*
Y Carrier	*83.4*		*40 - 110*

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-119618 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 630-290-6850	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: KPRG & Associates Inc.			Job #: 12313.0 500-119618
Address: 14665 W. Lisbon Rd, Suite 2B	Due Date Requested:		Analysis Requested
City: Brookfield	TAT Requested (days): 15 days		Preservation Codes:
State, Zip: WI, 53005			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
Phone: 262-781-0475	PO #: 4501575426 Line Item 00040		
Email: richardg@kprginc.com	WO #: 35589579		Other:
Project Name: Quarterly MWG Joliet #29 CCR	Project #: 50011568		
Site: Illinois	SSOW#:		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8010C, 6020A, 7470A	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	903.0, 904.0	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-03	11-2-16	15:30	G	Water	N	N	X	X	X	5	
2	MW-04	11-2-16	14:44	G	Water	N	N	X	X	X	5	
3	MW-05	11-2-16	09:55	G	Water	N	N	X	X	X	5	
4	MW-10	11-2-16	11:00	G	Water	N	N	X	X	X	5	
5	Dup	11-2-16	—	G	Water	N	N	X	X	X	5	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
IBH	11-4-16 09:40	KPRG		11/04/16 0940	TAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.9, 1.1

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-119618 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-80027.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois	Job #: 500-119618-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/16/2016		
City: Earth City	TAT Requested (days):		
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: Joliet #29 CCR	Project #: 50011568		
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-119618-1)	11/2/16	15:30 Central		Water			X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-119618-2)	11/2/16	14:44 Central		Water			X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-119618-3)	11/2/16	09:55 Central		Water			X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-119618-4)	11/2/16	11:00 Central		Water			X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Dup (500-119618-5)	11/2/16	Central		Water			X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/04/16 1600	Company TA	Received by:	Date/Time: 11.5.16 0810	Company TASR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-80027.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-119618-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/2/2016			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-03 (500-119618-1)	11/2/16	15:30 Central		Water			X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-119618-2)	11/2/16	14:44 Central		Water			X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-119618-3)	11/2/16	09:55 Central		Water			X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-119618-4)	11/2/16	11:00 Central		Water			X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Dup (500-119618-5)	11/2/16	Central		Water			X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/04/16 1600	TA	[signature] Clark	11-5-16 0810	TASTE
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

12/14/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119618-2

Login Number: 119618
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(0.9)(1.1)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119618-2

Login Number: 119618
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 11/07/16 02:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Client Sample ID: MW-03
Date Collected: 11/02/16 15:30
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278477	11/09/16 15:20	AS	TAL SL
Total/NA	Analysis	903.0		1	283553	12/12/16 19:22	RTM	TAL SL
Total/NA	Prep	PrecSep_0			278482	11/09/16 15:36	AS	TAL SL
Total/NA	Analysis	904.0		1	283553	12/12/16 14:35	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283908	12/14/16 10:54	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 11/02/16 14:44
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278477	11/09/16 15:20	AS	TAL SL
Total/NA	Analysis	903.0		1	283553	12/12/16 19:22	RTM	TAL SL
Total/NA	Prep	PrecSep_0			278482	11/09/16 15:36	AS	TAL SL
Total/NA	Analysis	904.0		1	283553	12/12/16 14:36	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283908	12/14/16 10:54	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 11/02/16 09:55
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278477	11/09/16 15:20	AS	TAL SL
Total/NA	Analysis	903.0		1	283775	12/13/16 16:12	MLK	TAL SL
Total/NA	Prep	PrecSep_0			278482	11/09/16 15:36	AS	TAL SL
Total/NA	Analysis	904.0		1	283553	12/12/16 14:36	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283908	12/14/16 10:54	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 11/02/16 11:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278477	11/09/16 15:20	AS	TAL SL
Total/NA	Analysis	903.0		1	283591	12/12/16 19:16	RTM	TAL SL
Total/NA	Prep	PrecSep_0			278482	11/09/16 15:36	AS	TAL SL
Total/NA	Analysis	904.0		1	283554	12/12/16 14:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283908	12/14/16 10:54	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Client Sample ID: Dup

Date Collected: 11/02/16 00:00
Date Received: 11/04/16 09:40

Lab Sample ID: 500-119618-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			278477	11/09/16 15:20	AS	TAL SL
Total/NA	Analysis	903.0		1	283591	12/12/16 19:16	RTM	TAL SL
Total/NA	Prep	PrecSep_0			278482	11/09/16 15:36	AS	TAL SL
Total/NA	Analysis	904.0		1	283554	12/12/16 14:37	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	283908	12/14/16 10:54	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-119618-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-119618-1	MW-03	88.0
500-119618-2	MW-04	87.7
500-119618-3	MW-05	87.5
500-119618-3 DU	MW-05	89.5
500-119618-4	MW-10	90.9
500-119618-5	Dup	87.7
LCS 160-278477/2-A	Lab Control Sample	85.5
MB 160-278477/1-A	Method Blank	78.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-119618-1	MW-03	88.0	85.6
500-119618-2	MW-04	87.7	81.9
500-119618-3	MW-05	87.5	88.6
500-119618-3 DU	MW-05	89.5	83.4
500-119618-4	MW-10	90.9	89.3
500-119618-5	Dup	87.7	85.6
LCS 160-278482/2-A	Lab Control Sample	85.5	87.9
MB 160-278482/1-A	Method Blank	78.3	88.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-123616-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
2/21/2017 4:27:52 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Job ID: 500-123616-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-123616-1

Comments
No additional comments.

Receipt
The samples were received on 2/8/2017 1:58 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5º C and 1.6º C.

Metals
Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-371766. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

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

General Chemistry
Method(s) SM 4500 F C: The initial calibration blank (ICB) for analytical batch 500-371926 contained fluoride greater than the reporting limit (RL). The associated samples were not reanalyzed because the method blank (MB), which initially brackets the samples and is made from the same source as the ICB, was found within control limits. The data have been qualified and reported.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-123616-1	MW-03	Water	02/06/17 13:14	02/08/17 13:58
500-123616-2	MW-04	Water	02/06/17 11:40	02/08/17 13:58
500-123616-3	MW-05	Water	02/06/17 14:42	02/08/17 13:58
500-123616-4	MW-10	Water	02/06/17 13:27	02/08/17 13:58
500-123616-5	Duplicate	Water	02/06/17 00:00	02/08/17 13:58

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-03
Date Collected: 02/06/17 13:14
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		02/09/17 08:09	02/10/17 13:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:30	1
Arsenic	**0.0019**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:30	1
Barium	**0.093**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:30	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:30	1
Boron	**0.40**		0.050		mg/L		02/09/17 08:09	02/13/17 12:00	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:30	1
Calcium	**97**		0.20		mg/L		02/09/17 08:09	02/10/17 14:30	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:30	1
Cobalt	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:30	1
Lead	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:30	1
Molybdenum	**0.0066**		0.0050		mg/L		02/09/17 08:09	02/10/17 14:30	1
Selenium	**0.0028**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:30	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 09:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**720**		10		mg/L			02/12/17 19:51	1
Chloride	**140**		10		mg/L			02/13/17 19:55	5
Fluoride	**0.39**		0.10		mg/L			02/11/17 13:05	1
Sulfate	**77**		25		mg/L			02/15/17 05:09	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-04
Date Collected: 02/06/17 11:40
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		02/09/17 08:09	02/10/17 13:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:34	1
Arsenic	**0.0015**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:34	1
Barium	**0.10**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:34	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:34	1
Boron	**0.40**		0.050		mg/L		02/09/17 08:09	02/13/17 12:04	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:34	1
Calcium	**110**		0.20		mg/L		02/09/17 08:09	02/10/17 14:34	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:34	1
Cobalt	**0.016**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:34	1
Lead	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:34	1
Molybdenum	**0.0071**		0.0050		mg/L		02/09/17 08:09	02/10/17 14:34	1
Selenium	<0.0025		0.0025		mg/L		02/09/17 08:09	02/10/17 14:34	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 09:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			02/12/17 19:54	1
Chloride	**200**		10		mg/L			02/13/17 19:56	5
Fluoride	**0.37**		0.10		mg/L			02/11/17 13:13	1
Sulfate	**98**		20		mg/L			02/15/17 05:12	4

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-05

Date Collected: 02/06/17 14:42
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		02/09/17 08:09	02/10/17 13:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:37	1
Arsenic	**0.0016**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:37	1
Barium	**0.082**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:37	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:37	1
Boron	**0.48**		0.050		mg/L		02/09/17 08:09	02/13/17 12:07	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:37	1
Calcium	**150**		0.20		mg/L		02/09/17 08:09	02/10/17 14:37	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:37	1
Cobalt	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:37	1
Lead	**0.0016**		0.00050		mg/L		02/09/17 08:09	02/10/17 14:37	1
Molybdenum	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:37	1
Selenium	**0.0029**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:37	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 09:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**790**		10		mg/L			02/12/17 19:57	1
Chloride	**180**		10		mg/L			02/13/17 19:56	5
Fluoride	**0.30**		0.10		mg/L			02/11/17 13:16	1
Sulfate	**120**		50		mg/L			02/15/17 05:13	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-10

Date Collected: 02/06/17 13:27
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		02/09/17 08:09	02/10/17 13:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:41	1
Arsenic	**0.0011**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:41	1
Barium	**0.048**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:41	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:41	1
Boron	**0.44**		0.050		mg/L		02/09/17 08:09	02/13/17 12:11	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:41	1
Calcium	**120**		0.20		mg/L		02/09/17 08:09	02/10/17 14:41	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:41	1
Cobalt	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:41	1
Lead	**0.00086**		0.00050		mg/L		02/09/17 08:09	02/10/17 14:41	1
Molybdenum	**0.0056**		0.0050		mg/L		02/09/17 08:09	02/10/17 14:41	1
Selenium	<0.0025		0.0025		mg/L		02/09/17 08:09	02/10/17 14:41	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 09:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**820**		10		mg/L			02/12/17 19:59	1
Chloride	**190**		10		mg/L			02/13/17 20:35	5
Fluoride	**0.36**		0.10		mg/L			02/11/17 13:18	1
Sulfate	**88**		25		mg/L			02/15/17 05:14	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: Duplicate

Date Collected: 02/06/17 00:00
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		02/09/17 08:09	02/10/17 13:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:45	1
Arsenic	**0.0017**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:45	1
Barium	**0.10**		0.0025		mg/L		02/09/17 08:09	02/10/17 14:45	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:45	1
Boron	**0.41**		0.050		mg/L		02/09/17 08:09	02/13/17 12:22	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:45	1
Calcium	**110**		0.20		mg/L		02/09/17 08:09	02/10/17 14:45	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:45	1
Cobalt	**0.015**		0.0010		mg/L		02/09/17 08:09	02/10/17 14:45	1
Lead	**0.00052**		0.00050		mg/L		02/09/17 08:09	02/10/17 14:45	1
Molybdenum	**0.0072**		0.0050		mg/L		02/09/17 08:09	02/10/17 14:45	1
Selenium	<0.0025		0.0025		mg/L		02/09/17 08:09	02/10/17 14:45	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 09:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**820**		10		mg/L			02/12/17 20:02	1
Chloride	**190**		10		mg/L			02/13/17 19:57	5
Fluoride	**0.38**		0.10		mg/L			02/11/17 13:21	1
Sulfate	**76**		25		mg/L			02/15/17 05:15	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Qualifiers

Metals

Qualifier	Qualifier Description
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Metals

Prep Batch: 371377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total Recoverable	Water	3005A	
500-123616-2	MW-04	Total Recoverable	Water	3005A	
500-123616-3	MW-05	Total Recoverable	Water	3005A	
500-123616-4	MW-10	Total Recoverable	Water	3005A	
500-123616-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-371377/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-371377/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-123616-5 MS	Duplicate	Total Recoverable	Water	3005A	
500-123616-5 MSD	Duplicate	Total Recoverable	Water	3005A	
500-123616-5 DU	Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 371413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	7470A	
500-123616-2	MW-04	Total/NA	Water	7470A	
500-123616-3	MW-05	Total/NA	Water	7470A	
500-123616-4	MW-10	Total/NA	Water	7470A	
500-123616-5	Duplicate	Total/NA	Water	7470A	
MB 500-371413/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-371413/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 371614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	7470A	371413
500-123616-2	MW-04	Total/NA	Water	7470A	371413
500-123616-3	MW-05	Total/NA	Water	7470A	371413
500-123616-4	MW-10	Total/NA	Water	7470A	371413
500-123616-5	Duplicate	Total/NA	Water	7470A	371413
MB 500-371413/12-A	Method Blank	Total/NA	Water	7470A	371413
LCS 500-371413/13-A	Lab Control Sample	Total/NA	Water	7470A	371413

Analysis Batch: 371628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total Recoverable	Water	6010C	371377
500-123616-2	MW-04	Total Recoverable	Water	6010C	371377
500-123616-3	MW-05	Total Recoverable	Water	6010C	371377
500-123616-4	MW-10	Total Recoverable	Water	6010C	371377
500-123616-5	Duplicate	Total Recoverable	Water	6010C	371377
MB 500-371377/1-A	Method Blank	Total Recoverable	Water	6010C	371377
LCS 500-371377/2-A	Lab Control Sample	Total Recoverable	Water	6010C	371377
500-123616-5 MS	Duplicate	Total Recoverable	Water	6010C	371377
500-123616-5 MSD	Duplicate	Total Recoverable	Water	6010C	371377
500-123616-5 DU	Duplicate	Total Recoverable	Water	6010C	371377

Analysis Batch: 371766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total Recoverable	Water	6020A	371377
500-123616-2	MW-04	Total Recoverable	Water	6020A	371377
500-123616-3	MW-05	Total Recoverable	Water	6020A	371377
500-123616-4	MW-10	Total Recoverable	Water	6020A	371377
500-123616-5	Duplicate	Total Recoverable	Water	6020A	371377

Metals (Continued)

Analysis Batch: 371766 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-371377/1-A	Method Blank	Total Recoverable	Water	6020A	371377
LCS 500-371377/2-A	Lab Control Sample	Total Recoverable	Water	6020A	371377
500-123616-5 MS	Duplicate	Total Recoverable	Water	6020A	371377
500-123616-5 MSD	Duplicate	Total Recoverable	Water	6020A	371377
500-123616-5 DU	Duplicate	Total Recoverable	Water	6020A	371377

Analysis Batch: 371815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total Recoverable	Water	6020A	371377
500-123616-2	MW-04	Total Recoverable	Water	6020A	371377
500-123616-3	MW-05	Total Recoverable	Water	6020A	371377
500-123616-4	MW-10	Total Recoverable	Water	6020A	371377
500-123616-5	Duplicate	Total Recoverable	Water	6020A	371377
MB 500-371377/1-A	Method Blank	Total Recoverable	Water	6020A	371377
LCS 500-371377/2-A	Lab Control Sample	Total Recoverable	Water	6020A	371377
500-123616-5 MS	Duplicate	Total Recoverable	Water	6020A	371377
500-123616-5 MSD	Duplicate	Total Recoverable	Water	6020A	371377
500-123616-5 DU	Duplicate	Total Recoverable	Water	6020A	371377

General Chemistry

Analysis Batch: 371721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	SM 2540C	
500-123616-2	MW-04	Total/NA	Water	SM 2540C	
500-123616-3	MW-05	Total/NA	Water	SM 2540C	
500-123616-4	MW-10	Total/NA	Water	SM 2540C	
500-123616-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-371721/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-371721/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 371865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-123616-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-123616-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-123616-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-123616-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-371865/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-371865/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 371926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	SM 4500 F C	
500-123616-2	MW-04	Total/NA	Water	SM 4500 F C	
500-123616-3	MW-05	Total/NA	Water	SM 4500 F C	
500-123616-4	MW-10	Total/NA	Water	SM 4500 F C	
500-123616-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-371926/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-371926/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 371926 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-5 MS	Duplicate	Total/NA	Water	SM 4500 F C	
500-123616-5 MSD	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 372297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-123616-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-123616-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-123616-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-123616-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-372297/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-372297/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-123616-1 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-123616-1 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-371377/1-A
Matrix: Water
Analysis Batch: 371628

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		02/09/17 08:09	02/10/17 13:25	1

Lab Sample ID: LCS 500-371377/2-A
Matrix: Water
Analysis Batch: 371628

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.531		mg/L		106	80 - 120

Lab Sample ID: 500-123616-5 MS
Matrix: Water
Analysis Batch: 371628

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.014		0.500	0.556		mg/L		108	75 - 125

Lab Sample ID: 500-123616-5 MSD
Matrix: Water
Analysis Batch: 371628

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.014		0.500	0.554		mg/L		108	75 - 125	0	20

Lab Sample ID: 500-123616-5 DU
Matrix: Water
Analysis Batch: 371628

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	0.014		0.0143		mg/L		5	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-371377/1-A
Matrix: Water
Analysis Batch: 371766

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/09/17 08:09	02/10/17 14:15	1
Arsenic	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:15	1
Barium	<0.0025		0.0025		mg/L		02/09/17 08:09	02/10/17 14:15	1
Beryllium	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:15	1
Cadmium	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:15	1
Calcium	<0.20		0.20		mg/L		02/09/17 08:09	02/10/17 14:15	1
Chromium	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:15	1
Cobalt	<0.0010		0.0010		mg/L		02/09/17 08:09	02/10/17 14:15	1
Lead	<0.00050		0.00050		mg/L		02/09/17 08:09	02/10/17 14:15	1
Molybdenum	<0.0050		0.0050		mg/L		02/09/17 08:09	02/10/17 14:15	1
Selenium	<0.0025		0.0025		mg/L		02/09/17 08:09	02/10/17 14:15	1
Thallium	<0.0020		0.0020		mg/L		02/09/17 08:09	02/10/17 14:15	1

QC Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Lab Sample ID: MB 500-371377/1-A
Matrix: Water
Analysis Batch: 371815

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		02/09/17 08:09	02/13/17 11:52	1

Lab Sample ID: LCS 500-371377/2-A
Matrix: Water
Analysis Batch: 371766

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.507		mg/L		101	80 - 120
Arsenic	0.100	0.0987		mg/L		99	80 - 120
Barium	2.00	2.06		mg/L		103	80 - 120
Beryllium	0.0500	0.0500		mg/L		100	80 - 120
Cadmium	0.0500	0.0524		mg/L		105	80 - 120
Calcium	10.0	9.05		mg/L		90	80 - 120
Chromium	0.200	0.209		mg/L		104	80 - 120
Cobalt	0.500	0.523		mg/L		105	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Molybdenum	1.00	0.965		mg/L		97	80 - 120
Selenium	0.100	0.100		mg/L		100	80 - 120
Thallium	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: LCS 500-371377/2-A
Matrix: Water
Analysis Batch: 371815

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.971		mg/L		97	80 - 120

Lab Sample ID: 500-123616-5 MS
Matrix: Water
Analysis Batch: 371766

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.511		mg/L		102	75 - 125
Arsenic	0.0017		0.100	0.103		mg/L		101	75 - 125
Barium	0.10		2.00	2.09		mg/L		99	75 - 125
Beryllium	<0.0010		0.0500	0.0437		mg/L		87	75 - 125
Cadmium	<0.00050		0.0500	0.0502		mg/L		100	75 - 125
Calcium	110		10.0	115	4	mg/L		35	75 - 125
Chromium	<0.0050		0.200	0.198		mg/L		98	75 - 125
Cobalt	0.015		0.500	0.489		mg/L		95	75 - 125
Lead	0.00052		0.100	0.0981		mg/L		98	75 - 125
Molybdenum	0.0072		1.00	0.987		mg/L		98	75 - 125
Selenium	<0.0025		0.100	0.102		mg/L		101	75 - 125
Thallium	<0.0020		0.100	0.0991		mg/L		99	75 - 125

Lab Sample ID: 500-123616-5 MS
Matrix: Water
Analysis Batch: 371815

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.41		1.00	1.35		mg/L		94	75 - 125

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

Lab Sample ID: 500-123616-5 MSD
Matrix: Water
Analysis Batch: 371766

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.512		mg/L		102	75 - 125	0	20
Arsenic	0.0017		0.100	0.103		mg/L		101	75 - 125	0	20
Barium	0.10		2.00	2.11		mg/L		100	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0474		mg/L		95	75 - 125	8	20
Cadmium	<0.00050		0.0500	0.0501		mg/L		100	75 - 125	0	20
Calcium	110		10.0	110	4	mg/L		-12	75 - 125	4	20
Chromium	<0.0050		0.200	0.195		mg/L		96	75 - 125	2	20
Cobalt	0.015		0.500	0.478		mg/L		93	75 - 125	2	20
Lead	0.00052		0.100	0.0988		mg/L		98	75 - 125	1	20
Molybdenum	0.0072		1.00	0.992		mg/L		98	75 - 125	0	20
Selenium	<0.0025		0.100	0.102		mg/L		101	75 - 125	0	20
Thallium	<0.0020		0.100	0.0996		mg/L		100	75 - 125	1	20

Lab Sample ID: 500-123616-5 MSD
Matrix: Water
Analysis Batch: 371815

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.41		1.00	1.36		mg/L		95	75 - 125	1	20

Lab Sample ID: 500-123616-5 DU
Matrix: Water
Analysis Batch: 371766

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0017			0.00170		mg/L				2	20
Barium	0.10			0.105		mg/L				0.4	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	110			112		mg/L				0.5	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	0.015			0.0155		mg/L				1	20
Lead	0.00052			0.000548		mg/L				5	20
Molybdenum	0.0072			0.00732		mg/L				1	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-123616-5 DU
Matrix: Water
Analysis Batch: 371815

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 371377

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	0.41			0.416		mg/L				1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-371413/12-A
Matrix: Water
Analysis Batch: 371614

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 371413

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/09/17 13:45	02/10/17 08:43	1

Lab Sample ID: LCS 500-371413/13-A
Matrix: Water
Analysis Batch: 371614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 371413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00220		mg/L		110	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-371721/1
Matrix: Water
Analysis Batch: 371721

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/12/17 19:24	1

Lab Sample ID: LCS 500-371721/2
Matrix: Water
Analysis Batch: 371721

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-371865/12
Matrix: Water
Analysis Batch: 371865

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			02/13/17 19:01	1

Lab Sample ID: LCS 500-371865/13
Matrix: Water
Analysis Batch: 371865

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.1		mg/L		100	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-371926/31
Matrix: Water
Analysis Batch: 371926

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			02/11/17 12:52	1

Lab Sample ID: LCS 500-371926/32
Matrix: Water
Analysis Batch: 371926

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.7		mg/L		107	80 - 120

Lab Sample ID: 500-123616-5 MS
Matrix: Water
Analysis Batch: 371926

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.38		5.00	5.50		mg/L		102	75 - 125

Lab Sample ID: 500-123616-5 MSD
Matrix: Water
Analysis Batch: 371926

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.38		5.00	5.65		mg/L		105	75 - 125	3	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-372297/3
Matrix: Water
Analysis Batch: 372297

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			02/15/17 05:07	1

Lab Sample ID: LCS 500-372297/4
Matrix: Water
Analysis Batch: 372297

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.5		mg/L		93	80 - 120

Lab Sample ID: 500-123616-1 MS
Matrix: Water
Analysis Batch: 372297

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	77		200	269		mg/L		96	75 - 125

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-123616-1 MSD
Matrix: Water
Analysis Batch: 372297

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	77		200	278		mg/L		100	75 - 125	3	20

TestAmerica
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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-123616

Package Sealed (Yes) No	Samples Sealed (Yes) No
Received on Ice (Yes) No	Samples Intact (Yes) No N/A
Temperature °C of Cooler	1.6, 0.5
Within Hold Time (Yes) No	Preserv. Indicated (Yes) No N/A
pH Check OK (Yes) No	Res Cl_2 Check OK Yes No (N/A)
Sample Labels and COC Agree (Yes) No	COC not present

Sampler Name: Ian John Howieson	**COMPANY:** KPRG & Associates Inc.	**# / Cont.**	
		Volume	
Project Name: Quarterly- JOLIET #29 CCR	**TestAmerica Project Number:** 50011568	**Preserv.**	
Project Location: Joliet, IL	**TAT** 15 Days		
Lab PM: Eric Lang	eric.lang@testamerica.com		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	2-6-17	13:14	W	5	X	X	X	X	X	X	
2		MW-04	2-6-17	11:40	W	5	X	X	X	X	X	X	
3		MW-05	2-6-17	14:42	W	5	X	X	X	X	X	X	
4		MW-10	2-7-17	13:27	W	5	X	X	X	X	X	X	
5		Duplicate	2-6-17	—	W	5	X	X	X	X	X	X	

500-123616 COC

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 2-8-17	TIME: 13:58	RECEIVED BY:	COMPANY: TACHI	DATE: 02/08/17	TIME: 1358
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

eservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 02,08,17
Courier:
Hand Delivered ☑
Bill of Lading:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123616-1

Login Number: 123616
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6,0.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-03

Date Collected: 02/06/17 13:14
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	371628	02/10/17 13:38	KML	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371766	02/10/17 14:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371815	02/13/17 12:00	FXG	TAL CHI
Total/NA	Prep	7470A			371413	02/09/17 13:45	MJD	TAL CHI
Total/NA	Analysis	7470A		1	371614	02/10/17 09:19	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	371721	02/12/17 19:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	371865	02/13/17 19:55	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	371926	02/11/17 13:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	372297		CLB	TAL CHI
					(Start)	02/15/17 05:09		
					(End)	02/15/17 05:10		

Client Sample ID: MW-04

Date Collected: 02/06/17 11:40
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	371628	02/10/17 13:42	KML	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371766	02/10/17 14:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371815	02/13/17 12:04	FXG	TAL CHI
Total/NA	Prep	7470A			371413	02/09/17 13:45	MJD	TAL CHI
Total/NA	Analysis	7470A		1	371614	02/10/17 09:20	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	371721	02/12/17 19:54	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	371865	02/13/17 19:56	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	371926	02/11/17 13:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	372297		CLB	TAL CHI
					(Start)	02/15/17 05:12		
					(End)	02/15/17 05:13		

Client Sample ID: MW-05

Date Collected: 02/06/17 14:42
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	371628	02/10/17 13:45	KML	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: MW-05

Date Collected: 02/06/17 14:42
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	371766	02/10/17 14:37	FXG	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371815	02/13/17 12:07	FXG	TAL CHI
Total/NA	Prep	7470A			371413	02/09/17 13:45	MJD	TAL CHI
Total/NA	Analysis	7470A		1	371614	02/10/17 09:22	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	371721	02/12/17 19:57	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	371865	02/13/17 19:56	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	371926	02/11/17 13:16	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	372297		CLB	TAL CHI
					(Start)	02/15/17 05:13		
					(End)	02/15/17 05:14		

Client Sample ID: MW-10

Date Collected: 02/06/17 13:27
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	371628	02/10/17 13:49	KML	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371766	02/10/17 14:41	FXG	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371815	02/13/17 12:11	FXG	TAL CHI
Total/NA	Prep	7470A			371413	02/09/17 13:45	MJD	TAL CHI
Total/NA	Analysis	7470A		1	371614	02/10/17 09:23	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	371721	02/12/17 19:59	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	371865	02/13/17 20:35	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	371926	02/11/17 13:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	372297		CLB	TAL CHI
					(Start)	02/15/17 05:14		
					(End)	02/15/17 05:15		

Client Sample ID: Duplicate

Date Collected: 02/06/17 00:00
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	371628	02/10/17 13:52	KML	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371766	02/10/17 14:45	FXG	TAL CHI
Total Recoverable	Prep	3005A			371377	02/09/17 08:09	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	371815	02/13/17 12:22	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-1

Client Sample ID: Duplicate

Date Collected: 02/06/17 00:00
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			371413	02/09/17 13:45	MJD	TAL CHI
Total/NA	Analysis	7470A		1	371614	02/10/17 09:24	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	371721	02/12/17 20:02	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	371865	02/13/17 19:57	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	371926	02/11/17 13:21	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	372297		CLB	TAL CHI
					(Start)	02/15/17 05:15		
					(End)	02/15/17 05:16		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-123616-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/7/2017 3:06:32 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Job ID: 500-123616-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-123616-2

Comments
No additional comments.

Receipt
The samples were received on 2/8/2017 1:58 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5º C and 1.6º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-123616-1	MW-03	Water	02/06/17 13:14	02/08/17 13:58
500-123616-2	MW-04	Water	02/06/17 11:40	02/08/17 13:58
500-123616-3	MW-05	Water	02/06/17 14:42	02/08/17 13:58
500-123616-4	MW-10	Water	02/06/17 13:27	02/08/17 13:58
500-123616-5	Duplicate	Water	02/06/17 00:00	02/08/17 13:58

Client Sample ID: MW-03

Date Collected: 02/06/17 13:14
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.121		0.0825	0.0832	1.00	0.115	pCi/L	02/10/17 15:35	03/06/17 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.195	U	0.217	0.218	1.00	0.356	pCi/L	02/10/17 16:35	02/28/17 14:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*
Y Carrier	*93.1*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.317	U	0.232	0.233	5.00	0.356	pCi/L		03/07/17 13:31	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Client Sample ID: MW-04

Date Collected: 02/06/17 11:40
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132		0.0817	0.0825	1.00	0.105	pCi/L	02/10/17 15:35	03/06/17 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0376	U	0.201	0.201	1.00	0.356	pCi/L	02/10/17 16:35	02/28/17 14:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*
Y Carrier	*91.6*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.169	U	0.217	0.218	5.00	0.356	pCi/L		03/07/17 13:31	1

Client Sample ID: MW-05

Date Collected: 02/06/17 14:42
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.138	U	0.100	0.101	1.00	0.141	pCi/L	02/10/17 15:35	03/06/17 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.2*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.426	U	0.291	0.294	1.00	0.451	pCi/L	02/10/17 16:35	02/28/17 14:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*73.2*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*
Y Carrier	*95.7*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.564**		0.308	0.310	5.00	0.451	pCi/L		03/07/17 13:31	1

Client Sample ID: MW-10

Date Collected: 02/06/17 13:27
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.197		0.0968	0.0984	1.00	0.112	pCi/L	02/10/17 15:35	03/06/17 06:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:56*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.185	U	0.234	0.235	1.00	0.389	pCi/L	02/10/17 16:35	02/28/17 14:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.2*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*
Y Carrier	*90.5*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.382	U	0.254	0.255	5.00	0.389	pCi/L		03/07/17 13:31	1

Client Sample ID: Duplicate

Date Collected: 02/06/17 00:00
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.195		0.0981	0.0997	1.00	0.114	pCi/L	02/10/17 15:35	03/06/17 06:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:56*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.165	U	0.230	0.231	1.00	0.385	pCi/L	02/10/17 16:35	02/28/17 14:30	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*
Y Carrier	*88.6*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:30*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.360	U	0.250	0.251	5.00	0.385	pCi/L		03/07/17 13:31	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Rad

Prep Batch: 291969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	PrecSep-21	
500-123616-2	MW-04	Total/NA	Water	PrecSep-21	
500-123616-3	MW-05	Total/NA	Water	PrecSep-21	
500-123616-4	MW-10	Total/NA	Water	PrecSep-21	
500-123616-5	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-291969/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-291969/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-123616-1 DU	MW-03	Total/NA	Water	PrecSep-21	

Prep Batch: 291974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123616-1	MW-03	Total/NA	Water	PrecSep_0	
500-123616-2	MW-04	Total/NA	Water	PrecSep_0	
500-123616-3	MW-05	Total/NA	Water	PrecSep_0	
500-123616-4	MW-10	Total/NA	Water	PrecSep_0	
500-123616-5	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-291974/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-291974/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-123616-1 DU	MW-03	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-291969/1-A
Matrix: Water
Analysis Batch: 296099

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291969

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.001573	U	0.0680	0.0680	1.00	0.135	pCi/L	02/10/17 15:35	03/06/17 06:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*02/10/17 15:35*	*03/06/17 06:53*	*1*

Lab Sample ID: LCS 160-291969/2-A
Matrix: Water
Analysis Batch: 296099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291969

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.07		1.17	1.00	0.124	pCi/L	98	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.0*		*40 - 110*

Lab Sample ID: 500-123616-1 DU
Matrix: Water
Analysis Batch: 296099

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 291969

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.121			0.1816		0.0955	1.00	0.112	pCi/L			0.34	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*90.0*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-291974/1-A
Matrix: Water
Analysis Batch: 294970

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291974

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2002	U	0.199	0.199	1.00	0.322	pCi/L	02/10/17 16:35	02/28/17 14:29	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.2*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:29*	*1*
Y Carrier	*95.7*		*40 - 110*	*02/10/17 16:35*	*02/28/17 14:29*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-291974/2-A
Matrix: Water
Analysis Batch: 294970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291974

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			13.8	13.77		1.48	1.00	0.320	pCi/L	100	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.0*		*40 - 110*
Y Carrier	*93.5*		*40 - 110*

Lab Sample ID: 500-123616-1 DU
Matrix: Water
Analysis Batch: 294970

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 291974

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.195	U		0.1810	U	0.249	1.00	0.414	pCi/L			0.03	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*90.0*		*40 - 110*
Y Carrier	*92.0*		*40 - 110*

TestAmerica
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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-123616

Package Sealed (Yes) No	Samples Sealed (Yes) No
Received on Ice (Yes) No	Samples Intact (Yes) No N/A
Temperature °C of Cooler	1.6, 0.5
Within Hold Time (Yes) No	Preserv. Indicated (Yes) No N/A
pH Check OK (Yes) No	Res CL_2 Check OK Yes No (N/A)
Sample Labels and COC Agree (Yes) No	COC not present

Sampler Name: Ian John Howieson	**COMPANY:** KPRG & Associates Inc.	**# / Cont.**	
		Volume	
Project Name: Quarterly- JOLIET #29 CCR	**TestAmerica Project Number:** 50011568	**Preserv.**	
Project Location: Joliet, IL	**TAT** 15 Days		
Lab PM: Eric Lang	eric.lang@testamerica.com		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	2-6-17	13:14	W	5	X	X	X	X	X	X	
2		MW-04	2-6-17	11:40	W	5	X	X	X	X	X	X	
3		MW-05	2-6-17	14:42	W	5	X	X	X	X	X	X	
4		MW-10	2-7-17	13:27	W	5	X	X	X	X	X	X	
5		Duplicate	2-6-17	—	W	5	X	X	X	X	X	X	

500-123616 COC

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 2-8-17	TIME: 13:58	RECEIVED BY:	COMPANY: TACHI	DATE: 02/08/17	TIME: 1358
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

eservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 02,08,17
Courier:
Hand Delivered ☑
Bill of Lading:

__1__of__1__

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-123616 Chain of Custody

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-83559.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois	Job #: 500-123616-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 3/7/2017		
City: Earth City	TAT Requested (days):		
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: Joliet #29 CCR	Project #: 50011568		
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:		

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-123616-1)	2/6/17	13:14 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-123616-2)	2/6/17	11:40 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-123616-3)	2/6/17	14:42 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-123616-4)	2/6/17	13:27 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-123616-5)	2/6/17	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	02/08/17 1600	TA	[signature]	2/9/17 0900	TA+L
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123616-2

Login Number: 123616
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6,0.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123616-2

Login Number: 123616
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 02/09/17 03:11 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	17
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Client Sample ID: MW-03
Date Collected: 02/06/17 13:14
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			291969	02/10/17 15:35	MBC	TAL SL
Total/NA	Analysis	903.0		1	296099	03/06/17 06:55	ALD	TAL SL
Total/NA	Prep	PrecSep_0			291974	02/10/17 16:35	MBC	TAL SL
Total/NA	Analysis	904.0		1	294970	02/28/17 14:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	296422	03/07/17 13:31	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 02/06/17 11:40
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			291969	02/10/17 15:35	MBC	TAL SL
Total/NA	Analysis	903.0		1	296099	03/06/17 06:55	ALD	TAL SL
Total/NA	Prep	PrecSep_0			291974	02/10/17 16:35	MBC	TAL SL
Total/NA	Analysis	904.0		1	294970	02/28/17 14:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	296422	03/07/17 13:31	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 02/06/17 14:42
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			291969	02/10/17 15:35	MBC	TAL SL
Total/NA	Analysis	903.0		1	296099	03/06/17 06:55	ALD	TAL SL
Total/NA	Prep	PrecSep_0			291974	02/10/17 16:35	MBC	TAL SL
Total/NA	Analysis	904.0		1	294970	02/28/17 14:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	296422	03/07/17 13:31	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 02/06/17 13:27
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			291969	02/10/17 15:35	MBC	TAL SL
Total/NA	Analysis	903.0		1	296099	03/06/17 06:56	ALD	TAL SL
Total/NA	Prep	PrecSep_0			291974	02/10/17 16:35	MBC	TAL SL
Total/NA	Analysis	904.0		1	294970	02/28/17 14:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	296422	03/07/17 13:31	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Client Sample ID: Duplicate

Date Collected: 02/06/17 00:00
Date Received: 02/08/17 13:58

Lab Sample ID: 500-123616-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			291969	02/10/17 15:35	MBC	TAL SL
Total/NA	Analysis	903.0		1	296099	03/06/17 06:56	ALD	TAL SL
Total/NA	Prep	PrecSep_0			291974	02/10/17 16:35	MBC	TAL SL
Total/NA	Analysis	904.0		1	294970	02/28/17 14:30	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	296422	03/07/17 13:31	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-123616-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-123616-1	MW-03	93.5
500-123616-1 DU	MW-03	90.0
500-123616-2	MW-04	92.0
500-123616-3	MW-05	73.2
500-123616-4	MW-10	91.2
500-123616-5	Duplicate	88.5
LCS 160-291969/2-A	Lab Control Sample	95.0
MB 160-291969/1-A	Method Blank	98.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-123616-1	MW-03	93.5	93.1
500-123616-1 DU	MW-03	90.0	92.0
500-123616-2	MW-04	92.0	91.6
500-123616-3	MW-05	73.2	95.7
500-123616-4	MW-10	91.2	90.5
500-123616-5	Duplicate	88.5	88.6
LCS 160-291974/2-A	Lab Control Sample	95.0	93.5
MB 160-291974/1-A	Method Blank	98.2	95.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-127245-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/11/2017 3:03:02 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

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Visit us at: www.testamericainc.com

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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Job ID: 500-127245-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-127245-1

Comments
No additional comments.

Receipt
The samples were received on 4/27/2017 1:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 2.9º C, 3.6º C, 3.8º C, 4.9º C and 4.9º C.

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

General Chemistry
Method(s) SM 4500 Cl- E: The matrix spike duplicate (MSD) recovery for analytical batch 500-383025 was outside control limits at a 71%. The associated laboratory control sample (LCS) recovery was within acceptance limits at a 106%.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-127245-1	MW-03	Water	04/26/17 10:43	04/27/17 13:50
500-127245-2	MW-04	Water	04/26/17 09:08	04/27/17 13:50
500-127245-3	MW-05	Water	04/26/17 11:55	04/27/17 13:50
500-127245-4	MW-10	Water	04/26/17 13:22	04/27/17 13:50
500-127245-5	Duplicate	Water	04/26/17 00:00	04/27/17 13:50

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: MW-03
Date Collected: 04/26/17 10:43
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.010**		0.010		mg/L		04/28/17 07:53	05/09/17 13:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/28/17 23:30	1
Arsenic	**0.0017**		0.0010		mg/L		04/28/17 07:53	04/28/17 23:30	1
Barium	**0.11**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:30	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:30	1
Boron	**0.54**		0.050		mg/L		04/28/17 07:53	04/28/17 23:30	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:30	1
Calcium	**100**		0.20		mg/L		04/28/17 07:53	04/28/17 23:30	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:30	1
Cobalt	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:30	1
Lead	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:30	1
Molybdenum	**0.0088**		0.0050		mg/L		04/28/17 07:53	04/28/17 23:30	1
Selenium	**0.0052**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:30	1
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/28/17 23:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**820**		10		mg/L			05/01/17 01:32	1
Chloride	**210**		10		mg/L			04/30/17 19:06	5
Fluoride	**0.36**		0.10		mg/L			05/01/17 15:08	1
Sulfate	**120**		25		mg/L			05/04/17 10:44	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: MW-04
Date Collected: 04/26/17 09:08
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		04/28/17 07:53	05/09/17 13:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/28/17 23:49	1
Arsenic	**0.0021**		0.0010		mg/L		04/28/17 07:53	04/28/17 23:49	1
Barium	**0.095**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:49	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:49	1
Boron	**0.33**		0.050		mg/L		04/28/17 07:53	04/28/17 23:49	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:49	1
Calcium	**100**		0.20		mg/L		04/28/17 07:53	04/28/17 23:49	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:49	1
Cobalt	**0.0078**		0.0010		mg/L		04/28/17 07:53	04/28/17 23:49	1
Lead	**0.00055**		0.00050		mg/L		04/28/17 07:53	04/28/17 23:49	1
Molybdenum	**0.0069**		0.0050		mg/L		04/28/17 07:53	04/28/17 23:49	1
Selenium	<0.0025		0.0025		mg/L		04/28/17 07:53	04/28/17 23:49	1
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/28/17 23:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		10		mg/L			05/01/17 01:35	1
Chloride	**220**		10		mg/L			04/30/17 19:07	5
Fluoride	**0.37**		0.10		mg/L			05/01/17 15:11	1
Sulfate	**89**		25		mg/L			05/04/17 10:45	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: MW-05
Date Collected: 04/26/17 11:55
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		04/28/17 07:53	05/09/17 13:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/28/17 23:53	1
Arsenic	**0.0014**		0.0010		mg/L		04/28/17 07:53	04/28/17 23:53	1
Barium	**0.063**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:53	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:53	1
Boron	**0.67**		0.050		mg/L		04/28/17 07:53	04/28/17 23:53	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:53	1
Calcium	**110**		0.20		mg/L		04/28/17 07:53	04/28/17 23:53	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:53	1
Cobalt	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:53	1
Lead	**0.00080**		0.00050		mg/L		04/28/17 07:53	04/28/17 23:53	1
Molybdenum	**0.0066**		0.0050		mg/L		04/28/17 07:53	04/28/17 23:53	1
Selenium	**0.013**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:53	1
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/28/17 23:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		10		mg/L			05/01/17 01:37	1
Chloride	**190**	**F1**	10		mg/L			04/30/17 19:07	5
Fluoride	**0.37**		0.10		mg/L			05/01/17 15:13	1
Sulfate	**170**		50		mg/L			05/04/17 10:46	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: MW-10
Date Collected: 04/26/17 13:22
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		04/28/17 07:53	05/09/17 13:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/28/17 23:57	1
Arsenic	**0.0015**		0.0010		mg/L		04/28/17 07:53	04/28/17 23:57	1
Barium	**0.046**		0.0025		mg/L		04/28/17 07:53	04/28/17 23:57	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:57	1
Boron	**0.35**		0.050		mg/L		04/28/17 07:53	04/28/17 23:57	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:57	1
Calcium	**120**		0.20		mg/L		04/28/17 07:53	04/28/17 23:57	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:57	1
Cobalt	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:57	1
Lead	**0.0012**		0.00050		mg/L		04/28/17 07:53	04/28/17 23:57	1
Molybdenum	**0.0060**		0.0050		mg/L		04/28/17 07:53	05/01/17 12:12	1
Selenium	<0.0025		0.0025		mg/L		04/28/17 07:53	04/28/17 23:57	1
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/28/17 23:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**760**		10		mg/L			05/01/17 01:40	1
Chloride	**200**		10		mg/L			04/30/17 19:09	5
Fluoride	**0.35**		0.10		mg/L			05/01/17 15:23	1
Sulfate	**87**		25		mg/L			05/04/17 10:47	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: Duplicate
Date Collected: 04/26/17 00:00
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.010		0.010		mg/L		04/28/17 07:53	05/09/17 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/29/17 00:01	1
Arsenic	0.0018		0.0010		mg/L		04/28/17 07:53	04/29/17 00:01	1
Barium	0.047		0.0025		mg/L		04/28/17 07:53	04/29/17 00:01	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/29/17 00:01	1
Boron	0.33		0.050		mg/L		04/28/17 07:53	04/29/17 00:01	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/29/17 00:01	1
Calcium	120		0.20		mg/L		04/28/17 07:53	04/29/17 00:01	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/29/17 00:01	1
Cobalt	<0.0010		0.0010		mg/L		04/28/17 07:53	04/29/17 00:01	1
Lead	0.0014		0.00050		mg/L		04/28/17 07:53	04/29/17 00:01	1
Molybdenum	0.0064		0.0050		mg/L		04/28/17 07:53	05/01/17 12:16	1
Selenium	<0.0025		0.0025		mg/L		04/28/17 07:53	04/29/17 00:01	1
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/29/17 00:01	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	760		10		mg/L			05/01/17 01:43	1
Chloride	200		10		mg/L			04/30/17 19:09	5
Fluoride	0.35		0.10		mg/L			05/01/17 15:26	1
Sulfate	100		25		mg/L			05/04/17 10:48	5

Qualifiers

Metals

Qualifier	Qualifier Description
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
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Metals

Prep Batch: 382717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total Recoverable	Water	3005A	
500-127245-2	MW-04	Total Recoverable	Water	3005A	
500-127245-3	MW-05	Total Recoverable	Water	3005A	
500-127245-4	MW-10	Total Recoverable	Water	3005A	
500-127245-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-382717/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-382717/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-127245-1 MS	MW-03	Total Recoverable	Water	3005A	
500-127245-1 MSD	MW-03	Total Recoverable	Water	3005A	
500-127245-1 DU	MW-03	Total Recoverable	Water	3005A	

Analysis Batch: 383131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total Recoverable	Water	6020A	382717
500-127245-2	MW-04	Total Recoverable	Water	6020A	382717
500-127245-3	MW-05	Total Recoverable	Water	6020A	382717
500-127245-4	MW-10	Total Recoverable	Water	6020A	382717
500-127245-5	Duplicate	Total Recoverable	Water	6020A	382717
MB 500-382717/1-A	Method Blank	Total Recoverable	Water	6020A	382717
LCS 500-382717/2-A	Lab Control Sample	Total Recoverable	Water	6020A	382717
500-127245-1 MS	MW-03	Total Recoverable	Water	6020A	382717
500-127245-1 MSD	MW-03	Total Recoverable	Water	6020A	382717
500-127245-1 DU	MW-03	Total Recoverable	Water	6020A	382717

Analysis Batch: 383165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-4	MW-10	Total Recoverable	Water	6020A	382717
500-127245-5	Duplicate	Total Recoverable	Water	6020A	382717

Prep Batch: 383326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	7470A	
500-127245-2	MW-04	Total/NA	Water	7470A	
500-127245-3	MW-05	Total/NA	Water	7470A	
500-127245-4	MW-10	Total/NA	Water	7470A	
500-127245-5	Duplicate	Total/NA	Water	7470A	
MB 500-383326/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-383326/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-127245-2 MS	MW-04	Total/NA	Water	7470A	
500-127245-2 MSD	MW-04	Total/NA	Water	7470A	
500-127245-2 DU	MW-04	Total/NA	Water	7470A	

Analysis Batch: 383570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	7470A	383326
500-127245-2	MW-04	Total/NA	Water	7470A	383326
500-127245-3	MW-05	Total/NA	Water	7470A	383326
500-127245-4	MW-10	Total/NA	Water	7470A	383326
500-127245-5	Duplicate	Total/NA	Water	7470A	383326
MB 500-383326/12-A	Method Blank	Total/NA	Water	7470A	383326
LCS 500-383326/13-A	Lab Control Sample	Total/NA	Water	7470A	383326

Metals (Continued)

Analysis Batch: 383570 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-2 MS	MW-04	Total/NA	Water	7470A	383326
500-127245-2 MSD	MW-04	Total/NA	Water	7470A	383326
500-127245-2 DU	MW-04	Total/NA	Water	7470A	383326

Analysis Batch: 384443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total Recoverable	Water	6010C	382717
500-127245-2	MW-04	Total Recoverable	Water	6010C	382717
500-127245-3	MW-05	Total Recoverable	Water	6010C	382717
500-127245-4	MW-10	Total Recoverable	Water	6010C	382717
500-127245-5	Duplicate	Total Recoverable	Water	6010C	382717
MB 500-382717/1-A	Method Blank	Total Recoverable	Water	6010C	382717
LCS 500-382717/2-A	Lab Control Sample	Total Recoverable	Water	6010C	382717
500-127245-1 MS	MW-03	Total Recoverable	Water	6010C	382717
500-127245-1 MSD	MW-03	Total Recoverable	Water	6010C	382717
500-127245-1 DU	MW-03	Total Recoverable	Water	6010C	382717

General Chemistry

Analysis Batch: 383024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	SM 2540C	
500-127245-2	MW-04	Total/NA	Water	SM 2540C	
500-127245-3	MW-05	Total/NA	Water	SM 2540C	
500-127245-4	MW-10	Total/NA	Water	SM 2540C	
500-127245-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-383024/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-383024/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 383025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-127245-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-127245-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-127245-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-127245-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-383025/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-383025/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-127245-3 MS	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-127245-3 MSD	MW-05	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 383193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	SM 4500 F C	
500-127245-2	MW-04	Total/NA	Water	SM 4500 F C	
500-127245-3	MW-05	Total/NA	Water	SM 4500 F C	
500-127245-4	MW-10	Total/NA	Water	SM 4500 F C	
500-127245-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-383193/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-383193/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 383726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-127245-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-127245-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-127245-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-127245-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-383726/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-383726/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-382717/1-A
Matrix: Water
Analysis Batch: 384443

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		04/28/17 07:53	05/09/17 13:17	1

Lab Sample ID: LCS 500-382717/2-A
Matrix: Water
Analysis Batch: 384443

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.574		mg/L		115	80 - 120

Lab Sample ID: 500-127245-1 MS
Matrix: Water
Analysis Batch: 384443

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.010		0.500	0.564		mg/L		111	75 - 125

Lab Sample ID: 500-127245-1 MSD
Matrix: Water
Analysis Batch: 384443

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.010		0.500	0.579		mg/L		114	75 - 125	3	20

Lab Sample ID: 500-127245-1 DU
Matrix: Water
Analysis Batch: 384443

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	0.010		0.0101		mg/L		2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-382717/1-A
Matrix: Water
Analysis Batch: 383131

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		04/28/17 07:53	04/28/17 23:23	1
Arsenic	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:23	1
Barium	<0.0025		0.0025		mg/L		04/28/17 07:53	04/28/17 23:23	1
Beryllium	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:23	1
Boron	<0.050		0.050		mg/L		04/28/17 07:53	04/28/17 23:23	1
Cadmium	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:23	1
Calcium	<0.20		0.20		mg/L		04/28/17 07:53	04/28/17 23:23	1
Chromium	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:23	1
Cobalt	<0.0010		0.0010		mg/L		04/28/17 07:53	04/28/17 23:23	1
Lead	<0.00050		0.00050		mg/L		04/28/17 07:53	04/28/17 23:23	1
Molybdenum	<0.0050		0.0050		mg/L		04/28/17 07:53	04/28/17 23:23	1
Selenium	<0.0025		0.0025		mg/L		04/28/17 07:53	04/28/17 23:23	1

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

Lab Sample ID: MB 500-382717/1-A
Matrix: Water
Analysis Batch: 383131

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.0020		0.0020		mg/L		04/28/17 07:53	04/28/17 23:23	1

Lab Sample ID: LCS 500-382717/2-A
Matrix: Water
Analysis Batch: 383131

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.531		mg/L		106	80 - 120
Arsenic	0.100	0.114		mg/L		114	80 - 120
Barium	2.00	2.33		mg/L		117	80 - 120
Beryllium	0.0500	0.0554		mg/L		111	80 - 120
Boron	1.00	1.06		mg/L		106	80 - 120
Cadmium	0.0500	0.0537		mg/L		107	80 - 120
Calcium	10.0	10.6		mg/L		106	80 - 120
Chromium	0.200	0.226		mg/L		113	80 - 120
Cobalt	0.500	0.564		mg/L		113	80 - 120
Lead	0.100	0.110		mg/L		110	80 - 120
Molybdenum	1.00	1.08		mg/L		108	80 - 120
Selenium	0.100	0.110		mg/L		110	80 - 120
Thallium	0.100	0.110		mg/L		110	80 - 120

Lab Sample ID: 500-127245-1 MS
Matrix: Water
Analysis Batch: 383131

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.529		mg/L		106	75 - 125
Arsenic	0.0017		0.100	0.116		mg/L		114	75 - 125
Barium	0.11		2.00	2.31		mg/L		110	75 - 125
Beryllium	<0.0010		0.0500	0.0496		mg/L		99	75 - 125
Boron	0.54		1.00	1.54		mg/L		100	75 - 125
Cadmium	<0.00050		0.0500	0.0523		mg/L		105	75 - 125
Calcium	100		10.0	110	4	mg/L		81	75 - 125
Chromium	<0.0050		0.200	0.210		mg/L		103	75 - 125
Cobalt	<0.0010		0.500	0.498		mg/L		100	75 - 125
Lead	<0.00050		0.100	0.102		mg/L		102	75 - 125
Molybdenum	0.0088		1.00	0.966		mg/L		96	75 - 125
Selenium	0.0052		0.100	0.113		mg/L		108	75 - 125
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125

Lab Sample ID: 500-127245-1 MSD
Matrix: Water
Analysis Batch: 383131

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 382717

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.541		mg/L		108	75 - 125	2	20
Arsenic	0.0017		0.100	0.119		mg/L		117	75 - 125	2	20
Barium	0.11		2.00	2.38		mg/L		114	75 - 125	3	20
Beryllium	<0.0010		0.0500	0.0507		mg/L		101	75 - 125	2	20

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

Lab Sample ID: 500-127245-1 MSD — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 383131 — **Prep Batch: 382717**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.54		1.00	1.55		mg/L		101	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0535		mg/L		107	75 - 125	2	20
Calcium	100		10.0	109	4	mg/L		65	75 - 125	1	20
Chromium	<0.0050		0.200	0.214		mg/L		105	75 - 125	2	20
Cobalt	<0.0010		0.500	0.508		mg/L		102	75 - 125	2	20
Lead	<0.00050		0.100	0.104		mg/L		103	75 - 125	2	20
Molybdenum	0.0088		1.00	1.01		mg/L		100	75 - 125	4	20
Selenium	0.0052		0.100	0.116		mg/L		111	75 - 125	3	20
Thallium	<0.0020		0.100	0.103		mg/L		103	75 - 125	1	20

Lab Sample ID: 500-127245-1 DU — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 383131 — **Prep Batch: 382717**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.0017		0.00182		mg/L		6	20
Barium	0.11		0.105		mg/L		0.4	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.54		0.559		mg/L		3	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	100		102		mg/L		0.5	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Molybdenum	0.0088		0.00778		mg/L		12	20
Selenium	0.0052		0.00470		mg/L		9	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-383326/12-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383570 — **Prep Batch: 383326**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/02/17 12:00	05/03/17 11:05	1

Lab Sample ID: LCS 500-383326/13-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383570 — **Prep Batch: 383326**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00172		mg/L		86	80 - 120

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

Lab Sample ID: 500-127245-2 MS
Matrix: Water
Analysis Batch: 383570

Client Sample ID: MW-04
Prep Type: Total/NA
Prep Batch: 383326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000832		mg/L		83	75 - 125

Lab Sample ID: 500-127245-2 MSD
Matrix: Water
Analysis Batch: 383570

Client Sample ID: MW-04
Prep Type: Total/NA
Prep Batch: 383326

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000889		mg/L		89	75 - 125	7	20

Lab Sample ID: 500-127245-2 DU
Matrix: Water
Analysis Batch: 383570

Client Sample ID: MW-04
Prep Type: Total/NA
Prep Batch: 383326

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-383024/1
Matrix: Water
Analysis Batch: 383024

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/01/17 01:12	1

Lab Sample ID: LCS 500-383024/2
Matrix: Water
Analysis Batch: 383024

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	294		mg/L		118	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-383025/12
Matrix: Water
Analysis Batch: 383025

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			04/30/17 18:24	1

Lab Sample ID: LCS 500-383025/13
Matrix: Water
Analysis Batch: 383025

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.9		mg/L		106	80 - 120

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-127245-3 MS — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	190	F1	50.0	228		mg/L		79	75 - 125

Lab Sample ID: 500-127245-3 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383025

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	190	F1	50.0	224	F1	mg/L		71	75 - 125	2	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-383193/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383193

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/01/17 14:15	1

Lab Sample ID: LCS 500-383193/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383193

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	9.89		mg/L		99	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-383726/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/04/17 10:27	1

Lab Sample ID: LCS 500-383726/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 383726

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.8		mg/L		94	80 - 120

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Report To:		Bill To:	
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	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-127245

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler: (3.6) (2.9) (3.8) (4.9) (4.9)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res Cl, Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree: (Yes) No COC not present

Sampler Name:	COMPANY:	# / Cont.
Ian John Howieson	KPRG & Associates Inc.	Volume
Project Name:	**TestAmerica Project Number:**	Preserv.
Quarterly- JOLIET #29 CCR	50011568	
Project Location:	**TAT**	
Joliet, IL	15 Days	
Lab PM: Eric Lang	eric.lang@testamerica.com	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	4-26-17	10:43	W	5	X	X	X	X	X	X	
2		MW-04	4-26-17	09:08	W	5	X	X	X	X	X	X	
3		MW-05	4-26-17	11:55	W	5	X	X	X	X	X	X	
4		MW-10	4-26-17	13:22	W	5	X	X	X	X	X	X	
5		Duplicate	4-26-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
IJH	KPRG	4-27-17	13:50		TA	04/27/17	1350
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS.

500-127245 COC

Date Received 04/27/17
Courier:
Hand Delivered ✓
Bill of Lading:

__1__of__1__

STL-8208 (0600)

5/11/2017

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-127245-1

Login Number: 127245
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	3.6,2.9,3.8,4.9,4.9
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Client Sample ID: MW-03

Date Collected: 04/26/17 10:43
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	384443	05/09/17 13:25	KML	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383131	04/28/17 23:30	FXG	TAL CHI
Total/NA	Prep	7470A			383326	05/02/17 12:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	383570	05/03/17 11:35	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	383024	05/01/17 01:32	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	383025	04/30/17 19:06	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	383193	05/01/17 15:08	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	383726		CLB	TAL CHI
					(Start)	05/04/17 10:44		
					(End)	05/04/17 10:45		

Client Sample ID: MW-04

Date Collected: 04/26/17 09:08
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	384443	05/09/17 13:51	KML	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383131	04/28/17 23:49	FXG	TAL CHI
Total/NA	Prep	7470A			383326	05/02/17 12:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	383570	05/03/17 11:37	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	383024	05/01/17 01:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	383025	04/30/17 19:07	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	383193	05/01/17 15:11	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	383726		CLB	TAL CHI
					(Start)	05/04/17 10:45		
					(End)	05/04/17 10:46		

Client Sample ID: MW-05

Date Collected: 04/26/17 11:55
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	384443	05/09/17 13:55	KML	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383131	04/28/17 23:53	FXG	TAL CHI
Total/NA	Prep	7470A			383326	05/02/17 12:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	383570	05/03/17 11:46	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	383024	05/01/17 01:37	CLB	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 Cl- E		5	383025	04/30/17 19:07	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	383193	05/01/17 15:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	383726		CLB	TAL CHI
					(Start)	05/04/17 10:46		
					(End)	05/04/17 10:47		

Client Sample ID: MW-10

Date Collected: 04/26/17 13:22
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	384443	05/09/17 13:59	KML	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383131	04/28/17 23:57	FXG	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383165	05/01/17 12:12	FXG	TAL CHI
Total/NA	Prep	7470A			383326	05/02/17 12:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	383570	05/03/17 11:47	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	383024	05/01/17 01:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	383025	04/30/17 19:09	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	383193	05/01/17 15:23	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	383726		CLB	TAL CHI
					(Start)	05/04/17 10:47		
					(End)	05/04/17 10:48		

Client Sample ID: Duplicate

Date Collected: 04/26/17 00:00
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6010C		1	384443	05/09/17 14:03	KML	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383131	04/29/17 00:01	FXG	TAL CHI
Total Recoverable	Prep	3005A			382717	04/28/17 07:53	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	383165	05/01/17 12:16	FXG	TAL CHI
Total/NA	Prep	7470A			383326	05/02/17 12:00	MJD	TAL CHI
Total/NA	Analysis	7470A		1	383570	05/03/17 11:49	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	383024	05/01/17 01:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	383025	04/30/17 19:09	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	383193	05/01/17 15:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	383726		CLB	TAL CHI
					(Start)	05/04/17 10:48		
					(End)	05/04/17 10:49		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-1

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-127245-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/25/2017 7:20:25 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Job ID: 500-127245-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-127245-2

Comments
No additional comments.

Receipt
The samples were received on 4/27/2017 1:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 2.9º C, 3.6º C, 3.8º C, 4.9º C and 4.9º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-127245-1	MW-03	Water	04/26/17 10:43	04/27/17 13:50
500-127245-2	MW-04	Water	04/26/17 09:08	04/27/17 13:50
500-127245-3	MW-05	Water	04/26/17 11:55	04/27/17 13:50
500-127245-4	MW-10	Water	04/26/17 13:22	04/27/17 13:50
500-127245-5	Duplicate	Water	04/26/17 00:00	04/27/17 13:50

Client Sample ID: MW-03
Date Collected: 04/26/17 10:43
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.141		0.0863	0.0873	1.00	0.116	pCi/L	05/02/17 09:25	05/24/17 08:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*05/02/17 09:25*	*05/24/17 08:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0661	U	0.236	0.236	1.00	0.411	pCi/L	05/02/17 09:43	05/15/17 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*
Y Carrier	*73.6*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.207	U	0.251	0.251	5.00	0.411	pCi/L		05/24/17 16:26	1

Client Sample ID: MW-04

Date Collected: 04/26/17 09:08
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.100	U	0.0732	0.0738	1.00	0.103	pCi/L	05/02/17 09:25	05/24/17 08:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*05/02/17 09:25*	*05/24/17 08:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00587	U	0.194	0.194	1.00	0.350	pCi/L	05/02/17 09:43	05/15/17 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*
Y Carrier	*84.1*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0944	U	0.208	0.208	5.00	0.350	pCi/L		05/24/17 16:26	1

Client Sample ID: MW-05

Date Collected: 04/26/17 11:55
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.128		0.0831	0.0839	1.00	0.114	pCi/L	05/02/17 09:25	05/24/17 08:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*05/02/17 09:25*	*05/24/17 08:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.101	U	0.222	0.222	1.00	0.411	pCi/L	05/02/17 09:43	05/15/17 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.8*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*
Y Carrier	*81.9*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0263	U	0.237	0.237	5.00	0.411	pCi/L		05/24/17 16:26	1

Client Sample ID: MW-10

Date Collected: 04/26/17 13:22
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.173		0.0838	0.0852	1.00	0.0934	pCi/L	05/02/17 09:25	05/24/17 08:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*05/02/17 09:25*	*05/24/17 08:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.138	U	0.174	0.175	1.00	0.340	pCi/L	05/02/17 09:43	05/15/17 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.4*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*
Y Carrier	*87.9*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0354	U	0.193	0.195	5.00	0.340	pCi/L		05/24/17 16:26	1

Client Sample ID: Duplicate

Date Collected: 04/26/17 00:00
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.145**		0.0842	0.0852	1.00	0.110	pCi/L	05/02/17 09:25	05/24/17 08:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*05/02/17 09:25*	*05/24/17 08:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.131	U	0.190	0.191	1.00	0.319	pCi/L	05/02/17 09:43	05/15/17 15:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*
Y Carrier	*84.5*		*40 - 110*	*05/02/17 09:43*	*05/15/17 15:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.276	U	0.208	0.209	5.00	0.319	pCi/L		05/24/17 16:26	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Rad

Prep Batch: 306615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	PrecSep-21	
500-127245-2	MW-04	Total/NA	Water	PrecSep-21	
500-127245-3	MW-05	Total/NA	Water	PrecSep-21	
500-127245-4	MW-10	Total/NA	Water	PrecSep-21	
500-127245-5	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-306615/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-306615/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 306619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-127245-1	MW-03	Total/NA	Water	PrecSep_0	
500-127245-2	MW-04	Total/NA	Water	PrecSep_0	
500-127245-3	MW-05	Total/NA	Water	PrecSep_0	
500-127245-4	MW-10	Total/NA	Water	PrecSep_0	
500-127245-5	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-306619/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-306619/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-306615/1-A
Matrix: Water
Analysis Batch: 310273

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306615

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01530	U	0.0580	0.0580	1.00	0.110	pCi/L	05/02/17 09:25	05/24/17 06:30	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*110*		*40 - 110*	*05/02/17 09:25*	*05/24/17 06:30*	*1*

Lab Sample ID: LCS 160-306615/2-A
Matrix: Water
Analysis Batch: 310273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306615

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	11.47		1.18	1.00	0.100	pCi/L	101	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*108*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-306619/1-A
Matrix: Water
Analysis Batch: 308490

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 306619

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2611	U	0.205	0.206	1.00	0.324	pCi/L	05/02/17 09:43	05/15/17 14:59	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*110*		*40 - 110*	*05/02/17 09:43*	*05/15/17 14:59*	*1*
Y Carrier	*85.6*		*40 - 110*	*05/02/17 09:43*	*05/15/17 14:59*	*1*

Lab Sample ID: LCS 160-306619/2-A
Matrix: Water
Analysis Batch: 308490

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306619

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			13.4	12.38		1.33	1.00	0.294	pCi/L	92	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*108*		*40 - 110*
Y Carrier	*89.3*		*40 - 110*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-127245

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler: (3.6) (2.9) (3.8) (4.9) (4.9)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res Cl, Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree: (Yes) No COC not present

Sampler Name:	COMPANY:	# / Cont.
Ian John Howieson	KPRG & Associates Inc.	Volume
Project Name:	**TestAmerica Project Number:**	Preserv.
Quarterly- JOLIET #29 CCR	50011568	
Project Location:	**TAT**	
Joliet, IL	15 Days	
Lab PM: Eric Lang	eric.lang@testamerica.com	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	4-26-17	10:43	W	5	X	X	X	X	X	X	
2		MW-04	4-26-17	09:08	W	5	X	X	X	X	X	X	
3		MW-05	4-26-17	11:55	W	5	X	X	X	X	X	X	
4		MW-10	4-26-17	13:22	W	5	X	X	X	X	X	X	
5		Duplicate	4-26-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
IJH	KPRG	4-27-17	13:50		TA	04/27/17	1350
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS.

500-127245 COC

Date Received 04/27/17
Courier:
Hand Delivered ✓
Bill of Lading:

__1__of__1__

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-127245 Chain of Custody

TestAmerica
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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-86532.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois	Page: Page 1 of 1
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/9/2017		Job #: 500-127245-2
City: Earth City	TAT Requested (days):		
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: Joliet #29 CCR	Project #: 50011568		
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-127245-1)	4/26/17	10:43 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-127245-2)	4/26/17	09:08 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-127245-3)	4/26/17	11:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-127245-4)	4/26/17	13:22 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-127245-5)	4/26/17	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 04/27/17 1530	Company TA	Received by:	Date/Time: 4.28.17 0910	Company TASK
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/25/2017

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-127245-2

Login Number: 127245
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	3.6,2.9,3.8,4.9,4.9
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-127245-2

Login Number: 127245
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 04/28/17 11:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Client Sample ID: MW-03
Date Collected: 04/26/17 10:43
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306615	05/02/17 09:25	LDE	TAL SL
Total/NA	Analysis	903.0		1	310273	05/24/17 08:52	ALD	TAL SL
Total/NA	Prep	PrecSep_0			306619	05/02/17 09:43	LDE	TAL SL
Total/NA	Analysis	904.0		1	308490	05/15/17 15:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 04/26/17 09:08
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306615	05/02/17 09:25	LDE	TAL SL
Total/NA	Analysis	903.0		1	310273	05/24/17 08:52	ALD	TAL SL
Total/NA	Prep	PrecSep_0			306619	05/02/17 09:43	LDE	TAL SL
Total/NA	Analysis	904.0		1	308490	05/15/17 15:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 04/26/17 11:55
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306615	05/02/17 09:25	LDE	TAL SL
Total/NA	Analysis	903.0		1	310273	05/24/17 08:52	ALD	TAL SL
Total/NA	Prep	PrecSep_0			306619	05/02/17 09:43	LDE	TAL SL
Total/NA	Analysis	904.0		1	308490	05/15/17 15:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 04/26/17 13:22
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306615	05/02/17 09:25	LDE	TAL SL
Total/NA	Analysis	903.0		1	310273	05/24/17 08:52	ALD	TAL SL
Total/NA	Prep	PrecSep_0			306619	05/02/17 09:43	LDE	TAL SL
Total/NA	Analysis	904.0		1	308490	05/15/17 15:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Client Sample ID: Duplicate

Date Collected: 04/26/17 00:00
Date Received: 04/27/17 13:50

Lab Sample ID: 500-127245-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			306615	05/02/17 09:25	LDE	TAL SL
Total/NA	Analysis	903.0		1	310273	05/24/17 08:52	ALD	TAL SL
Total/NA	Prep	PrecSep_0			306619	05/02/17 09:43	LDE	TAL SL
Total/NA	Analysis	904.0		1	308490	05/15/17 15:01	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	310413	05/24/17 16:26	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-127245-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-127245-1	MW-03	101
500-127245-2	MW-04	104
500-127245-3	MW-05	98.8
500-127245-4	MW-10	99.4
500-127245-5	Duplicate	109
LCS 160-306615/2-A	Lab Control Sample	108
MB 160-306615/1-A	Method Blank	110

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-127245-1	MW-03	101	73.6
500-127245-2	MW-04	104	84.1
500-127245-3	MW-05	98.8	81.9
500-127245-4	MW-10	99.4	87.9
500-127245-5	Duplicate	109	84.5
LCS 160-306619/2-A	Lab Control Sample	108	89.3
MB 160-306619/1-A	Method Blank	110	85.6

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-132096-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Jodie Bracken

Authorized for release by:
8/18/2017 5:20:28 PM
Jodie Bracken, Project Management Assistant II
jodie.bracken@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Job ID: 500-132096-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-132096-1

Comments
No additional comments.

Receipt
The samples were received on 8/3/2017 1:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.0º C and 3.1º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-132096-1	MW-03	Water	08/02/17 09:45	08/03/17 13:30
500-132096-2	MW-04	Water	08/02/17 11:54	08/03/17 13:30
500-132096-3	MW-05	Water	08/02/17 13:32	08/03/17 13:30
500-132096-4	MW-10	Water	08/02/17 14:46	08/03/17 13:30
500-132096-5	Duplicate	Water	08/02/17 00:00	08/03/17 13:30

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-03
Date Collected: 08/02/17 09:45
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		08/10/17 09:31	08/10/17 19:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 21:13	1
Arsenic	**0.0022**		0.0010		mg/L		08/07/17 09:20	08/07/17 21:13	1
Barium	**0.10**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:13	1
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:10	1
Boron	**0.41**		0.050		mg/L		08/07/17 09:20	08/07/17 21:13	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:10	1
Calcium	**99**		0.20		mg/L		08/07/17 09:20	08/07/17 21:13	1
Chromium	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 21:13	1
Cobalt	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:10	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:10	1
Molybdenum	**0.0065**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:13	1
Selenium	**0.0050**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:13	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 21:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:29	08/07/17 10:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**850**		10		mg/L			08/04/17 04:32	1
Chloride	**200**		10		mg/L			08/06/17 22:58	5
Fluoride	**0.40**		0.10		mg/L			08/17/17 17:39	1
Sulfate	**110**		25		mg/L			08/15/17 09:01	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-04
Date Collected: 08/02/17 11:54
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		08/10/17 09:31	08/10/17 19:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 21:17	1
Arsenic	**0.0013**		0.0010		mg/L		08/07/17 09:20	08/07/17 21:17	1
Barium	**0.077**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:17	1
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:14	1
Boron	**0.35**		0.050		mg/L		08/07/17 09:20	08/07/17 21:17	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:14	1
Calcium	**93**		0.20		mg/L		08/07/17 09:20	08/07/17 21:17	1
Chromium	**0.040**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:17	1
Cobalt	**0.0031**		0.0010		mg/L		08/07/17 09:20	08/08/17 11:14	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:14	1
Molybdenum	**0.0091**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:17	1
Selenium	**0.0029**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:17	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 21:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:29	08/07/17 10:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		10		mg/L			08/04/17 04:35	1
Chloride	**180**		10		mg/L			08/06/17 23:00	5
Fluoride	**0.43**		0.10		mg/L			08/17/17 17:44	1
Sulfate	**100**		25		mg/L			08/15/17 09:02	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-05
Date Collected: 08/02/17 13:32
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		08/10/17 09:31	08/10/17 19:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 21:21	1
Arsenic	<0.0010		0.0010		mg/L		08/07/17 09:20	08/07/17 21:21	1
Barium	**0.054**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:21	1
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:19	1
Boron	**0.28**		0.050		mg/L		08/07/17 09:20	08/07/17 21:21	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:19	1
Calcium	**83**		0.20		mg/L		08/07/17 09:20	08/07/17 21:21	1
Chromium	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 21:21	1
Cobalt	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:19	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:19	1
Molybdenum	**0.0053**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:21	1
Selenium	<0.0025		0.0025		mg/L		08/07/17 09:20	08/07/17 21:21	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 21:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:29	08/07/17 10:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		10		mg/L			08/04/17 04:38	1
Chloride	**170**		10		mg/L			08/06/17 23:00	5
Fluoride	**0.35**		0.10		mg/L			08/17/17 17:48	1
Sulfate	**99**		25		mg/L			08/15/17 09:03	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-10
Date Collected: 08/02/17 14:46
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		08/10/17 09:31	08/10/17 19:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 21:25	1
Arsenic	**0.0011**		0.0010		mg/L		08/07/17 09:20	08/07/17 21:25	1
Barium	**0.036**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:25	1
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:24	1
Boron	**0.45**		0.050		mg/L		08/07/17 09:20	08/07/17 21:25	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:24	1
Calcium	**97**		0.20		mg/L		08/07/17 09:20	08/07/17 21:25	1
Chromium	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 21:25	1
Cobalt	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:24	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:24	1
Molybdenum	**0.0079**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:25	1
Selenium	<0.0025		0.0025		mg/L		08/07/17 09:20	08/07/17 21:25	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 21:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:29	08/07/17 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**750**		10		mg/L			08/04/17 04:40	1
Chloride	**170**		10		mg/L			08/06/17 23:01	5
Fluoride	**0.38**		0.10		mg/L			08/17/17 17:53	1
Sulfate	**110**		20		mg/L			08/15/17 09:04	4

Client Sample ID: Duplicate
Date Collected: 08/02/17 00:00
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		08/10/17 09:31	08/10/17 19:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 21:28	1
Arsenic	**0.0017**		0.0010		mg/L		08/07/17 09:20	08/07/17 21:28	1
Barium	**0.096**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:28	1
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:28	1
Boron	**0.38**		0.050		mg/L		08/07/17 09:20	08/07/17 21:28	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:28	1
Calcium	**94**		0.20		mg/L		08/07/17 09:20	08/07/17 21:28	1
Chromium	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 21:28	1
Cobalt	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:28	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:28	1
Molybdenum	**0.0062**		0.0050		mg/L		08/07/17 09:20	08/07/17 21:28	1
Selenium	**0.0041**		0.0025		mg/L		08/07/17 09:20	08/07/17 21:28	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 21:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:29	08/07/17 10:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**880**		10		mg/L			08/04/17 04:43	1
Chloride	**200**		10		mg/L			08/06/17 23:01	5
Fluoride	**0.40**		0.10		mg/L			08/17/17 18:06	1
Sulfate	**99**		25		mg/L			08/16/17 07:19	5

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Metals

Prep Batch: 396072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	7470A	
500-132096-2	MW-04	Total/NA	Water	7470A	
500-132096-3	MW-05	Total/NA	Water	7470A	
500-132096-4	MW-10	Total/NA	Water	7470A	
500-132096-5	Duplicate	Total/NA	Water	7470A	
MB 500-396072/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-396072/13-B	Lab Control Sample	Total/NA	Water	7470A	
500-132096-1 MS	MW-03	Total/NA	Water	7470A	
500-132096-1 MSD	MW-03	Total/NA	Water	7470A	
500-132096-1 DU	MW-03	Total/NA	Water	7470A	

Prep Batch: 396232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total Recoverable	Water	3005A	
500-132096-2	MW-04	Total Recoverable	Water	3005A	
500-132096-3	MW-05	Total Recoverable	Water	3005A	
500-132096-4	MW-10	Total Recoverable	Water	3005A	
500-132096-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-396232/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-396232/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 396287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	7470A	396072
500-132096-2	MW-04	Total/NA	Water	7470A	396072
500-132096-3	MW-05	Total/NA	Water	7470A	396072
500-132096-4	MW-10	Total/NA	Water	7470A	396072
500-132096-5	Duplicate	Total/NA	Water	7470A	396072
MB 500-396072/12-A	Method Blank	Total/NA	Water	7470A	396072
LCS 500-396072/13-B	Lab Control Sample	Total/NA	Water	7470A	396072
500-132096-1 MS	MW-03	Total/NA	Water	7470A	396072
500-132096-1 MSD	MW-03	Total/NA	Water	7470A	396072
500-132096-1 DU	MW-03	Total/NA	Water	7470A	396072

Analysis Batch: 396401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total Recoverable	Water	6020A	396232
500-132096-2	MW-04	Total Recoverable	Water	6020A	396232
500-132096-3	MW-05	Total Recoverable	Water	6020A	396232
500-132096-4	MW-10	Total Recoverable	Water	6020A	396232
500-132096-5	Duplicate	Total Recoverable	Water	6020A	396232
MB 500-396232/1-A	Method Blank	Total Recoverable	Water	6020A	396232
LCS 500-396232/2-A	Lab Control Sample	Total Recoverable	Water	6020A	396232

Analysis Batch: 396614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total Recoverable	Water	6020A	396232
500-132096-2	MW-04	Total Recoverable	Water	6020A	396232
500-132096-3	MW-05	Total Recoverable	Water	6020A	396232
500-132096-4	MW-10	Total Recoverable	Water	6020A	396232
500-132096-5	Duplicate	Total Recoverable	Water	6020A	396232

Metals (Continued)

Analysis Batch: 396614 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-396232/1-A	Method Blank	Total Recoverable	Water	6020A	396232
LCS 500-396232/2-A	Lab Control Sample	Total Recoverable	Water	6020A	396232

Prep Batch: 396838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total Recoverable	Water	3005A	
500-132096-2	MW-04	Total Recoverable	Water	3005A	
500-132096-3	MW-05	Total Recoverable	Water	3005A	
500-132096-4	MW-10	Total Recoverable	Water	3005A	
500-132096-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-396838/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-396838/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 396976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total Recoverable	Water	6010C	396838
500-132096-2	MW-04	Total Recoverable	Water	6010C	396838
500-132096-3	MW-05	Total Recoverable	Water	6010C	396838
500-132096-4	MW-10	Total Recoverable	Water	6010C	396838
500-132096-5	Duplicate	Total Recoverable	Water	6010C	396838
MB 500-396838/1-A	Method Blank	Total Recoverable	Water	6010C	396838
LCS 500-396838/2-A	Lab Control Sample	Total Recoverable	Water	6010C	396838

General Chemistry

Analysis Batch: 395911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	SM 2540C	
500-132096-2	MW-04	Total/NA	Water	SM 2540C	
500-132096-3	MW-05	Total/NA	Water	SM 2540C	
500-132096-4	MW-10	Total/NA	Water	SM 2540C	
500-132096-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-395911/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-395911/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 396163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-132096-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-132096-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-132096-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-132096-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-396163/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-396163/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 397393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-132096-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-132096-3	MW-05	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 397393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
MB 500-397393/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-397393/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 397557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-397557/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-397557/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-132096-5 MS	Duplicate	Total/NA	Water	SM 4500 SO4 E	
500-132096-5 MSD	Duplicate	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 397987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	SM 4500 F C	
500-132096-2	MW-04	Total/NA	Water	SM 4500 F C	
500-132096-3	MW-05	Total/NA	Water	SM 4500 F C	
500-132096-4	MW-10	Total/NA	Water	SM 4500 F C	
500-132096-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-397987/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-397987/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-396838/1-A
Matrix: Water
Analysis Batch: 396976

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 396838

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/10/17 09:31	08/10/17 18:56	1

Lab Sample ID: LCS 500-396838/2-A
Matrix: Water
Analysis Batch: 396976

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 396838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.500		mg/L		100	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-396232/1-A
Matrix: Water
Analysis Batch: 396401

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 396232

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/07/17 09:20	08/07/17 19:58	1
Arsenic	<0.0010		0.0010		mg/L		08/07/17 09:20	08/07/17 19:58	1
Barium	<0.0025		0.0025		mg/L		08/07/17 09:20	08/07/17 19:58	1
Boron	<0.050		0.050		mg/L		08/07/17 09:20	08/07/17 19:58	1
Calcium	<0.20		0.20		mg/L		08/07/17 09:20	08/07/17 19:58	1
Chromium	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 19:58	1
Molybdenum	<0.0050		0.0050		mg/L		08/07/17 09:20	08/07/17 19:58	1
Selenium	<0.0025		0.0025		mg/L		08/07/17 09:20	08/07/17 19:58	1
Thallium	<0.0020		0.0020		mg/L		08/07/17 09:20	08/07/17 19:58	1

Lab Sample ID: MB 500-396232/1-A
Matrix: Water
Analysis Batch: 396614

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 396232

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:00	1
Cadmium	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:00	1
Cobalt	<0.0010		0.0010		mg/L		08/07/17 09:20	08/08/17 11:00	1
Lead	<0.00050		0.00050		mg/L		08/07/17 09:20	08/08/17 11:00	1

Lab Sample ID: LCS 500-396232/2-A
Matrix: Water
Analysis Batch: 396401

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 396232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.496		mg/L		99	80 - 120
Arsenic	0.100	0.102		mg/L		102	80 - 120
Barium	0.500	0.529		mg/L		106	80 - 120
Boron	1.00	1.04		mg/L		104	80 - 120
Calcium	10.0	9.57		mg/L		96	80 - 120
Chromium	0.200	0.211		mg/L		105	80 - 120
Molybdenum	1.00	1.02		mg/L		102	80 - 120
Selenium	0.100	0.100		mg/L		100	80 - 120

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

Lab Sample ID: LCS 500-396232/2-A
Matrix: Water
Analysis Batch: 396401

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 396232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	0.100	0.104		mg/L		104	80 - 120

Lab Sample ID: LCS 500-396232/2-A
Matrix: Water
Analysis Batch: 396614

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 396232

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0521		mg/L		104	80 - 120
Cadmium	0.0500	0.0501		mg/L		100	80 - 120
Cobalt	0.500	0.507		mg/L		101	80 - 120
Lead	0.100	0.101		mg/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-396072/12-A
Matrix: Water
Analysis Batch: 396287

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 396072

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/04/17 17:24	08/07/17 09:56	1

Lab Sample ID: LCS 500-396072/13-B
Matrix: Water
Analysis Batch: 396287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 396072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00199		mg/L		99	80 - 120

Lab Sample ID: 500-132096-1 MS
Matrix: Water
Analysis Batch: 396287

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 396072

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000937		mg/L		94	75 - 125

Lab Sample ID: 500-132096-1 MSD
Matrix: Water
Analysis Batch: 396287

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 396072

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000893		mg/L		89	75 - 125	5	20

Lab Sample ID: 500-132096-1 DU
Matrix: Water
Analysis Batch: 396287

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 396072

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-395911/1
Matrix: Water
Analysis Batch: 395911

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/04/17 03:49	1

Lab Sample ID: LCS 500-395911/2
Matrix: Water
Analysis Batch: 395911

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	286		mg/L		114	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-396163/12
Matrix: Water
Analysis Batch: 396163

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			08/06/17 22:42	1

Lab Sample ID: LCS 500-396163/13
Matrix: Water
Analysis Batch: 396163

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.3		mg/L		101	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-397987/3
Matrix: Water
Analysis Batch: 397987

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/17/17 16:21	1

Lab Sample ID: LCS 500-397987/4
Matrix: Water
Analysis Batch: 397987

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-397393/3
Matrix: Water
Analysis Batch: 397393

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/15/17 08:43	1

Lab Sample ID: LCS 500-397393/4
Matrix: Water
Analysis Batch: 397393

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.6		mg/L		98	80 - 120

Lab Sample ID: MB 500-397557/3
Matrix: Water
Analysis Batch: 397557

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/16/17 07:04	1

Lab Sample ID: LCS 500-397557/4
Matrix: Water
Analysis Batch: 397557

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.6		mg/L		93	80 - 120

Lab Sample ID: 500-132096-5 MS
Matrix: Water
Analysis Batch: 397557

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	99		200	278		mg/L		90	75 - 125

Lab Sample ID: 500-132096-5 MSD
Matrix: Water
Analysis Batch: 397557

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	99		200	281		mg/L		91	75 - 125	1	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chic
2417 Bond St.
University Park, IL 6
708-534-5200
Fax. 708-534-5211

500-132096 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-132096

Package Sealed: (Yes) No	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 3.0-3.1, 2.9->3.0	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: Ian John Howieson	**COMPANY:** KPRG & Associates Inc.	**# / Cont.**	
		Volume	
Project Name: Quarterly- JOLIET #29 CCR	**TestAmerica Project Number:** 50011568	**Preserv.**	
Project Location: Joliet, IL	**TAT** 15 Days		
Lab PM: Eric Lang	eric.lang@testamerica.com		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	8-2-17	09:45	W	5	X	X	X	X	X	X	
2		MW-04	8-2-17	11:54	W	5	X	X	X	X	X	X	
3		MW-05	8-2-17	13:32	W	5	X	X	X	X	X	X	
4		MW-10	8-2-17	14:46	W	5	X	X	X	X	X	X	
5		Duplicate	8-2-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	8-3-17	13:30		TA	08/03/17	1230
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

eservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

8/18/2017

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-132096-1

Login Number: 132096
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1,3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-03
Date Collected: 08/02/17 09:45
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			396838	08/10/17 09:31	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	396976	08/10/17 19:12	PJ1	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396614	08/08/17 11:10	FXG	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396401	08/07/17 21:13	FXG	TAL CHI
Total/NA	Prep	7470A			396072	08/04/17 17:29	PFK	TAL CHI
Total/NA	Analysis	7470A		1	396287	08/07/17 10:30	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	395911	08/04/17 04:32	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	396163	08/06/17 22:58	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	397987	08/17/17 17:39	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	397393		CLB	TAL CHI
					(Start)	08/15/17 09:01		
					(End)	08/15/17 09:02		

Client Sample ID: MW-04
Date Collected: 08/02/17 11:54
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			396838	08/10/17 09:31	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	396976	08/10/17 19:16	PJ1	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396614	08/08/17 11:14	FXG	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396401	08/07/17 21:17	FXG	TAL CHI
Total/NA	Prep	7470A			396072	08/04/17 17:29	PFK	TAL CHI
Total/NA	Analysis	7470A		1	396287	08/07/17 10:36	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	395911	08/04/17 04:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	396163	08/06/17 23:00	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	397987	08/17/17 17:44	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	397393		CLB	TAL CHI
					(Start)	08/15/17 09:02		
					(End)	08/15/17 09:03		

Client Sample ID: MW-05
Date Collected: 08/02/17 13:32
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			396838	08/10/17 09:31	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	396976	08/10/17 19:20	PJ1	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: MW-05

Date Collected: 08/02/17 13:32
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6020A		1	396614	08/08/17 11:19	FXG	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396401	08/07/17 21:21	FXG	TAL CHI
Total/NA	Prep	7470A			396072	08/04/17 17:29	PFK	TAL CHI
Total/NA	Analysis	7470A		1	396287	08/07/17 10:38	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	395911	08/04/17 04:38	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	396163	08/06/17 23:00	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	397987	08/17/17 17:48	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	397393		CLB	TAL CHI
					(Start)	08/15/17 09:03		
					(End)	08/15/17 09:04		

Client Sample ID: MW-10

Date Collected: 08/02/17 14:46
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			396838	08/10/17 09:31	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	396976	08/10/17 19:24	PJ1	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396614	08/08/17 11:24	FXG	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396401	08/07/17 21:25	FXG	TAL CHI
Total/NA	Prep	7470A			396072	08/04/17 17:29	PFK	TAL CHI
Total/NA	Analysis	7470A		1	396287	08/07/17 10:39	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	395911	08/04/17 04:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	396163	08/06/17 23:01	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	397987	08/17/17 17:53	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	397393		CLB	TAL CHI
					(Start)	08/15/17 09:04		
					(End)	08/15/17 09:05		

Client Sample ID: Duplicate

Date Collected: 08/02/17 00:00
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			396838	08/10/17 09:31	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	396976	08/10/17 19:28	PJ1	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396614	08/08/17 11:28	FXG	TAL CHI
Total Recoverable	Prep	3005A			396232	08/07/17 09:20	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	396401	08/07/17 21:28	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-1

Client Sample ID: Duplicate

Date Collected: 08/02/17 00:00
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			396072	08/04/17 17:29	PFK	TAL CHI
Total/NA	Analysis	7470A		1	396287	08/07/17 10:41	MJD	TAL CHI
Total/NA	Analysis	SM 2540C		1	395911	08/04/17 04:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	396163	08/06/17 23:01	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	397987	08/17/17 18:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	397557		CLB	TAL CHI
					(Start)	08/16/17 07:19		
					(End)	08/16/17 07:21		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-132096-2
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/29/2017 4:31:10 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Job ID: 500-132096-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-132096-2

Comments
No additional comments.

Receipt
The samples were received on 8/3/2017 1:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.0º C and 3.1º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-132096-1	MW-03	Water	08/02/17 09:45	08/03/17 13:30
500-132096-2	MW-04	Water	08/02/17 11:54	08/03/17 13:30
500-132096-3	MW-05	Water	08/02/17 13:32	08/03/17 13:30
500-132096-4	MW-10	Water	08/02/17 14:46	08/03/17 13:30
500-132096-5	Duplicate	Water	08/02/17 00:00	08/03/17 13:30

Client Sample ID: MW-03

Date Collected: 08/02/17 09:45
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.152**		0.0715	0.0728	1.00	0.0813	pCi/L	08/07/17 09:15	08/29/17 11:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*08/07/17 09:15*	*08/29/17 11:01*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.262	U	0.216	0.217	1.00	0.342	pCi/L	08/07/17 10:02	08/16/17 15:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*
Y Carrier	*85.6*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.414**		0.227	0.229	5.00	0.342	pCi/L		08/29/17 15:15	1

Client Sample ID: MW-04

Date Collected: 08/02/17 11:54
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.142**		0.0647	0.0660	1.00	0.0675	pCi/L	08/07/17 09:15	08/29/17 11:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*08/07/17 09:15*	*08/29/17 11:01*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0842	U	0.164	0.164	1.00	0.282	pCi/L	08/07/17 10:02	08/16/17 15:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*
Y Carrier	*88.6*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.226	U	0.176	0.177	5.00	0.282	pCi/L		08/29/17 15:15	1

Client Sample ID: MW-05

Date Collected: 08/02/17 13:32
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.125		0.0661	0.0670	1.00	0.0793	pCi/L	08/07/17 09:15	08/29/17 11:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*08/07/17 09:15*	*08/29/17 11:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.535		0.267	0.272	1.00	0.396	pCi/L	08/07/17 10:02	08/16/17 15:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*
Y Carrier	*84.9*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:19*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.659		0.275	0.280	5.00	0.396	pCi/L		08/29/17 15:15	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Client Sample ID: MW-10
Date Collected: 08/02/17 14:46
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-4
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0485	U	0.0452	0.0454	1.00	0.0669	pCi/L	08/07/17 09:15	08/29/17 11:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*08/07/17 09:15*	*08/29/17 11:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.381**		0.237	0.240	1.00	0.364	pCi/L	08/07/17 10:02	08/16/17 15:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:11*	*1*
Y Carrier	*88.2*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.429**		0.241	0.244	5.00	0.364	pCi/L		08/29/17 15:15	1

Client Sample ID: Duplicate

Date Collected: 08/02/17 00:00
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.178		0.0731	0.0748	1.00	0.0726	pCi/L	08/07/17 09:15	08/29/17 11:02	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*08/07/17 09:15*	*08/29/17 11:02*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.604		0.252	0.258	1.00	0.355	pCi/L	08/07/17 10:02	08/16/17 15:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:11*	*1*
Y Carrier	*85.2*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:11*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.782		0.262	0.269	5.00	0.355	pCi/L		08/29/17 15:15	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Rad

Prep Batch: 321178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	PrecSep-21	
500-132096-2	MW-04	Total/NA	Water	PrecSep-21	
500-132096-3	MW-05	Total/NA	Water	PrecSep-21	
500-132096-4	MW-10	Total/NA	Water	PrecSep-21	
500-132096-5	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-321178/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-321178/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-132096-1 DU	MW-03	Total/NA	Water	PrecSep-21	

Prep Batch: 321197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-132096-1	MW-03	Total/NA	Water	PrecSep_0	
500-132096-2	MW-04	Total/NA	Water	PrecSep_0	
500-132096-3	MW-05	Total/NA	Water	PrecSep_0	
500-132096-4	MW-10	Total/NA	Water	PrecSep_0	
500-132096-5	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-321197/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-321197/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-132096-1 DU	MW-03	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-321178/1-A
Matrix: Water
Analysis Batch: 324783

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 321178

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.003994	U	0.0442	0.0442	1.00	0.0942	pCi/L	08/07/17 09:15	08/29/17 10:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*110*		*40 - 110*	*08/07/17 09:15*	*08/29/17 10:53*	*1*

Lab Sample ID: LCS 160-321178/2-A
Matrix: Water
Analysis Batch: 324783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 321178

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			12.8	11.66		1.22	1.00	0.109	pCi/L	91	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*

Lab Sample ID: 500-132096-1 DU
Matrix: Water
Analysis Batch: 324784

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 321178

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.152			0.1328		0.0719	1.00	0.0865	pCi/L			0.13	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-321197/1-A
Matrix: Water
Analysis Batch: 322486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 321197

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08088	U	0.232	0.232	1.00	0.405	pCi/L	08/07/17 10:02	08/16/17 15:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*110*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:16*	*1*
Y Carrier	*90.5*		*40 - 110*	*08/07/17 10:02*	*08/16/17 15:16*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-321197/2-A
Matrix: Water
Analysis Batch: 322486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 321197

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			17.4	16.66		1.80	1.00	0.368	pCi/L	96	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*
Y Carrier	*87.5*		*40 - 110*

Lab Sample ID: 500-132096-1 DU
Matrix: Water
Analysis Batch: 322486

Client Sample ID: MW-03
Prep Type: Total/NA
Prep Batch: 321197

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.262	U		0.2978	U	0.212	1.00	0.324	pCi/L			0.08	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chic
2417 Bond St.
University Park, IL 6
708-534-5200
Fax. 708-534-5211

500-132096 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-132096

Package Sealed: (Yes) No	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 3.0-3.1, 2.9->3.0	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name:	COMPANY:	# / Cont.
Ian John Howieson	KPRG & Associates Inc.	Volume
Project Name:	**TestAmerica Project Number:**	Preserv.
Quarterly- JOLIET #29 CCR	50011568	
Project Location:	**TAT**	
Joliet, IL	15 Days	
Lab PM: Eric Lang	eric.lang@testamerica.com	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	8-2-17	09:45	W	5	X	X	X	X	X	X	
2		MW-04	8-2-17	11:54	W	5	X	X	X	X	X	X	
3		MW-05	8-2-17	13:32	W	5	X	X	X	X	X	X	
4		MW-10	8-2-17	14:46	W	5	X	X	X	X	X	X	
5		Duplicate	8-2-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	8-3-17	13:30		TA	08/03/17	1230
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

eservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

8/29/2017

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-132096 Chain of Custody

TestAmerica
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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.		COC No: 500-91343.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-132096-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 8/15/2017			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-03 (500-132096-1)	8/2/17	09:45 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-04 (500-132096-2)	8/2/17	11:54 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-05 (500-132096-3)	8/2/17	13:32 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-132096-4)	8/2/17	14:46 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-132096-5)	8/2/17	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 08/03/17 @ 1600	Company TA	Received by:	Date/Time: 8/4/17 0840	Company TA-Dre
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

8/29/2017

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-132096-2

Login Number: 132096
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1,3.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-132096-2

Login Number: 132096
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 08/04/17 01:25 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Client Sample ID: MW-03
Date Collected: 08/02/17 09:45
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			321178	08/07/17 09:15	LDE	TAL SL
Total/NA	Analysis	903.0		1	324784	08/29/17 11:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			321197	08/07/17 10:02	LDE	TAL SL
Total/NA	Analysis	904.0		1	322486	08/16/17 15:19	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	324975	08/29/17 15:15	RTM	TAL SL

Client Sample ID: MW-04
Date Collected: 08/02/17 11:54
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			321178	08/07/17 09:15	LDE	TAL SL
Total/NA	Analysis	903.0		1	324784	08/29/17 11:01	RTM	TAL SL
Total/NA	Prep	PrecSep_0			321197	08/07/17 10:02	LDE	TAL SL
Total/NA	Analysis	904.0		1	322486	08/16/17 15:19	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	324975	08/29/17 15:15	RTM	TAL SL

Client Sample ID: MW-05
Date Collected: 08/02/17 13:32
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			321178	08/07/17 09:15	LDE	TAL SL
Total/NA	Analysis	903.0		1	324784	08/29/17 11:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			321197	08/07/17 10:02	LDE	TAL SL
Total/NA	Analysis	904.0		1	322486	08/16/17 15:19	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	324975	08/29/17 15:15	RTM	TAL SL

Client Sample ID: MW-10
Date Collected: 08/02/17 14:46
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			321178	08/07/17 09:15	LDE	TAL SL
Total/NA	Analysis	903.0		1	324784	08/29/17 11:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			321197	08/07/17 10:02	LDE	TAL SL
Total/NA	Analysis	904.0		1	322485	08/16/17 15:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	324975	08/29/17 15:15	RTM	TAL SL

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Client Sample ID: Duplicate

Date Collected: 08/02/17 00:00
Date Received: 08/03/17 13:30

Lab Sample ID: 500-132096-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			321178	08/07/17 09:15	LDE	TAL SL
Total/NA	Analysis	903.0		1	324784	08/29/17 11:02	RTM	TAL SL
Total/NA	Prep	PrecSep_0			321197	08/07/17 10:02	LDE	TAL SL
Total/NA	Analysis	904.0		1	322485	08/16/17 15:11	ALD	TAL SL
Total/NA	Analysis	Ra226_Ra228		1	324975	08/29/17 15:15	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-132096-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-132096-1	MW-03	105
500-132096-1 DU	MW-03	101
500-132096-2	MW-04	107
500-132096-3	MW-05	103
500-132096-4	MW-10	104
500-132096-5	Duplicate	104
LCS 160-321178/2-A	Lab Control Sample	109
MB 160-321178/1-A	Method Blank	110

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-132096-1	MW-03	105	85.6
500-132096-1 DU	MW-03	101	86.7
500-132096-2	MW-04	107	88.6
500-132096-3	MW-05	103	84.9
500-132096-4	MW-10	104	88.2
500-132096-5	Duplicate	104	85.2
LCS 160-321197/2-A	Lab Control Sample	109	87.5
MB 160-321197/1-A	Method Blank	110	90.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-144406-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/10/2018 1:30:24 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Chronicle 19

Job ID: 500-144406-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-144406-1

Comments
No additional comments.

Receipt
The samples were received on 4/26/2018 12:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

Metals
Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-429940. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-144406-1	MW-03	Water	04/24/18 11:54	04/26/18 12:20
500-144406-2	MW-04	Water	04/24/18 13:09	04/26/18 12:20
500-144406-3	MW-05	Water	04/24/18 14:31	04/26/18 12:20
500-144406-4	MW-10	Water	04/24/18 15:50	04/26/18 12:20
500-144406-5	Duplicate	Water	04/24/18 00:00	04/26/18 12:20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-03
Date Collected: 04/24/18 11:54
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050		mg/L		04/26/18 15:42	04/27/18 23:29	1
Calcium	100		0.20		mg/L		04/26/18 15:42	04/27/18 23:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			05/01/18 06:18	1
Chloride	220		10		mg/L			05/01/18 22:04	5
Fluoride	0.42		0.10		mg/L			04/28/18 11:54	1
Sulfate	150		50		mg/L			05/01/18 14:36	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-04
Date Collected: 04/24/18 13:09
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.40		0.050		mg/L		04/26/18 15:42	04/27/18 23:47	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			05/01/18 06:20	1
Chloride	240		10		mg/L			05/01/18 22:05	5
Fluoride	0.43		0.10		mg/L			04/28/18 11:56	1
Sulfate	160		25		mg/L			05/01/18 14:37	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-05
Date Collected: 04/24/18 14:31
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		04/26/18 15:42	04/27/18 23:51	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/01/18 06:23	1
Chloride	300		10		mg/L			05/01/18 22:06	5
Fluoride	0.34		0.10		mg/L			04/28/18 11:59	1
Sulfate	130		25		mg/L			05/08/18 11:14	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-10
Date Collected: 04/24/18 15:50
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.40		0.050		mg/L		04/26/18 15:42	04/27/18 23:55	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	910		10		mg/L			05/01/18 06:26	1
Chloride	260		10		mg/L			05/01/18 22:06	5
Fluoride	0.39		0.10		mg/L			04/28/18 12:02	1
Sulfate	120		25		mg/L			05/08/18 11:17	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: Duplicate
Date Collected: 04/24/18 00:00
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.54		0.050		mg/L		04/26/18 15:42	04/28/18 00:06	1
Calcium	100		0.20		mg/L		04/26/18 15:42	04/28/18 00:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	920		10		mg/L			05/01/18 06:28	1
Chloride	220		10		mg/L			05/01/18 22:09	5
Fluoride	0.42		0.10		mg/L			04/28/18 12:05	1
Sulfate	140		25		mg/L			05/08/18 11:18	5

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Metals

Prep Batch: 429585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total Recoverable	Water	3005A	
500-144406-2	MW-04	Total Recoverable	Water	3005A	
500-144406-3	MW-05	Total Recoverable	Water	3005A	
500-144406-4	MW-10	Total Recoverable	Water	3005A	
500-144406-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-429585/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-429585/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-144406-1 MS	MW-03	Total Recoverable	Water	3005A	
500-144406-1 MSD	MW-03	Total Recoverable	Water	3005A	
500-144406-1 DU	MW-03	Total Recoverable	Water	3005A	

Analysis Batch: 429940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total Recoverable	Water	6020A	429585
500-144406-2	MW-04	Total Recoverable	Water	6020A	429585
500-144406-3	MW-05	Total Recoverable	Water	6020A	429585
500-144406-4	MW-10	Total Recoverable	Water	6020A	429585
500-144406-5	Duplicate	Total Recoverable	Water	6020A	429585
MB 500-429585/1-A	Method Blank	Total Recoverable	Water	6020A	429585
LCS 500-429585/2-A	Lab Control Sample	Total Recoverable	Water	6020A	429585
500-144406-1 MS	MW-03	Total Recoverable	Water	6020A	429585
500-144406-1 MSD	MW-03	Total Recoverable	Water	6020A	429585
500-144406-1 DU	MW-03	Total Recoverable	Water	6020A	429585

General Chemistry

Analysis Batch: 429844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 F C	
500-144406-2	MW-04	Total/NA	Water	SM 4500 F C	
500-144406-3	MW-05	Total/NA	Water	SM 4500 F C	
500-144406-4	MW-10	Total/NA	Water	SM 4500 F C	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-429844/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-429844/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 430064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 2540C	
500-144406-2	MW-04	Total/NA	Water	SM 2540C	
500-144406-3	MW-05	Total/NA	Water	SM 2540C	
500-144406-4	MW-10	Total/NA	Water	SM 2540C	
500-144406-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-430064/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-430064/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 430151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-144406-2	MW-04	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 430151 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-430151/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-430151/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 430219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-144406-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-144406-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-144406-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-430219/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-430219/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-144406-4 MS	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144406-4 MSD	MW-10	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 431165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144406-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-431165/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-431165/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-144406-3 MS	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144406-3 MSD	MW-05	Total/NA	Water	SM 4500 SO4 E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-429585/1-A
Matrix: Water
Analysis Batch: 429940

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		04/26/18 15:42	04/27/18 23:21	1
Calcium	<0.20		0.20		mg/L		04/26/18 15:42	04/27/18 23:21	1

Lab Sample ID: LCS 500-429585/2-A
Matrix: Water
Analysis Batch: 429940

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.995		mg/L		99	80 - 120
Calcium	10.0	9.73		mg/L		97	80 - 120

Lab Sample ID: 500-144406-1 MS
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.52		1.00	1.46		mg/L		94	75 - 125
Calcium	100		10.0	108	4	mg/L		80	75 - 125

Lab Sample ID: 500-144406-1 MSD
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.52		1.00	1.45		mg/L		93	75 - 125	1	20
Calcium	100		10.0	107	4	mg/L		72	75 - 125	1	20

Lab Sample ID: 500-144406-1 DU
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.52		0.542		mg/L		4	20
Calcium	100		103		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-430064/1
Matrix: Water
Analysis Batch: 430064

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/01/18 05:37	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-430064/2
Matrix: Water
Analysis Batch: 430064

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-430219/12
Matrix: Water
Analysis Batch: 430219

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/01/18 21:24	1

Lab Sample ID: LCS 500-430219/13
Matrix: Water
Analysis Batch: 430219

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.6		mg/L		103	85 - 115

Lab Sample ID: 500-144406-4 MS
Matrix: Water
Analysis Batch: 430219

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	260		50.0	284	4	mg/L		42	75 - 125

Lab Sample ID: 500-144406-4 MSD
Matrix: Water
Analysis Batch: 430219

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	260		50.0	285	4	mg/L		43	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-429844/3
Matrix: Water
Analysis Batch: 429844

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			04/28/18 10:58	1

Lab Sample ID: LCS 500-429844/4
Matrix: Water
Analysis Batch: 429844

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-430151/3
Matrix: Water
Analysis Batch: 430151

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/01/18 14:17	1

Lab Sample ID: LCS 500-430151/4
Matrix: Water
Analysis Batch: 430151

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.9		mg/L		94	80 - 120

Lab Sample ID: MB 500-431165/3
Matrix: Water
Analysis Batch: 431165

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/08/18 11:12	1

Lab Sample ID: LCS 500-431165/4
Matrix: Water
Analysis Batch: 431165

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.7		mg/L		93	80 - 120

Lab Sample ID: 500-144406-3 MS
Matrix: Water
Analysis Batch: 431165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	130		200	304		mg/L		88	75 - 125

Lab Sample ID: 500-144406-3 MSD
Matrix: Water
Analysis Batch: 431165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	130		200	306		mg/L		89	75 - 125	1	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-144406

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 3.9

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res Cl_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG & Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- JOLIET #29 CCR	50011568
Project Location:	**TAT**
Joliet, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B, Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	4-24-18	11:54	W	2	X	X	X	X	X	
2		MW-04	4-24-18	13:09	W	2	X	X	X	X	X	
3		MW-05	4-24-18	14:31	W	2	X	X	X	X	X	
4		MW-10	4-24-18	15:50	W	2	X	X	X	X	X	
5		Duplicate	4-24-18	—	W	2	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	4-26-18	12:20		TA	04/26/18	1220
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

500-144406 COC

Date Received 04,26,18
Courier: IH
Hand Delivered ☐
Bill of Lading:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-144406-1

Login Number: 144406
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-03

Date Collected: 04/24/18 11:54
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:29	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:18	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:04	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:54	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	430151		CLB	TAL CHI
					(Start)	05/01/18 14:36		
					(End)	05/01/18 14:37		

Client Sample ID: MW-04

Date Collected: 04/24/18 13:09
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:47	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:05	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:56	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	430151		CLB	TAL CHI
					(Start)	05/01/18 14:37		
					(End)	05/01/18 14:38		

Client Sample ID: MW-05

Date Collected: 04/24/18 14:31
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:51	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:06	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:14		
					(End)	05/08/18 11:15		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-10

Date Collected: 04/24/18 15:50
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:55	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:06	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 12:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:17		
					(End)	05/08/18 11:18		

Client Sample ID: Duplicate

Date Collected: 04/24/18 00:00
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/28/18 00:06	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:28	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:09	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 12:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:18		
					(End)	05/08/18 11:19		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-144406-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/10/2018 1:30:24 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Job ID: 500-144406-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-144406-1

Comments
No additional comments.

Receipt
The samples were received on 4/26/2018 12:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

Metals
Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-429940. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-144406-1	MW-03	Water	04/24/18 11:54	04/26/18 12:20
500-144406-2	MW-04	Water	04/24/18 13:09	04/26/18 12:20
500-144406-3	MW-05	Water	04/24/18 14:31	04/26/18 12:20
500-144406-4	MW-10	Water	04/24/18 15:50	04/26/18 12:20
500-144406-5	Duplicate	Water	04/24/18 00:00	04/26/18 12:20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-03
Date Collected: 04/24/18 11:54
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050		mg/L		04/26/18 15:42	04/27/18 23:29	1
Calcium	100		0.20		mg/L		04/26/18 15:42	04/27/18 23:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			05/01/18 06:18	1
Chloride	220		10		mg/L			05/01/18 22:04	5
Fluoride	0.42		0.10		mg/L			04/28/18 11:54	1
Sulfate	150		50		mg/L			05/01/18 14:36	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-04
Date Collected: 04/24/18 13:09
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.40		0.050		mg/L		04/26/18 15:42	04/27/18 23:47	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			05/01/18 06:20	1
Chloride	240		10		mg/L			05/01/18 22:05	5
Fluoride	0.43		0.10		mg/L			04/28/18 11:56	1
Sulfate	160		25		mg/L			05/01/18 14:37	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-05
Date Collected: 04/24/18 14:31
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		04/26/18 15:42	04/27/18 23:51	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/01/18 06:23	1
Chloride	300		10		mg/L			05/01/18 22:06	5
Fluoride	0.34		0.10		mg/L			04/28/18 11:59	1
Sulfate	130		25		mg/L			05/08/18 11:14	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-10
Date Collected: 04/24/18 15:50
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.40		0.050		mg/L		04/26/18 15:42	04/27/18 23:55	1
Calcium	110		0.20		mg/L		04/26/18 15:42	04/27/18 23:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	910		10		mg/L			05/01/18 06:26	1
Chloride	260		10		mg/L			05/01/18 22:06	5
Fluoride	0.39		0.10		mg/L			04/28/18 12:02	1
Sulfate	120		25		mg/L			05/08/18 11:17	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: Duplicate
Date Collected: 04/24/18 00:00
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.54		0.050		mg/L		04/26/18 15:42	04/28/18 00:06	1
Calcium	100		0.20		mg/L		04/26/18 15:42	04/28/18 00:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	920		10		mg/L			05/01/18 06:28	1
Chloride	220		10		mg/L			05/01/18 22:09	5
Fluoride	0.42		0.10		mg/L			04/28/18 12:05	1
Sulfate	140		25		mg/L			05/08/18 11:18	5

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Metals

Prep Batch: 429585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total Recoverable	Water	3005A	
500-144406-2	MW-04	Total Recoverable	Water	3005A	
500-144406-3	MW-05	Total Recoverable	Water	3005A	
500-144406-4	MW-10	Total Recoverable	Water	3005A	
500-144406-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-429585/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-429585/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-144406-1 MS	MW-03	Total Recoverable	Water	3005A	
500-144406-1 MSD	MW-03	Total Recoverable	Water	3005A	
500-144406-1 DU	MW-03	Total Recoverable	Water	3005A	

Analysis Batch: 429940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total Recoverable	Water	6020A	429585
500-144406-2	MW-04	Total Recoverable	Water	6020A	429585
500-144406-3	MW-05	Total Recoverable	Water	6020A	429585
500-144406-4	MW-10	Total Recoverable	Water	6020A	429585
500-144406-5	Duplicate	Total Recoverable	Water	6020A	429585
MB 500-429585/1-A	Method Blank	Total Recoverable	Water	6020A	429585
LCS 500-429585/2-A	Lab Control Sample	Total Recoverable	Water	6020A	429585
500-144406-1 MS	MW-03	Total Recoverable	Water	6020A	429585
500-144406-1 MSD	MW-03	Total Recoverable	Water	6020A	429585
500-144406-1 DU	MW-03	Total Recoverable	Water	6020A	429585

General Chemistry

Analysis Batch: 429844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 F C	
500-144406-2	MW-04	Total/NA	Water	SM 4500 F C	
500-144406-3	MW-05	Total/NA	Water	SM 4500 F C	
500-144406-4	MW-10	Total/NA	Water	SM 4500 F C	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-429844/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-429844/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 430064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 2540C	
500-144406-2	MW-04	Total/NA	Water	SM 2540C	
500-144406-3	MW-05	Total/NA	Water	SM 2540C	
500-144406-4	MW-10	Total/NA	Water	SM 2540C	
500-144406-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-430064/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-430064/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 430151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-144406-2	MW-04	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 430151 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-430151/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-430151/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 430219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-144406-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-144406-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-144406-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-430219/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-430219/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-144406-4 MS	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144406-4 MSD	MW-10	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 431165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144406-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144406-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-144406-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-431165/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-431165/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-144406-3 MS	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144406-3 MSD	MW-05	Total/NA	Water	SM 4500 SO4 E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-429585/1-A
Matrix: Water
Analysis Batch: 429940

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		04/26/18 15:42	04/27/18 23:21	1
Calcium	<0.20		0.20		mg/L		04/26/18 15:42	04/27/18 23:21	1

Lab Sample ID: LCS 500-429585/2-A
Matrix: Water
Analysis Batch: 429940

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.995		mg/L		99	80 - 120
Calcium	10.0	9.73		mg/L		97	80 - 120

Lab Sample ID: 500-144406-1 MS
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.52		1.00	1.46		mg/L		94	75 - 125
Calcium	100		10.0	108	4	mg/L		80	75 - 125

Lab Sample ID: 500-144406-1 MSD
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.52		1.00	1.45		mg/L		93	75 - 125	1	20
Calcium	100		10.0	107	4	mg/L		72	75 - 125	1	20

Lab Sample ID: 500-144406-1 DU
Matrix: Water
Analysis Batch: 429940

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 429585

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.52		0.542		mg/L		4	20
Calcium	100		103		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-430064/1
Matrix: Water
Analysis Batch: 430064

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/01/18 05:37	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-430064/2
Matrix: Water
Analysis Batch: 430064

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-430219/12
Matrix: Water
Analysis Batch: 430219

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/01/18 21:24	1

Lab Sample ID: LCS 500-430219/13
Matrix: Water
Analysis Batch: 430219

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.6		mg/L		103	85 - 115

Lab Sample ID: 500-144406-4 MS
Matrix: Water
Analysis Batch: 430219

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	260		50.0	284	4	mg/L		42	75 - 125

Lab Sample ID: 500-144406-4 MSD
Matrix: Water
Analysis Batch: 430219

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	260		50.0	285	4	mg/L		43	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-429844/3
Matrix: Water
Analysis Batch: 429844

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			04/28/18 10:58	1

Lab Sample ID: LCS 500-429844/4
Matrix: Water
Analysis Batch: 429844

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-430151/3
Matrix: Water
Analysis Batch: 430151

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/01/18 14:17	1

Lab Sample ID: LCS 500-430151/4
Matrix: Water
Analysis Batch: 430151

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.9		mg/L		94	80 - 120

Lab Sample ID: MB 500-431165/3
Matrix: Water
Analysis Batch: 431165

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/08/18 11:12	1

Lab Sample ID: LCS 500-431165/4
Matrix: Water
Analysis Batch: 431165

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.7		mg/L		93	80 - 120

Lab Sample ID: 500-144406-3 MS
Matrix: Water
Analysis Batch: 431165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	130		200	304		mg/L		88	75 - 125

Lab Sample ID: 500-144406-3 MSD
Matrix: Water
Analysis Batch: 431165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	130		200	306		mg/L		89	75 - 125	1	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-144406

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 3.9

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res Cl_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG & Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- JOLIET #29 CCR	50011568
Project Location:	**TAT**
Joliet, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B, Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	4-24-18	11:54	W	2	X	X	X	X	X	
2		MW-04	4-24-18	13:09	W	2	X	X	X	X	X	
3		MW-05	4-24-18	14:31	W	2	X	X	X	X	X	
4		MW-10	4-24-18	15:50	W	2	X	X	X	X	X	
5		Duplicate	4-24-18	—	W	2	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	4-26-18	12:20		TA	04/26/18	1220
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

500-144406 COC

Date Received 04,26,18
Courier: IH
Hand Delivered ☐
Bill of Lading:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-144406-1

Login Number: 144406
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-03

Date Collected: 04/24/18 11:54
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:29	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:18	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:04	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:54	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	430151		CLB	TAL CHI
					(Start)	05/01/18 14:36		
					(End)	05/01/18 14:37		

Client Sample ID: MW-04

Date Collected: 04/24/18 13:09
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:47	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:05	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:56	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	430151		CLB	TAL CHI
					(Start)	05/01/18 14:37		
					(End)	05/01/18 14:38		

Client Sample ID: MW-05

Date Collected: 04/24/18 14:31
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:51	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:06	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 11:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:14		
					(End)	05/08/18 11:15		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-144406-1

Client Sample ID: MW-10

Date Collected: 04/24/18 15:50
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/27/18 23:55	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:06	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 12:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:17		
					(End)	05/08/18 11:18		

Client Sample ID: Duplicate

Date Collected: 04/24/18 00:00
Date Received: 04/26/18 12:20

Lab Sample ID: 500-144406-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			429585	04/26/18 15:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	429940	04/28/18 00:06	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430064	05/01/18 06:28	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	430219	05/01/18 22:09	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	429844	04/28/18 12:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431165		CLB	TAL CHI
					(Start)	05/08/18 11:18		
					(End)	05/08/18 11:19		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-149339-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/13/2018 3:42:16 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Job ID: 500-149339-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-149339-1

Comments
No additional comments.

Receipt
The samples were received on 8/2/2018 10:27 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Method	Method Description	Protocol	Laboratory
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149339-1	MW-03	Water	07/31/18 11:42	08/02/18 10:27
500-149339-2	MW-04	Water	07/31/18 12:35	08/02/18 10:27
500-149339-3	MW-05	Water	07/31/18 13:37	08/02/18 10:27

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Client Sample ID: MW-03
Date Collected: 07/31/18 11:42
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	110		25		mg/L			08/13/18 06:01	5

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Client Sample ID: MW-04
Date Collected: 07/31/18 12:35
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	120		25		mg/L			08/13/18 06:04	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Client Sample ID: MW-05
Date Collected: 07/31/18 13:37
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			08/06/18 05:23	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

General Chemistry

Analysis Batch: 444126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149339-3	MW-05	Total/NA	Water	SM 2540C	
MB 500-444126/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-444126/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-149339-3 MS	MW-05	Total/NA	Water	SM 2540C	
500-149339-3 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 445062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149339-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-149339-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
MB 500-445062/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-445062/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-149339-1 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-149339-1 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-444126/1
Matrix: Water
Analysis Batch: 444126

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/06/18 05:18	1

Lab Sample ID: LCS 500-444126/2
Matrix: Water
Analysis Batch: 444126

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	276		mg/L		110	80 - 120

Lab Sample ID: 500-149339-3 MS
Matrix: Water
Analysis Batch: 444126

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	940		250	1190		mg/L		102	75 - 125

Lab Sample ID: 500-149339-3 DU
Matrix: Water
Analysis Batch: 444126

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	940		968		mg/L		3	5

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-445062/3
Matrix: Water
Analysis Batch: 445062

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/13/18 05:59	1

Lab Sample ID: LCS 500-445062/4
Matrix: Water
Analysis Batch: 445062

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.4		mg/L		102	80 - 120

Lab Sample ID: 500-149339-1 MS
Matrix: Water
Analysis Batch: 445062

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	110		200	317		mg/L		101	75 - 125

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-149339-1 MSD
Matrix: Water
Analysis Batch: 445062

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	110		200	317		mg/L		101	75 - 125	0	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:
Contact:	Richard Gnat	Contact:
Company:	KPRG and Associates, Inc	Company:
Address:	14665 W. Lisbon Rd., Suite 2B	Address:
	Brookfield, WI 53005	
Phone:	262-781-0475	Phone:
Email:	richardg@kprginc.com	Email
		PO #:

Lab Lot # 500-149339

Package Sealed	Samples Sealed
(Yes) No	(Yes) No
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 3.9 160X.

Within Hold Time	Preserv. Indicated
(Yes) No	Yes No (N/A)
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG & Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- JOLIET #29 CCR	50011568
Project Location:	**TAT**
Joliet, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B, Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate
1		MW-03	7-31-18	11:42	W	1	X				X
2		MW-04	7-31-18	12:35	W	1	X				X
3		MW-05	7-31-18	13:37	W	1	X	X	X	X	X
		~~MW-06~~	—	—							
		~~Duplicate~~	—	—							

Additional Analyses / Remarks

500-149339 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	8-2-18	10:27	[signature]	TA-CHI	8/2/18	1027
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 08 02 18
Courier:
Hand Delivered [X]
Bill of Lading:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-149339-1

Login Number: 149339
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-149339-1

Client Sample ID: MW-03
Date Collected: 07/31/18 11:42
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		5	445062		CLB	TAL CHI
					(Start)	08/13/18 06:01		
					(End)	08/13/18 06:02		

Client Sample ID: MW-04
Date Collected: 07/31/18 12:35
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		5	445062		CLB	TAL CHI
					(Start)	08/13/18 06:04		
					(End)	08/13/18 06:05		

Client Sample ID: MW-05
Date Collected: 07/31/18 13:37
Date Received: 08/02/18 10:27

Lab Sample ID: 500-149339-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	444126	08/06/18 05:23	CLB	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-153411-1
Client Project/Site: Joliet #29 CCR
Sampling Event: Quarterly MWG Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/2/2018 3:12:31 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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www.testamericainc.com

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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Job ID: 500-153411-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-153411-1

Comments
No additional comments.

Receipt
The samples were received on 10/18/2018 2:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-153411-1	MW-03	Water	10/17/18 09:52	10/18/18 14:20
500-153411-2	MW-04	Water	10/17/18 11:08	10/18/18 14:20
500-153411-3	MW-05	Water	10/17/18 12:41	10/18/18 14:20
500-153411-4	MW-10	Water	10/17/18 14:05	10/18/18 14:20
500-153411-5	Duplicate	Water	10/17/18 00:00	10/18/18 14:20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-03
Date Collected: 10/17/18 09:52
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25		0.050		mg/L		10/22/18 09:49	10/27/18 00:45	1
Calcium	100		0.20		mg/L		10/22/18 09:49	10/27/18 00:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870		10		mg/L			10/19/18 08:11	1
Chloride	250		10		mg/L			11/01/18 11:59	5
Fluoride	0.40		0.10		mg/L			10/27/18 16:11	1
Sulfate	110		20		mg/L			10/24/18 11:47	4

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-04
Date Collected: 10/17/18 11:08
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.29		0.050		mg/L		10/22/18 09:49	10/27/18 00:49	1
Calcium	100		0.20		mg/L		10/22/18 09:49	10/27/18 00:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	840		10		mg/L			10/19/18 08:14	1
Chloride	230		10		mg/L			11/01/18 11:59	5
Fluoride	0.45		0.10		mg/L			10/27/18 16:14	1
Sulfate	130		20		mg/L			10/24/18 11:48	4

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-05
Date Collected: 10/17/18 12:41
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		10/22/18 09:49	10/27/18 00:53	1
Calcium	110		0.20		mg/L		10/22/18 09:49	10/27/18 00:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	810		10		mg/L			10/19/18 08:16	1
Chloride	210		10		mg/L			11/01/18 12:00	5
Fluoride	0.36		0.10		mg/L			10/27/18 16:17	1
Sulfate	93		50		mg/L			10/30/18 07:59	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-10
Date Collected: 10/17/18 14:05
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.63		0.050		mg/L		10/22/18 09:49	10/27/18 00:56	1
Calcium	120		0.20		mg/L		10/22/18 09:49	10/27/18 00:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	810		10		mg/L			10/19/18 08:19	1
Chloride	180		10		mg/L			11/01/18 12:00	5
Fluoride	0.42		0.10		mg/L			10/27/18 16:30	1
Sulfate	110		50		mg/L			10/30/18 08:02	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: Duplicate
Date Collected: 10/17/18 00:00
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.29		0.050		mg/L		10/22/18 09:49	10/27/18 01:00	1
Calcium	100		0.20		mg/L		10/22/18 09:49	10/27/18 01:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	830		10		mg/L			10/19/18 08:21	1
Chloride	240		10		mg/L			11/01/18 14:59	5
Fluoride	0.45		0.10		mg/L			10/27/18 16:33	1
Sulfate	120		25		mg/L			10/30/18 08:03	5

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

Metals

Prep Batch: 456088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total Recoverable	Water	3005A	
500-153411-2	MW-04	Total Recoverable	Water	3005A	
500-153411-3	MW-05	Total Recoverable	Water	3005A	
500-153411-4	MW-10	Total Recoverable	Water	3005A	
500-153411-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-456088/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-456088/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 457318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total Recoverable	Water	6020A	456088
500-153411-2	MW-04	Total Recoverable	Water	6020A	456088
500-153411-3	MW-05	Total Recoverable	Water	6020A	456088
500-153411-4	MW-10	Total Recoverable	Water	6020A	456088
500-153411-5	Duplicate	Total Recoverable	Water	6020A	456088
MB 500-456088/1-A	Method Blank	Total Recoverable	Water	6020A	456088
LCS 500-456088/2-A	Lab Control Sample	Total Recoverable	Water	6020A	456088

General Chemistry

Analysis Batch: 455746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total/NA	Water	SM 2540C	
500-153411-2	MW-04	Total/NA	Water	SM 2540C	
500-153411-3	MW-05	Total/NA	Water	SM 2540C	
500-153411-4	MW-10	Total/NA	Water	SM 2540C	
500-153411-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-455746/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-455746/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 456548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-153411-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
MB 500-456548/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-456548/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 457341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total/NA	Water	SM 4500 F C	
500-153411-2	MW-04	Total/NA	Water	SM 4500 F C	
500-153411-3	MW-05	Total/NA	Water	SM 4500 F C	
500-153411-4	MW-10	Total/NA	Water	SM 4500 F C	
500-153411-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-457341/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-457341/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 457467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-3	MW-05	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 457467 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-153411-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-457467/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-457467/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-153411-3 MS	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-153411-3 MSD	MW-05	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 457936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-153411-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-153411-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-153411-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
MB 500-457936/54	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-457936/55	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 458008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-153411-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-458008/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-458008/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-456088/1-A
Matrix: Water
Analysis Batch: 457318

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 456088

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/22/18 09:49	10/27/18 00:38	1
Calcium	<0.20		0.20		mg/L		10/22/18 09:49	10/27/18 00:38	1

Lab Sample ID: LCS 500-456088/2-A
Matrix: Water
Analysis Batch: 457318

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 456088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.975		mg/L		97	80 - 120
Calcium	10.0	8.81		mg/L		88	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-455746/1
Matrix: Water
Analysis Batch: 455746

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/19/18 07:25	1

Lab Sample ID: LCS 500-455746/2
Matrix: Water
Analysis Batch: 455746

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	256		mg/L		102	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-457936/54
Matrix: Water
Analysis Batch: 457936

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/01/18 11:40	1

Lab Sample ID: LCS 500-457936/55
Matrix: Water
Analysis Batch: 457936

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.0		mg/L		100	85 - 115

Lab Sample ID: MB 500-458008/4
Matrix: Water
Analysis Batch: 458008

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/01/18 14:57	1

Lab Sample ID: LCS 500-458008/5
Matrix: Water
Analysis Batch: 458008

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.1		mg/L		100	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-457341/3
Matrix: Water
Analysis Batch: 457341

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/27/18 15:07	1

Lab Sample ID: LCS 500-457341/4
Matrix: Water
Analysis Batch: 457341

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-456548/3
Matrix: Water
Analysis Batch: 456548

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/24/18 11:27	1

Lab Sample ID: LCS 500-456548/4
Matrix: Water
Analysis Batch: 456548

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.0		mg/L		95	80 - 120

Lab Sample ID: MB 500-457467/3
Matrix: Water
Analysis Batch: 457467

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/30/18 07:57	1

Lab Sample ID: LCS 500-457467/4
Matrix: Water
Analysis Batch: 457467

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		99	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-153411-3 MS
Matrix: Water
Analysis Batch: 457467

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	93		400	472		mg/L		95	75 - 125		

Lab Sample ID: 500-153411-3 MSD
Matrix: Water
Analysis Batch: 457467

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	93		400	498		mg/L		101	75 - 125	6	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

500-153411 COC

Lab Lot # 500753411

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler	1.0
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No	COC not present

Sampler Name: Ian John Howieson	**COMPANY:** KPRG & Associates Inc.	# / Cont.	
		Volume	
Project Name: Quarterly- JOLIET #29 CCR	**TestAmerica Project Number:** 50011568	Preserv.	
Project Location: Joliet, IL	**TAT** 15 Days	Matrix	# of Cont
Lab PM: Eric Lang	eric.lang@testamerica.com		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B, Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-03	10-17-18	09:52	W	2	X	X	X	X	X	
2		MW-04	10-17-18	11:08	W	2	X	X	X	X	X	
3		MW-05	10-17-18	12:41	W	2	X	X	X	X	X	
4		MW-10	10-17-18	14:05	W	2	X	X	X	X	X	
5		Duplicate	10-17-18	—	W	2	X	X	X	X	X	

RELINQUISHED BY: IJH	COMPANY: KPRG	DATE: 10-18-18	TIME: 14:20	RECEIVED BY:	COMPANY: TA-CHI	DATE: 10/18/18	TIME: 1420
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment, W = Water, SO = Solid, S = Soil, DL = Drum Liquid, SL = Sludge, DS = Drum Solid, MS = Miscellaneous, L = Leachate, OL = Oil, W = Wipe, A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 10 18 18
Courier:
Hand Delivered X
Bill of Lading:

__1__of__1__

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-153411-1

Login Number: 153411
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-03

Lab Sample ID: 500-153411-1

Date Collected: 10/17/18 09:52

Matrix: Water

Date Received: 10/18/18 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456088	10/22/18 09:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	457318	10/27/18 00:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	455746	10/19/18 08:11	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	457936	11/01/18 11:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	457341	10/27/18 16:11	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	456548		CLB	TAL CHI
					(Start)	10/24/18 11:47		
					(End)	10/24/18 11:48		

Client Sample ID: MW-04

Lab Sample ID: 500-153411-2

Date Collected: 10/17/18 11:08

Matrix: Water

Date Received: 10/18/18 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456088	10/22/18 09:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	457318	10/27/18 00:49	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	455746	10/19/18 08:14	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	457936	11/01/18 11:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	457341	10/27/18 16:14	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		4	456548		CLB	TAL CHI
					(Start)	10/24/18 11:48		
					(End)	10/24/18 11:49		

Client Sample ID: MW-05

Lab Sample ID: 500-153411-3

Date Collected: 10/17/18 12:41

Matrix: Water

Date Received: 10/18/18 14:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456088	10/22/18 09:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	457318	10/27/18 00:53	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	455746	10/19/18 08:16	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	457936	11/01/18 12:00	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	457341	10/27/18 16:17	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	457467		CLB	TAL CHI
					(Start)	10/30/18 07:59		
					(End)	10/30/18 08:00		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

TestAmerica Job ID: 500-153411-1

Client Sample ID: MW-10

Date Collected: 10/17/18 14:05
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456088	10/22/18 09:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	457318	10/27/18 00:56	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	455746	10/19/18 08:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	457936	11/01/18 12:00	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	457341	10/27/18 16:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	457467		CLB	TAL CHI
					(Start)	10/30/18 08:02		
					(End)	10/30/18 08:03		

Client Sample ID: Duplicate

Date Collected: 10/17/18 00:00
Date Received: 10/18/18 14:20

Lab Sample ID: 500-153411-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			456088	10/22/18 09:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	457318	10/27/18 01:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	455746	10/19/18 08:21	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	458008	11/01/18 14:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	457341	10/27/18 16:33	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	457467		CLB	TAL CHI
					(Start)	10/30/18 08:03		
					(End)	10/30/18 08:04		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-155461-1
Client Project/Site: Joliet #9

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/5/2018 11:15:33 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Job ID: 500-155461-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-155461-1

Comments
No additional comments.

Receipt
The sample was received on 11/30/2018 11:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

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

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-155461-1	MW-10	Water	11/28/18 11:51	11/30/18 11:20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Client Sample ID: MW-10
Date Collected: 11/28/18 11:51
Date Received: 11/30/18 11:20

Lab Sample ID: 500-155461-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.44		0.050		mg/L		12/01/18 16:22	12/04/18 11:06	1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Metals

Prep Batch: 462659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-155461-1	MW-10	Total Recoverable	Water	3005A	
MB 500-462659/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-462659/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-155461-1 MS	MW-10	Total Recoverable	Water	3005A	
500-155461-1 MSD	MW-10	Total Recoverable	Water	3005A	
500-155461-1 DU	MW-10	Total Recoverable	Water	3005A	

Analysis Batch: 463118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-155461-1	MW-10	Total Recoverable	Water	6020A	462659
MB 500-462659/1-A	Method Blank	Total Recoverable	Water	6020A	462659
LCS 500-462659/2-A	Lab Control Sample	Total Recoverable	Water	6020A	462659
500-155461-1 MS	MW-10	Total Recoverable	Water	6020A	462659
500-155461-1 MSD	MW-10	Total Recoverable	Water	6020A	462659
500-155461-1 DU	MW-10	Total Recoverable	Water	6020A	462659

QC Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-462659/1-A
Matrix: Water
Analysis Batch: 463118

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 462659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		12/01/18 16:22	12/04/18 10:55	1

Lab Sample ID: LCS 500-462659/2-A
Matrix: Water
Analysis Batch: 463118

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 462659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 500-155461-1 MS
Matrix: Water
Analysis Batch: 463118

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 462659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.44		1.00	1.37		mg/L		93	75 - 125

Lab Sample ID: 500-155461-1 MSD
Matrix: Water
Analysis Batch: 463118

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 462659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.44		1.00	1.36		mg/L		93	75 - 125	0	20

Lab Sample ID: 500-155461-1 DU
Matrix: Water
Analysis Batch: 463118

Client Sample ID: MW-10
Prep Type: Total Recoverable
Prep Batch: 462659

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.44		0.473		mg/L		7	20

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)

Report To
Contact: RICHARD GNAT
Company: KPRG and Assoc, Inc.
Address: 14665 W LISBON AVE IA
Address: BROOKFIELD, WI 53005
Phone: 262-781-0475
Fax:
E-Mail: richardg@kprginc.com

(optional)

Bill To
Contact: RICHARD GNAT
Company: KPRG and Assoc. Inc.
Address: 14665 W LISBON AVE IA
Address: BROOKFIELD, WI 53005
Phone: 262-781-0475
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-155461

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: -0.8 → 1.4

Client: KPRG and Assoc., Inc
Client Project #: 12313.0
Project Name: MIDWEST GEN - JOLIET #29
Project Location/State: IL
Lab Project #:
Sampler: ERIN BULSON
Lab PM:

Preservative: 3
Parameter: BORON

500-155461 COC

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Comments
1		MW-10	11/28	1151	1	W	X

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days X 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Erin Bulson	KPRG	11-29-18	8:47 AM		TA	11-29-18	8:47 AM
	TA	11-29-18	17:00		TA	11-30-18	1120

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

ORIGIN ID:RRLA (262) 202-5955
SHIPPING
TESTAMERICA
4125 N 124TH ST

BROOKFIELD, WI 53005
UNITED STATES US

SHIP DATE: 29NOV18
ACTWGT: 46.90 LB
CAD: 525155/CAFE3211

BILL RECIPIENT

TO SAMPLE RECEIPT
TESTAMERICA LABS
2417 BOND STREET

UNIVERSITY PARK IL 60484

(708) 634-6200 REF:
INV:
PO: DEPT:

FedEx
Express

TRK# 0201 7125 4939 2544

FRI - 30 NOV 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL-US ORD

48qt.

500-155461 Waybill

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-155461-1

Login Number: 155461
List Number: 1
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #9

TestAmerica Job ID: 500-155461-1

Client Sample ID: MW-10
Date Collected: 11/28/18 11:51
Date Received: 11/30/18 11:20

Lab Sample ID: 500-155461-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			462659	12/01/18 16:22	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	463118	12/04/18 11:06	FXG	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-162860-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/22/2019 9:42:35 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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.

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Chronicle 23

Job ID: 500-162860-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-162860-1

Comments
No additional comments.

Receipt
The samples were received on 5/6/2019 6:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.2º C, 4.3º C and 5.8º C.

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

General Chemistry
Method(s) 375.4, SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample, the MS/MSD was diluted after the spike. The spike amount was adjusted by the dilution factor.

(500-162860-C-2 MS) and (500-162860-C-2 MSD)

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Assest ID
500-162860-1	MW-05	Water	05/06/19 13:30	05/06/19 18:00	
500-162860-2	MW-03	Water	05/07/19 09:10	05/07/19 18:50	
500-162860-3	MW-04	Water	05/07/19 10:40	05/07/19 18:50	
500-162860-4	MW-10	Water	05/07/19 12:30	05/07/19 18:50	
500-162860-5	DUPLICATE	Water	05/07/19 00:00	05/07/19 18:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-05

Date Collected: 05/06/19 13:30
Date Received: 05/06/19 18:00

Lab Sample ID: 500-162860-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.050		mg/L		05/08/19 07:37	05/10/19 17:26	1
Calcium	130		0.20		mg/L		05/08/19 07:37	05/08/19 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/08/19 05:50	1
Chloride	500		50		mg/L			05/17/19 22:36	25
Fluoride	0.31		0.10		mg/L			05/17/19 23:57	1
Sulfate	84		50		mg/L			05/16/19 11:42	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-03

Date Collected: 05/07/19 09:10
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.43		0.050		mg/L		05/08/19 16:05	05/10/19 17:04	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 05:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	880		10		mg/L			05/09/19 06:46	1
Chloride	280		10		mg/L			05/17/19 22:36	5
Fluoride	0.40		0.10		mg/L			05/18/19 00:10	1
Sulfate	140		50		mg/L			05/16/19 11:37	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-04

Date Collected: 05/07/19 10:40
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.76		0.050		mg/L		05/08/19 16:05	05/10/19 17:08	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 06:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/09/19 06:48	1
Chloride	340		10		mg/L			05/17/19 22:37	5
Fluoride	0.42		0.10		mg/L			05/18/19 00:12	1
Sulfate	120		50		mg/L			05/16/19 11:42	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-10
Date Collected: 05/07/19 12:30
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.56		0.050		mg/L		05/08/19 16:05	05/10/19 17:11	1
Calcium	130		0.20		mg/L		05/08/19 16:05	05/10/19 06:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/09/19 06:51	1
Chloride	410		50		mg/L			05/17/19 22:59	25
Fluoride	0.39		0.10		mg/L			05/18/19 00:15	1
Sulfate	95		50		mg/L			05/16/19 11:45	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: DUPLICATE

Date Collected: 05/07/19 00:00
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.43		0.050		mg/L		05/08/19 16:05	05/10/19 17:15	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 06:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			05/09/19 06:53	1
Chloride	270		10		mg/L			05/17/19 22:38	5
Fluoride	0.40		0.10		mg/L			05/18/19 00:18	1
Sulfate	140		50		mg/L			05/16/19 11:45	10

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Metals

Prep Batch: 484191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	3005A	
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-162860-1 MS	MW-05	Total Recoverable	Water	3005A	
500-162860-1 MSD	MW-05	Total Recoverable	Water	3005A	
500-162860-1 DU	MW-05	Total Recoverable	Water	3005A	

Prep Batch: 484325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total Recoverable	Water	3005A	
500-162860-3	MW-04	Total Recoverable	Water	3005A	
500-162860-4	MW-10	Total Recoverable	Water	3005A	
500-162860-5	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 484463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	6020A	484191
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	6020A	484191
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484191
500-162860-1 MS	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 MSD	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 DU	MW-05	Total Recoverable	Water	6020A	484191

Analysis Batch: 484720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total Recoverable	Water	6020A	484325
500-162860-3	MW-04	Total Recoverable	Water	6020A	484325
500-162860-4	MW-10	Total Recoverable	Water	6020A	484325
500-162860-5	DUPLICATE	Total Recoverable	Water	6020A	484325
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	6020A	484325
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484325

Analysis Batch: 484965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	6020A	484191
500-162860-2	MW-03	Total Recoverable	Water	6020A	484325
500-162860-3	MW-04	Total Recoverable	Water	6020A	484325
500-162860-4	MW-10	Total Recoverable	Water	6020A	484325
500-162860-5	DUPLICATE	Total Recoverable	Water	6020A	484325
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	6020A	484191
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	6020A	484325
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484191
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484325
500-162860-1 MS	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 MSD	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 DU	MW-05	Total Recoverable	Water	6020A	484191

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

General Chemistry

Analysis Batch: 441150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-162860-2	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-162860-3	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-162860-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	
MB 400-441150/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-441150/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-441150/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-162860-2 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-162860-2 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 484165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 2540C	
MB 500-484165/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-484165/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-162860-1 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 484404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total/NA	Water	SM 2540C	
500-162860-3	MW-04	Total/NA	Water	SM 2540C	
500-162860-4	MW-10	Total/NA	Water	SM 2540C	
500-162860-5	DUPLICATE	Total/NA	Water	SM 2540C	
MB 500-484404/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-484404/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 485993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 F C	
500-162860-2	MW-03	Total/NA	Water	SM 4500 F C	
500-162860-3	MW-04	Total/NA	Water	SM 4500 F C	
500-162860-4	MW-10	Total/NA	Water	SM 4500 F C	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 F C	
MB 500-485993/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-485993/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 485996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-162860-2	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-162860-3	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-162860-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
MB 500-485996/9	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-485996/10	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-484191/1-A
Matrix: Water
Analysis Batch: 484463

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/08/19 07:37	05/08/19 18:47	1

Lab Sample ID: MB 500-484191/1-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/08/19 07:37	05/10/19 17:19	1

Lab Sample ID: LCS 500-484191/2-A
Matrix: Water
Analysis Batch: 484463

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: LCS 500-484191/2-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.931		mg/L		93	80 - 120

Lab Sample ID: 500-162860-1 MS
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	130		10.0	132	4	mg/L		57	75 - 125

Lab Sample ID: 500-162860-1 MS
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.38		1.00	1.28		mg/L		90	75 - 125

Lab Sample ID: 500-162860-1 MSD
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	130		10.0	132	4	mg/L		53	75 - 125	0	20

Lab Sample ID: 500-162860-1 MSD
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.38		1.00	1.26		mg/L		88	75 - 125	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	130		126		mg/L		0.7	20

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.38		0.376		mg/L		0.7	20

Lab Sample ID: MB 500-484325/1-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/08/19 16:05	05/10/19 04:25	1

Lab Sample ID: MB 500-484325/1-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/08/19 16:05	05/10/19 16:19	1

Lab Sample ID: LCS 500-484325/2-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: LCS 500-484325/2-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.973		mg/L		97	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-484165/1
Matrix: Water
Analysis Batch: 484165

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/08/19 05:35	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-484165/2
Matrix: Water
Analysis Batch: 484165

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1360		mg/L		1	5

Lab Sample ID: MB 500-484404/1
Matrix: Water
Analysis Batch: 484404

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/09/19 06:28	1

Lab Sample ID: LCS 500-484404/2
Matrix: Water
Analysis Batch: 484404

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	274		mg/L		110	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-485996/9
Matrix: Water
Analysis Batch: 485996

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/17/19 21:52	1

Lab Sample ID: LCS 500-485996/10
Matrix: Water
Analysis Batch: 485996

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.5		mg/L		103	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-485993/3
Matrix: Water
Analysis Batch: 485993

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/17/19 22:46	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-485993/4
Matrix: Water
Analysis Batch: 485993

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.7		mg/L		107	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-441150/6
Matrix: Water
Analysis Batch: 441150

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/16/19 11:01	1

Lab Sample ID: LCS 400-441150/7
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.3		mg/L		95	90 - 110		

Lab Sample ID: MRL 400-441150/3
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		95	50 - 150		

Lab Sample ID: 500-162860-2 MS
Matrix: Water
Analysis Batch: 441150

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	140		10.0	145	4	mg/L		30	77 - 128		

Lab Sample ID: 500-162860-2 MSD
Matrix: Water
Analysis Batch: 441150

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	140		10.0	147	4	mg/L		50	77 - 128	1	5

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-162860 COC

(optional)
Report To Contact: Richard Graf
Company: KPRG
Address: 14665 W. Lisbon Rd
Address: Ste Brookfield, WI
Phone: 262-781-0475
Fax:
E-Mail: RGraf@kprginc.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-162860
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler: 5.8

Client	Client Project #	Preservative	8	3								
KPRG		Parameter	Total Cl, Fl, SO4, TDS	Total Metals B, Ca								
Project Name: Joliet #29 CCR												
Project Location/State: IL	Lab Project #: 12313.0											
Sampler: Erin Bulson	Lab PM											

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix								
1		MW-05	5/16	1330	2	W	X	X						

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Comments

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[illegible]	KPRG	5/16	6 PM	Neal Jakoski	TAINC	5/16/19	18:00
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500-(1809)

5/22/2019

TestAmerica

THE LEADER IN ENVIRONMENTA

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.5

500-162860 COC

Chain of Custody Record

Lab Job #: 500-162860

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 4.3, 3.2

Report To (optional)	Bill To (optional)
Contact: Richard Gnat	Contact:
Company: KPRG	Company:
Address: 14665 W Lisbon Rd	Address:
Address: Brookfield, WI	Address:
Phone: 262 781 0475	Phone:
Fax:	Fax:
E-Mail: Richardg@kprginc.com	PO#/Reference#

Client: KPRG | Client Project #: 12313.0

Project Name: Joliet #29 CCR

Project Location/State: IL | Lab Project #:

Sampler: Erin Bulson | Lab PM:

Preservative: 8 | 3

Parameter: Total Cl, F, SO4, TDS | Total metals B, Ca

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Total Cl, F, SO4, TDS	Total metals B, Ca	Comments
2		MW-03	5-7	0910	2	W	X	X	
3		MW-04	↓	1040	2	W	X	X	
4		MW-10	↓	1230	2	W	X	X	
5		DUPLICATE	↓	—	2	W	X	X	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
E Bulson	KPRG	5-7-19	1640 PM	Jared Jankowski	TAINC	5-7-19	18:50

Lab Courier

Shipped

Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments

Lab Comments:

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120815.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162860-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/20/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-162860-1)	5/6/19	13:30 Central		Water			X	1	
MW-03 (500-162860-2)	5/7/19	09:10 Central		Water			X	1	
MW-04 (500-162860-3)	5/7/19	10:40 Central		Water			X	1	
MW-10 (500-162860-4)	5/7/19	12:30 Central		Water			X	1	
DUPLICATE (500-162860-5)	5/7/19	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/8/19 1500	TA	Kathy R Owen	5-9-19 858	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.1°C IR 7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162860-1

Login Number: 162860
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8,4.3,3.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162860-1

Login Number: 162860
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/09/19 04:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C IR 7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-05
Date Collected: 05/06/19 13:30
Date Received: 05/06/19 18:00

Lab Sample ID: 500-162860-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484191	05/08/19 07:37	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:26	FXG	TAL CHI
Total Recoverable	Prep	3005A			484191	05/08/19 07:37	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484463	05/08/19 19:25	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484165	05/08/19 05:50	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		25	485996	05/17/19 22:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/17/19 23:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:42	RRC	TAL PEN

Client Sample ID: MW-03
Date Collected: 05/07/19 09:10
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:04	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 05:56	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:37	RRC	TAL PEN

Client Sample ID: MW-04
Date Collected: 05/07/19 10:40
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:08	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:48	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:37	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:42	RRC	TAL PEN

Client Sample ID: MW-10
Date Collected: 05/07/19 12:30
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:11	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-10

Lab Sample ID: 500-162860-4

Date Collected: 05/07/19 12:30

Matrix: Water

Date Received: 05/07/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:05	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		25	485996	05/17/19 22:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:15	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:45	RRC	TAL PEN

Client Sample ID: DUPLICATE

Lab Sample ID: 500-162860-5

Date Collected: 05/07/19 00:00

Matrix: Water

Date Received: 05/07/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:15	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:09	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:53	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:45	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166216-1
Client Project/Site: Joliet #29 CCR
Sampling Event: Quarterly MWG Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
7/16/2019 5:10:53 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

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Visit us at: www.testamericainc.com

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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Job ID: 500-166216-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-166216-1

Comments
No additional comments.

Receipt
The samples were received on 7/3/2019 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166216-1	MW-03	Water	07/03/19 12:07	07/03/19 15:50	
500-166216-2	MW-04	Water	07/03/19 11:20	07/03/19 15:50	
500-166216-3	MW-05	Water	07/03/19 12:55	07/03/19 15:50	
500-166216-4	MW-10	Water	07/03/19 13:26	07/03/19 15:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Client Sample ID: MW-03
Date Collected: 07/03/19 12:07
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	65		25		mg/L			07/16/19 11:33	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Client Sample ID: MW-04

Date Collected: 07/03/19 11:20
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.23		0.050		mg/L		07/05/19 08:36	07/05/19 16:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870		10		mg/L			07/04/19 20:21	1
Chloride	250		10		mg/L			07/09/19 13:26	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Client Sample ID: MW-05
Date Collected: 07/03/19 12:55
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	890		10		mg/L			07/04/19 20:24	1
Chloride	150		10		mg/L			07/09/19 13:27	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Client Sample ID: MW-10

Date Collected: 07/03/19 13:26
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-4

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	830		10		mg/L			07/04/19 20:27	1
Chloride	230		10		mg/L			07/09/19 13:27	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Metals

Prep Batch: 493474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166216-2	MW-04	Total Recoverable	Water	3005A	
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 493751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166216-2	MW-04	Total Recoverable	Water	6020A	493474
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	6020A	493474
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	6020A	493474

General Chemistry

Analysis Batch: 448225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166216-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
MB 400-448225/5	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-448225/6	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-448225/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 493422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166216-2	MW-04	Total/NA	Water	SM 2540C	
500-166216-3	MW-05	Total/NA	Water	SM 2540C	
500-166216-4	MW-10	Total/NA	Water	SM 2540C	
MB 500-493422/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-493422/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 493994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166216-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-166216-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-166216-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
MB 500-493994/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-493994/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-493474/1-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		07/05/19 08:36	07/05/19 15:23	1

Lab Sample ID: LCS 500-493474/2-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-493422/1
Matrix: Water
Analysis Batch: 493422

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			07/04/19 20:10	1

Lab Sample ID: LCS 500-493422/2
Matrix: Water
Analysis Batch: 493422

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-493994/12
Matrix: Water
Analysis Batch: 493994

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			07/09/19 12:05	1

Lab Sample ID: LCS 500-493994/13
Matrix: Water
Analysis Batch: 493994

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.8		mg/L		102	85 - 115

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-448225/5
Matrix: Water
Analysis Batch: 448225

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			07/16/19 10:46	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: LCS 400-448225/6
Matrix: Water
Analysis Batch: 448225

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.1		mg/L		94	90 - 110

Lab Sample ID: MRL 400-448225/3
Matrix: Water
Analysis Batch: 448225

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		92	50 - 150

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-166216

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 3.5

30gal

(optional) Report To	(optional) Bill To
Contact: Richard Graf	Contact:
Company: KPRG	Company:
Address:	Address:
Address:	Address:
Phone: 262 781 0475	Phone:
Fax:	Fax:
E-Mail: richard@kprginc.com	PO#/Reference#

Client	Client Project #	Preservative	8	3	8							
KPRG	12313.0											
Project Name		Parameter	Sulfate	Boron	Chloride, TDS							
Joliet #29 CCR												
Project Location/State	Lab Project #											
IL	[redacted]											
Sampler	Lab PM											
Erin Bilson												

500-166216 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix									Comments
1		MW-03	7/3	1207	1	W	X								
2		MW-04	7/3	1120	2	W		X	X						
3		MW-05	7/3	1255	1	W			X						
4		MW-10	7/3	1326	1	W			X						

Preservative Key
1. HCL, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. $NaHSO_4$
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days X 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	7/3	1950	Paula Buckley	TA CHI	7/3/19	1550
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-122940.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-166216-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 7/16/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-166216-1)	7/3/19	12:07 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Allen Scott	7/5/19 1330	TA-CHI	Reagan Hutchison	7-6-19 815	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.0°C IR-7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-166216-1

Login Number: 166216
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-166216-1

Login Number: 166216
List Number: 2
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola
List Creation: 07/06/19 10:44 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	760499
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-166216-1

Client Sample ID: MW-03
Date Collected: 07/03/19 12:07
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		5	448225	07/16/19 11:33	RRC	TAL PEN

Client Sample ID: MW-04
Date Collected: 07/03/19 11:20
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			493474	07/05/19 08:36	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	493751	07/05/19 16:51	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	493422	07/04/19 20:21	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	493994	07/09/19 13:26	EAT	TAL CHI

Client Sample ID: MW-05
Date Collected: 07/03/19 12:55
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	493422	07/04/19 20:24	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	493994	07/09/19 13:27	EAT	TAL CHI

Client Sample ID: MW-10
Date Collected: 07/03/19 13:26
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166216-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	493422	07/04/19 20:27	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	493994	07/09/19 13:27	EAT	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-173147-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/21/2019 10:31:01 AM
Robin Kintz, Project Manager II
(708)534-5200
robin.kintz@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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

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Chronicle 21

Job ID: 500-173147-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-173147-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2019 6:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

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

General Chemistry
Method SM 4500 SO4 E: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 400-466564 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method SM 4500 SO4 E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-466564 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 SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-03 (500-173147-1), MW-04 (500-173147-2), MW-05 (500-173147-3), MW-10 (500-173147-4), Duplicate (500-173147-5), (500-173147-C-1 MS) and (500-173147-C-1 MSD). 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.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-173147-1	MW-03	Water	11/07/19 08:30	11/07/19 18:10	
500-173147-2	MW-04	Water	11/06/19 13:30	11/07/19 18:10	
500-173147-3	MW-05	Water	11/07/19 09:55	11/07/19 18:10	
500-173147-4	MW-10	Water	11/07/19 09:18	11/07/19 18:10	
500-173147-5	Duplicate	Water	11/06/19 00:00	11/07/19 18:10	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: MW-03

Date Collected: 11/07/19 08:30
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.34		0.050		mg/L		11/14/19 07:58	11/19/19 03:04	1
Calcium	100		0.20		mg/L		11/14/19 07:58	11/19/19 03:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	660		10		mg/L			11/13/19 02:10	1
Chloride	150		10		mg/L			11/16/19 13:45	5
Fluoride	0.40		0.10		mg/L			11/15/19 22:10	1
Sulfate	65		10		mg/L			11/18/19 17:46	2

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: MW-04

Date Collected: 11/06/19 13:30
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.30		0.050		mg/L		11/14/19 07:58	11/19/19 03:22	1
Calcium	77		0.20		mg/L		11/14/19 07:58	11/19/19 03:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			11/11/19 23:43	1
Chloride	140		10		mg/L			11/16/19 13:45	5
Fluoride	0.41		0.10		mg/L			11/15/19 22:13	1
Sulfate	53		10		mg/L			11/18/19 17:50	2

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: MW-05

Date Collected: 11/07/19 09:55
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		11/14/19 07:58	11/19/19 03:26	1
Calcium	180		0.20		mg/L		11/14/19 07:58	11/19/19 03:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	590		10		mg/L			11/13/19 02:12	1
Chloride	130		10		mg/L			11/16/19 13:46	5
Fluoride	0.30		0.10		mg/L			11/15/19 22:17	1
Sulfate	64		10		mg/L			11/18/19 17:50	2

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: MW-10

Date Collected: 11/07/19 09:18
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.35		0.050		mg/L		11/14/19 07:58	11/19/19 03:30	1
Calcium	90		0.20		mg/L		11/14/19 07:58	11/19/19 03:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	650		10		mg/L			11/13/19 02:15	1
Chloride	130		10		mg/L			11/16/19 13:46	5
Fluoride	0.36		0.10		mg/L			11/15/19 22:21	1
Sulfate	59		10		mg/L			11/18/19 17:50	2

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: Duplicate

Date Collected: 11/06/19 00:00
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.29		0.050		mg/L		11/14/19 07:58	11/19/19 03:45	1
Calcium	79		0.20		mg/L		11/14/19 07:58	11/19/19 03:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	660		10		mg/L			11/13/19 02:17	1
Chloride	140		10		mg/L			11/16/19 13:47	5
Fluoride	0.41		0.10		mg/L			11/15/19 22:34	1
Sulfate	51		10		mg/L			11/18/19 17:50	2

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Metals

Prep Batch: 515291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total Recoverable	Water	3005A	
500-173147-2	MW-04	Total Recoverable	Water	3005A	
500-173147-3	MW-05	Total Recoverable	Water	3005A	
500-173147-4	MW-10	Total Recoverable	Water	3005A	
500-173147-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-515291/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-515291/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-173147-1 MS	MW-03	Total Recoverable	Water	3005A	
500-173147-1 MSD	MW-03	Total Recoverable	Water	3005A	
500-173147-1 DU	MW-03	Total Recoverable	Water	3005A	

Analysis Batch: 516177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total Recoverable	Water	6020A	515291
500-173147-2	MW-04	Total Recoverable	Water	6020A	515291
500-173147-3	MW-05	Total Recoverable	Water	6020A	515291
500-173147-4	MW-10	Total Recoverable	Water	6020A	515291
500-173147-5	Duplicate	Total Recoverable	Water	6020A	515291
MB 500-515291/1-A	Method Blank	Total Recoverable	Water	6020A	515291
LCS 500-515291/2-A	Lab Control Sample	Total Recoverable	Water	6020A	515291
500-173147-1 MS	MW-03	Total Recoverable	Water	6020A	515291
500-173147-1 MSD	MW-03	Total Recoverable	Water	6020A	515291
500-173147-1 DU	MW-03	Total Recoverable	Water	6020A	515291

General Chemistry

Analysis Batch: 466564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-173147-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-173147-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-173147-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-173147-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-466564/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-466564/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-466564/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-173147-1 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-173147-1 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 514785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-2	MW-04	Total/NA	Water	SM 2540C	
MB 500-514785/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-514785/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 515001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total/NA	Water	SM 2540C	
500-173147-3	MW-05	Total/NA	Water	SM 2540C	
500-173147-4	MW-10	Total/NA	Water	SM 2540C	
500-173147-5	Duplicate	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 515001 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-515001/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-515001/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 515692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total/NA	Water	SM 4500 F C	
500-173147-2	MW-04	Total/NA	Water	SM 4500 F C	
500-173147-3	MW-05	Total/NA	Water	SM 4500 F C	
500-173147-4	MW-10	Total/NA	Water	SM 4500 F C	
500-173147-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-515692/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-515692/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 515737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-173147-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-173147-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-173147-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-173147-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-173147-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-515737/96	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-515737/97	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-515291/1-A
Matrix: Water
Analysis Batch: 516177

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 515291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/14/19 07:58	11/19/19 02:56	1
Calcium	<0.20		0.20		mg/L		11/14/19 07:58	11/19/19 02:56	1

Lab Sample ID: LCS 500-515291/2-A
Matrix: Water
Analysis Batch: 516177

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 515291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120
Calcium	10.0	9.06		mg/L		91	80 - 120

Lab Sample ID: 500-173147-1 MS
Matrix: Water
Analysis Batch: 516177

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 515291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.34		1.00	1.30		mg/L		97	75 - 125
Calcium	100		10.0	109	4	mg/L		38	75 - 125

Lab Sample ID: 500-173147-1 MSD
Matrix: Water
Analysis Batch: 516177

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 515291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.34		1.00	1.18		mg/L		85	75 - 125	10	20
Calcium	100		10.0	101	4	mg/L		-41	75 - 125	8	20

Lab Sample ID: 500-173147-1 DU
Matrix: Water
Analysis Batch: 516177

Client Sample ID: MW-03
Prep Type: Total Recoverable
Prep Batch: 515291

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.34		0.335		mg/L		0.2	20
Calcium	100		101		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-514785/1
Matrix: Water
Analysis Batch: 514785

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/11/19 22:47	1

Lab Sample ID: LCS 500-514785/2
Matrix: Water
Analysis Batch: 514785

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	272		mg/L		109	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 500-515001/1
Matrix: Water
Analysis Batch: 515001

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/13/19 01:21	1

Lab Sample ID: LCS 500-515001/2
Matrix: Water
Analysis Batch: 515001

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	294		mg/L		118	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-515737/96
Matrix: Water
Analysis Batch: 515737

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/16/19 13:26	1

Lab Sample ID: LCS 500-515737/97
Matrix: Water
Analysis Batch: 515737

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	57.0		mg/L		114	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-515692/3
Matrix: Water
Analysis Batch: 515692

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/15/19 20:46	1

Lab Sample ID: LCS 500-515692/4
Matrix: Water
Analysis Batch: 515692

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-466564/6
Matrix: Water
Analysis Batch: 466564

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/18/19 15:20	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: LCS 400-466564/7
Matrix: Water
Analysis Batch: 466564

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	16.2		mg/L		108	90 - 110		

Lab Sample ID: MRL 400-466564/3
Matrix: Water
Analysis Batch: 466564

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.69		mg/L		114	50 - 150		

Lab Sample ID: 500-173147-1 MS
Matrix: Water
Analysis Batch: 466564

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	65		10.0	69.9	4	mg/L		45	77 - 128		

Lab Sample ID: 500-173147-1 MSD
Matrix: Water
Analysis Batch: 466564

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	65		10.0	70.7	4	mg/L		53	77 - 128	1	5

Chain of Custody Record

375540

eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager:	Site Contact:	Date:	COC No:
Company Name: KPCO	Tel/Email:	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 11165 W LISBON Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: BROOKFIELD WI 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 262 781 0475	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Joliet #29 CCR	☐ 1 week			Job / SDG No.:
Site: APP III	☐ 2 days			500-173147
PO #	☐ 1 day			

500-173147 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Total Metals-B, Ca	Total Cl, F, SO4, TDS	Sample Specific Notes:
MW-03	11/7	0830		W	2	N		X	X	
MW-04	11/6	1330		W	2	N		X	X	
MW-05	11/7	0955		W	2	N		X	X	
MW-10	11/7	0918		W	2	N		X	X	
Duplicate	11/6	—		W	2	N		X	X	

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.6 Corr'd:_____ Therm ID No.:_____

	Company	Date/Time		Company	Date/Time
Relinquished by:	KPCO	11/7/1610	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received in Laboratory by: Pamela Buchely	TA	11/7/19 1810

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-128480.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-173147-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 11/20/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-173147-1)	11/7/19	08:30 Central		Water			X	1	
MW-04 (500-173147-2)	11/6/19	13:30 Central		Water			X	1	
MW-05 (500-173147-3)	11/7/19	09:55 Central		Water			X	1	
MW-10 (500-173147-4)	11/7/19	09:18 Central		Water			X	1	
Duplicate (500-173147-5)	11/6/19	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	11/11/19 1500	TA			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 11-12-19 11:48	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.1° IR7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173147-1

Login Number: 173147
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-173147-1

Login Number: 173147
List Number: 2
Creator: Treadaway, Kristen N

List Source: Eurofins TestAmerica, Pensacola
List Creation: 11/12/19 03:10 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: MW-03

Lab Sample ID: 500-173147-1
Date Collected: 11/07/19 08:30
Matrix: Water
Date Received: 11/07/19 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			515291	11/14/19 07:58	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	516177	11/19/19 03:04	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	515001	11/13/19 02:10	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	515737	11/16/19 13:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	515692	11/15/19 22:10	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	466564	11/18/19 17:46	RRC	TAL PEN

Client Sample ID: MW-04

Lab Sample ID: 500-173147-2
Date Collected: 11/06/19 13:30
Matrix: Water
Date Received: 11/07/19 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			515291	11/14/19 07:58	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	516177	11/19/19 03:22	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	514785	11/11/19 23:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	515737	11/16/19 13:45	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	515692	11/15/19 22:13	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	466564	11/18/19 17:50	RRC	TAL PEN

Client Sample ID: MW-05

Lab Sample ID: 500-173147-3
Date Collected: 11/07/19 09:55
Matrix: Water
Date Received: 11/07/19 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			515291	11/14/19 07:58	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	516177	11/19/19 03:26	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	515001	11/13/19 02:12	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	515737	11/16/19 13:46	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	515692	11/15/19 22:17	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	466564	11/18/19 17:50	RRC	TAL PEN

Client Sample ID: MW-10

Lab Sample ID: 500-173147-4
Date Collected: 11/07/19 09:18
Matrix: Water
Date Received: 11/07/19 18:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			515291	11/14/19 07:58	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	516177	11/19/19 03:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	515001	11/13/19 02:15	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	515737	11/16/19 13:46	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	515692	11/15/19 22:21	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	466564	11/18/19 17:50	RRC	TAL PEN

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-173147-1

Client Sample ID: Duplicate

Date Collected: 11/06/19 00:00
Date Received: 11/07/19 18:10

Lab Sample ID: 500-173147-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			515291	11/14/19 07:58	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	516177	11/19/19 03:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	515001	11/13/19 02:17	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	515737	11/16/19 13:47	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	515692	11/15/19 22:34	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		2	466564	11/18/19 17:50	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-174754-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/12/2019 11:11:53 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Job ID: 500-174754-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-174754-1

Comments
No additional comments.

Receipt
The sample was received on 12/9/2019 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.8° C.

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-174754-1	MW-05	Water	12/04/19 16:13	12/09/19 10:00	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Client Sample ID: MW-05
Date Collected: 12/04/19 16:13
Date Received: 12/09/19 10:00

Lab Sample ID: 500-174754-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89		0.20		mg/L		12/10/19 18:42	12/11/19 14:02	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Metals

Prep Batch: 519863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174754-1	MW-05	Total Recoverable	Water	3005A	
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 520200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174754-1	MW-05	Total Recoverable	Water	6020A	519863
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	6020A	519863
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	6020A	519863

QC Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-519863/1-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		12/10/19 18:42	12/11/19 12:30	1

Lab Sample ID: LCS 500-519863/2-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium			10.0	9.41		mg/L		94	80 - 120		

TestAmerica

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2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-174754 COC

(optional)

Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-174754

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 5.8

Client: KPRG and Assoc. | Client Project #:

Project Name: NRG Joliet #29 4Q19

Project Location/State: Joliet, IL | Lab Project #:

Sampler: Mark Wilson | Lab PM: Eric Lang

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	Parameter: 6020A Calcium	Comments
1		MW-05	12/4/19	1613	1	W		X	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Mark Wilson	KPRG	12/6/19	2000	Shirlette	TA-CHI	12/9/19	1000

Lab Courier

Shipped: Fed X

Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments: Seal# 1191705

Lab Comments:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-174754-1

Login Number: 174754
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-174754-1

Client Sample ID: MW-05

Date Collected: 12/04/19 16:13
Date Received: 12/09/19 10:00

Lab Sample ID: 500-174754-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 14:02	FXG	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-162860-1
Client Project/Site: Joliet #29 CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/22/2019 9:42:35 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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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.

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Job ID: 500-162860-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-162860-1

Comments
No additional comments.

Receipt
The samples were received on 5/6/2019 6:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.2º C, 4.3º C and 5.8º C.

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

General Chemistry
Method(s) 375.4, SM 4500 SO4 E: Due to the concentration of sulfates in the parent sample, the MS/MSD was diluted after the spike. The spike amount was adjusted by the dilution factor.

(500-162860-C-2 MS) and (500-162860-C-2 MSD)

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Assest ID
500-162860-1	MW-05	Water	05/06/19 13:30	05/06/19 18:00	
500-162860-2	MW-03	Water	05/07/19 09:10	05/07/19 18:50	
500-162860-3	MW-04	Water	05/07/19 10:40	05/07/19 18:50	
500-162860-4	MW-10	Water	05/07/19 12:30	05/07/19 18:50	
500-162860-5	DUPLICATE	Water	05/07/19 00:00	05/07/19 18:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-05

Date Collected: 05/06/19 13:30
Date Received: 05/06/19 18:00

Lab Sample ID: 500-162860-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.050		mg/L		05/08/19 07:37	05/10/19 17:26	1
Calcium	130		0.20		mg/L		05/08/19 07:37	05/08/19 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/08/19 05:50	1
Chloride	500		50		mg/L			05/17/19 22:36	25
Fluoride	0.31		0.10		mg/L			05/17/19 23:57	1
Sulfate	84		50		mg/L			05/16/19 11:42	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-03

Date Collected: 05/07/19 09:10
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.43		0.050		mg/L		05/08/19 16:05	05/10/19 17:04	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 05:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	880		10		mg/L			05/09/19 06:46	1
Chloride	280		10		mg/L			05/17/19 22:36	5
Fluoride	0.40		0.10		mg/L			05/18/19 00:10	1
Sulfate	140		50		mg/L			05/16/19 11:37	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-04

Date Collected: 05/07/19 10:40
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.76		0.050		mg/L		05/08/19 16:05	05/10/19 17:08	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 06:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/09/19 06:48	1
Chloride	340		10		mg/L			05/17/19 22:37	5
Fluoride	0.42		0.10		mg/L			05/18/19 00:12	1
Sulfate	120		50		mg/L			05/16/19 11:42	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-10
Date Collected: 05/07/19 12:30
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.56		0.050		mg/L		05/08/19 16:05	05/10/19 17:11	1
Calcium	130		0.20		mg/L		05/08/19 16:05	05/10/19 06:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/09/19 06:51	1
Chloride	410		50		mg/L			05/17/19 22:59	25
Fluoride	0.39		0.10		mg/L			05/18/19 00:15	1
Sulfate	95		50		mg/L			05/16/19 11:45	10

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: DUPLICATE

Date Collected: 05/07/19 00:00
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.43		0.050		mg/L		05/08/19 16:05	05/10/19 17:15	1
Calcium	120		0.20		mg/L		05/08/19 16:05	05/10/19 06:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			05/09/19 06:53	1
Chloride	270		10		mg/L			05/17/19 22:38	5
Fluoride	0.40		0.10		mg/L			05/18/19 00:18	1
Sulfate	140		50		mg/L			05/16/19 11:45	10

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Qualifiers

Metals

Qualifier	Qualifier Description
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
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Metals

Prep Batch: 484191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	3005A	
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-162860-1 MS	MW-05	Total Recoverable	Water	3005A	
500-162860-1 MSD	MW-05	Total Recoverable	Water	3005A	
500-162860-1 DU	MW-05	Total Recoverable	Water	3005A	

Prep Batch: 484325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total Recoverable	Water	3005A	
500-162860-3	MW-04	Total Recoverable	Water	3005A	
500-162860-4	MW-10	Total Recoverable	Water	3005A	
500-162860-5	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 484463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	6020A	484191
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	6020A	484191
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484191
500-162860-1 MS	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 MSD	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 DU	MW-05	Total Recoverable	Water	6020A	484191

Analysis Batch: 484720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total Recoverable	Water	6020A	484325
500-162860-3	MW-04	Total Recoverable	Water	6020A	484325
500-162860-4	MW-10	Total Recoverable	Water	6020A	484325
500-162860-5	DUPLICATE	Total Recoverable	Water	6020A	484325
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	6020A	484325
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484325

Analysis Batch: 484965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total Recoverable	Water	6020A	484191
500-162860-2	MW-03	Total Recoverable	Water	6020A	484325
500-162860-3	MW-04	Total Recoverable	Water	6020A	484325
500-162860-4	MW-10	Total Recoverable	Water	6020A	484325
500-162860-5	DUPLICATE	Total Recoverable	Water	6020A	484325
MB 500-484191/1-A	Method Blank	Total Recoverable	Water	6020A	484191
MB 500-484325/1-A	Method Blank	Total Recoverable	Water	6020A	484325
LCS 500-484191/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484191
LCS 500-484325/2-A	Lab Control Sample	Total Recoverable	Water	6020A	484325
500-162860-1 MS	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 MSD	MW-05	Total Recoverable	Water	6020A	484191
500-162860-1 DU	MW-05	Total Recoverable	Water	6020A	484191

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

General Chemistry

Analysis Batch: 441150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-162860-2	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-162860-3	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-162860-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	
MB 400-441150/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-441150/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-441150/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-162860-2 MS	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-162860-2 MSD	MW-03	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 484165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 2540C	
MB 500-484165/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-484165/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-162860-1 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 484404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-2	MW-03	Total/NA	Water	SM 2540C	
500-162860-3	MW-04	Total/NA	Water	SM 2540C	
500-162860-4	MW-10	Total/NA	Water	SM 2540C	
500-162860-5	DUPLICATE	Total/NA	Water	SM 2540C	
MB 500-484404/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-484404/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 485993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 F C	
500-162860-2	MW-03	Total/NA	Water	SM 4500 F C	
500-162860-3	MW-04	Total/NA	Water	SM 4500 F C	
500-162860-4	MW-10	Total/NA	Water	SM 4500 F C	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 F C	
MB 500-485993/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-485993/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 485996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-162860-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-162860-2	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-162860-3	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-162860-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-162860-5	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
MB 500-485996/9	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-485996/10	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-484191/1-A
Matrix: Water
Analysis Batch: 484463

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/08/19 07:37	05/08/19 18:47	1

Lab Sample ID: MB 500-484191/1-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/08/19 07:37	05/10/19 17:19	1

Lab Sample ID: LCS 500-484191/2-A
Matrix: Water
Analysis Batch: 484463

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: LCS 500-484191/2-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.931		mg/L		93	80 - 120

Lab Sample ID: 500-162860-1 MS
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	130		10.0	132	4	mg/L		57	75 - 125

Lab Sample ID: 500-162860-1 MS
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.38		1.00	1.28		mg/L		90	75 - 125

Lab Sample ID: 500-162860-1 MSD
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	130		10.0	132	4	mg/L		53	75 - 125	0	20

Lab Sample ID: 500-162860-1 MSD
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.38		1.00	1.26		mg/L		88	75 - 125	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484463

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	130		126		mg/L		0.7	20

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484965

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 484191

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.38		0.376		mg/L		0.7	20

Lab Sample ID: MB 500-484325/1-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/08/19 16:05	05/10/19 04:25	1

Lab Sample ID: MB 500-484325/1-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/08/19 16:05	05/10/19 16:19	1

Lab Sample ID: LCS 500-484325/2-A
Matrix: Water
Analysis Batch: 484720

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: LCS 500-484325/2-A
Matrix: Water
Analysis Batch: 484965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.973		mg/L		97	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-484165/1
Matrix: Water
Analysis Batch: 484165

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/08/19 05:35	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-484165/2
Matrix: Water
Analysis Batch: 484165

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Lab Sample ID: 500-162860-1 DU
Matrix: Water
Analysis Batch: 484165

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1360		mg/L		1	5

Lab Sample ID: MB 500-484404/1
Matrix: Water
Analysis Batch: 484404

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/09/19 06:28	1

Lab Sample ID: LCS 500-484404/2
Matrix: Water
Analysis Batch: 484404

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	274		mg/L		110	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-485996/9
Matrix: Water
Analysis Batch: 485996

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/17/19 21:52	1

Lab Sample ID: LCS 500-485996/10
Matrix: Water
Analysis Batch: 485996

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.5		mg/L		103	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-485993/3
Matrix: Water
Analysis Batch: 485993

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/17/19 22:46	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-485993/4
Matrix: Water
Analysis Batch: 485993

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.7		mg/L		107	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-441150/6
Matrix: Water
Analysis Batch: 441150

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/16/19 11:01	1

Lab Sample ID: LCS 400-441150/7
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.3		mg/L		95	90 - 110		

Lab Sample ID: MRL 400-441150/3
Matrix: Water
Analysis Batch: 441150

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		95	50 - 150		

Lab Sample ID: 500-162860-2 MS
Matrix: Water
Analysis Batch: 441150

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	140		10.0	145	4	mg/L		30	77 - 128		

Lab Sample ID: 500-162860-2 MSD
Matrix: Water
Analysis Batch: 441150

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	140		10.0	147	4	mg/L		50	77 - 128	1	5

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-162860 COC

(optional)
Report To Contact: Richard Graf
Company: KPRG
Address: 14665 W. Lisbon Rd
Address: Ste Brookfield, WI
Phone: 262-781-0475
Fax:
E-Mail: RGraf@kprginc.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-162860
Chain of Custody Number:
Page 1 of 1
Temperature °C of Cooler: 5.8

Client	Client Project #	Preservative	8	3								
KPRG		Parameter	Total Cl, Fl, SO4, TDS	Total Metals B, Ca								
Project Name: Joliet #29 CCR												
Project Location/State: IL	Lab Project #: 12313.0											
Sampler: Erin Bulson	Lab PM											

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix								
1		MW-05	5/16	1330	2	W	X	X						

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Comments

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[illegible]	KPRG	5/16	6 PM	Neal Jakoski	TAINC	5/16/19	18:00
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500-(1809)

5/22/2019

TestAmerica

THE LEADER IN ENVIRONMENTA

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.5

500-162860 COC

Chain of Custody Record

Lab Job #: 500-162860

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 4.3, 3.2

Report To (optional)	Bill To (optional)
Contact: Richard Gnat	Contact:
Company: KPRG	Company:
Address: 14665 W Lisbon Rd	Address:
Address: Brookfield, WI	Address:
Phone: 262 781 0475	Phone:
Fax:	Fax:
E-Mail: Richardg@kprginc.com	PO#/Reference#

Client: KPRG | Client Project #: 12313.0

Project Name: Joliet #29 CCR

Project Location/State: IL | Lab Project #:

Sampler: Erin Bulson | Lab PM:

Preservative: 8 | 3

Parameter: Total Cl, F, SO4, TDS | Total metals B, Ca

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Total Cl, F, SO4, TDS	Total metals B, Ca	Comments
2		MW-03	5-7	0910	2	W	X	X	
3		MW-04	↓	1040	2	W	X	X	
4		MW-10	↓	1230	2	W	X	X	
5		DUPLICATE	↓	—	2	W	X	X	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
E Bulson	KPRG	5-7-19	1640 PM	Jared Jankowski	TAINC	5-7-19	18:50

Lab Courier

Shipped

Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments

Lab Comments:

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-120815.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-162860-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/20/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-162860-1)	5/6/19	13:30 Central		Water			X	1	
MW-03 (500-162860-2)	5/7/19	09:10 Central		Water			X	1	
MW-04 (500-162860-3)	5/7/19	10:40 Central		Water			X	1	
MW-10 (500-162860-4)	5/7/19	12:30 Central		Water			X	1	
DUPLICATE (500-162860-5)	5/7/19	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/8/19 1500	TA	Kathy R Owen	5-9-19 858	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.1°C IR 7

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162860-1

Login Number: 162860
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8,4.3,3.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-162860-1

Login Number: 162860
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/09/19 04:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C IR 7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-05
Date Collected: 05/06/19 13:30
Date Received: 05/06/19 18:00

Lab Sample ID: 500-162860-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484191	05/08/19 07:37	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:26	FXG	TAL CHI
Total Recoverable	Prep	3005A			484191	05/08/19 07:37	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	484463	05/08/19 19:25	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484165	05/08/19 05:50	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		25	485996	05/17/19 22:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/17/19 23:57	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:42	RRC	TAL PEN

Client Sample ID: MW-03
Date Collected: 05/07/19 09:10
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:04	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 05:56	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:10	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:37	RRC	TAL PEN

Client Sample ID: MW-04
Date Collected: 05/07/19 10:40
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:08	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:48	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:37	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:42	RRC	TAL PEN

Client Sample ID: MW-10
Date Collected: 05/07/19 12:30
Date Received: 05/07/19 18:50

Lab Sample ID: 500-162860-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:11	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-162860-1

Client Sample ID: MW-10

Lab Sample ID: 500-162860-4

Date Collected: 05/07/19 12:30

Matrix: Water

Date Received: 05/07/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:05	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:51	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		25	485996	05/17/19 22:59	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:15	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:45	RRC	TAL PEN

Client Sample ID: DUPLICATE

Lab Sample ID: 500-162860-5

Date Collected: 05/07/19 00:00

Matrix: Water

Date Received: 05/07/19 18:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484965	05/10/19 17:15	FXG	TAL CHI
Total Recoverable	Prep	3005A			484325	05/08/19 16:05	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	484720	05/10/19 06:09	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	484404	05/09/19 06:53	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	485996	05/17/19 22:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	485993	05/18/19 00:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	441150	05/16/19 11:45	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-182410-1
Client Project/Site: Joliet #29 CCR
Revision: 1

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/10/2020 12:03:56 PM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Job ID: 500-182410-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-182410-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 5/21/2020. The report (revision 1) is being revised due to: client indicated that samples were field filtered on the COC when they were not field filtered. The COC has been corrected.

Receipt
The samples were received on 5/21/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.4º C, 3.8º C, 4.4º C and 6.7º C.

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

General Chemistry
Method SM 4500 Cl- E: A deviation from the Standard Operating Procedure (SOP) occurred for Chloride. Details are as follows: The instrument software is set up to analyze bracketing QC every ten runs; however, the system inadvertently had the wrong number of samples in each bracket. All data was bracketed by passing QC and has been reported.

Method SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-03 (500-182410-1), MW-04 (500-182410-2), MW-05 (500-182410-3), MW-10 (500-182410-4), Duplicate (500-182410-5), (400-188491-D-14), (400-188491-D-14 MS) and (400-188491-D-14 MSD). 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.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182410-1	MW-03	Water	05/20/20 11:56	05/21/20 13:55	
500-182410-2	MW-04	Water	05/20/20 13:45	05/21/20 13:55	
500-182410-3	MW-05	Water	05/20/20 11:37	05/21/20 13:55	
500-182410-4	MW-10	Water	05/20/20 09:39	05/21/20 13:55	
500-182410-5	Duplicate	Water	05/20/20 11:37	05/21/20 13:55	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03

Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.050		mg/L		05/21/20 17:45	06/04/20 16:42	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/22/20 01:20	1
Chloride	230		10		mg/L			06/02/20 13:39	5
Fluoride	0.42		0.10		mg/L			06/02/20 09:28	1
Sulfate	78		25		mg/L			05/28/20 13:18	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-04

Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050		mg/L		05/21/20 17:45	06/04/20 16:46	1
Calcium	110		0.20		mg/L		05/21/20 17:45	05/29/20 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			05/22/20 01:23	1
Chloride	250		10		mg/L			06/02/20 13:39	5
Fluoride	0.45		0.10		mg/L			06/02/20 09:38	1
Sulfate	110		100		mg/L			05/28/20 13:18	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-05

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:50	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	890		10		mg/L			05/23/20 00:26	1
Chloride	270		40		mg/L			06/02/20 13:50	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:41	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.85		0.050		mg/L		05/21/20 17:45	06/04/20 16:53	1
Calcium	120		0.20		mg/L		05/21/20 17:45	05/29/20 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/23/20 00:31	1
Chloride	250		10		mg/L			06/02/20 13:40	5
Fluoride	0.41		0.10		mg/L			06/02/20 09:44	1
Sulfate	100		50		mg/L			05/28/20 13:22	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: Duplicate

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:57	1
Calcium	98		0.20		mg/L		05/21/20 17:45	05/29/20 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			05/23/20 00:34	1
Chloride	270		40		mg/L			06/02/20 13:52	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:51	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)
MQL	Method Quantitation Limit
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)

Metals

Prep Batch: 543877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	3005A	
500-182410-2	MW-04	Total Recoverable	Water	3005A	
500-182410-3	MW-05	Total Recoverable	Water	3005A	
500-182410-4	MW-10	Total Recoverable	Water	3005A	
500-182410-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 545254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

Analysis Batch: 546160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

General Chemistry

Analysis Batch: 490714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-490714/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-490714/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-490714/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 543922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 2540C	
500-182410-2	MW-04	Total/NA	Water	SM 2540C	
MB 500-543922/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-543922/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-3	MW-05	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 544145 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-4	MW-10	Total/NA	Water	SM 2540C	
500-182410-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-544145/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544145/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-182410-3 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 545508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-2	MW-04	Total/NA	Water	SM 4500 F C	
500-182410-3	MW-05	Total/NA	Water	SM 4500 F C	
500-182410-4	MW-10	Total/NA	Water	SM 4500 F C	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-545508/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-545508/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-182410-1 MS	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-1 MSD	MW-03	Total/NA	Water	SM 4500 F C	

Analysis Batch: 545521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-545521/48	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-545521/49	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/21/20 17:45	05/29/20 15:06	1

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/21/20 17:45	06/04/20 16:05	1

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	11.9		mg/L		119	80 - 120

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-543922/1
Matrix: Water
Analysis Batch: 543922

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/22/20 00:24	1

Lab Sample ID: LCS 500-543922/2
Matrix: Water
Analysis Batch: 543922

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

Lab Sample ID: MB 500-544145/1
Matrix: Water
Analysis Batch: 544145

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/23/20 00:11	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-544145/2
Matrix: Water
Analysis Batch: 544145

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	246		mg/L		98	80 - 120		

Lab Sample ID: 500-182410-3 DU
Matrix: Water
Analysis Batch: 544145

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	890			928		mg/L				4	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-545521/48
Matrix: Water
Analysis Batch: 545521

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/02/20 13:33	1

Lab Sample ID: LCS 500-545521/49
Matrix: Water
Analysis Batch: 545521

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	19.6		mg/L		98	85 - 115		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-545508/3
Matrix: Water
Analysis Batch: 545508

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/02/20 09:19	1

Lab Sample ID: LCS 500-545508/4
Matrix: Water
Analysis Batch: 545508

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	11.0		mg/L		110	80 - 120		

Lab Sample ID: 500-182410-1 MS
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.42		5.00	5.99		mg/L		111	75 - 125		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-182410-1 MSD
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.42		5.00	5.96		mg/L		111	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-490714/6
Matrix: Water
Analysis Batch: 490714

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/28/20 12:29	1

Lab Sample ID: LCS 400-490714/7
Matrix: Water
Analysis Batch: 490714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.1		mg/L		94	90 - 110

Lab Sample ID: MRL 400-490714/3
Matrix: Water
Analysis Batch: 490714

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		96	50 - 150

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: Mark Wilson/Michael Ross	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-81734-37390.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-18240
Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:			
City: Brookfield	TAT Requested (days):			
State, Zip: WI, 53005				
Phone: 815-671-2258(Tel) 500-182410 COC	PO #: 4502012471			
Email: erinb@kprginc.com	WO #:			
Project Name: Joliet #29 CCR/ Event Desc: Quarterly MWG Joliet #29 CCR	Project #: 50011568			
Site: Illinois	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
1 MW-03	5/20/20	11:56	G	Water	Y		X	X		
2 MW-04	5/20/20	13:45	G	Water	Y		X	X		
3 MW-05	5/20/20	11:37	G	Water	Y		X	X		
4 MW-10	5/20/20	9:39	G	Water	Y		X	X		
5 Duplicate	5/20/20	11:37	G	Water	Y		X	X		

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

(NO) BW 5/21/20 per Erin Bulson @ KPRG

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Michael Ross	5/21/20	KPRG	Stephanie Hernandez	5/21/20 1355	TA-CHI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 6.1 Sot, 3.8, 4.4, 3.4

Ver: 01/16/2019

6/10/2020 (Rev. 1)

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-135491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-182410-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/3/2020			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-182410-1)	5/20/20	11:56 Central		Water			X	1	
MW-04 (500-182410-2)	5/20/20	13:45 Central		Water			X	1	
MW-05 (500-182410-3)	5/20/20	11:37 Central		Water			X	1	
MW-10 (500-182410-4)	5/20/20	09:39 Central		Water			X	1	
Duplicate (500-182410-5)	5/20/20	11:37 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/21/20 1700	TA	Kathy R Owen	5-22-20 918	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.0 IR9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	6.7,3.8,4.4,3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/22/20 01:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR 9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03
Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:28	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:42	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:28	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-04
Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:46	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-05
Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:32	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:50	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:50	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:41	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: MW-10
Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:34	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Lab Sample ID: 500-182410-4

Date Collected: 05/20/20 09:39

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:53	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:31	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:40	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:44	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: Duplicate

Lab Sample ID: 500-182410-5

Date Collected: 05/20/20 11:37

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:34	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:52	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:51	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-183483-1
Client Project/Site: Joliet #29 CCR Resample

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/17/2020 8:59:32 AM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Job ID: 500-183483-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-183483-1

Comments
No additional comments.

Receipt
The samples were received on 6/12/2020 1:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-183483-1	MW-04	Water	06/11/20 11:58	06/12/20 13:50	
500-183483-2	MW-10	Water	06/11/20 15:27	06/12/20 13:50	
500-183483-3	MW-03	Water	06/11/20 11:23	06/12/20 13:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04

Date Collected: 06/11/20 11:58
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.28		0.050		mg/L		06/15/20 07:10	06/15/20 15:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-10

Date Collected: 06/11/20 15:27
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.26		0.050		mg/L		06/15/20 07:10	06/15/20 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-03
Date Collected: 06/11/20 11:23
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		150		mg/L			06/15/20 13:33	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Metals

Prep Batch: 547444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	3005A	
500-183483-2	MW-10	Total Recoverable	Water	3005A	
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-183483-1 MS	MW-04	Total Recoverable	Water	3005A	
500-183483-1 MSD	MW-04	Total Recoverable	Water	3005A	
500-183483-1 DU	MW-04	Total Recoverable	Water	3005A	

Analysis Batch: 547734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	6020A	547444
500-183483-2	MW-10	Total Recoverable	Water	6020A	547444
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	6020A	547444
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	6020A	547444
500-183483-1 MS	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 MSD	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 DU	MW-04	Total Recoverable	Water	6020A	547444

General Chemistry

Analysis Batch: 282103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total/NA	Water	SM 2540C	
500-183483-2	MW-10	Total/NA	Water	SM 2540C	
500-183483-3	MW-03	Total/NA	Water	SM 2540C	
MB 310-282103/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-282103/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-547444/1-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		06/15/20 07:10	06/15/20 14:31	1

Lab Sample ID: LCS 500-547444/2-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Lab Sample ID: 500-183483-1 MS
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.28		1.00	1.26		mg/L		98	75 - 125

Lab Sample ID: 500-183483-1 MSD
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.28		1.00	1.27		mg/L		99	75 - 125	1	20

Lab Sample ID: 500-183483-1 DU
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.28		0.283		mg/L		0.3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-282103/1
Matrix: Water
Analysis Batch: 282103

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30		30		mg/L			06/15/20 13:33	1

Lab Sample ID: LCS 310-282103/2
Matrix: Water
Analysis Batch: 282103

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information	Sampler: Michael Ress	Lab PM: Mockler, Diana J	Carrier Tracking No(s)	COC No: 500-82396-37647.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: diana.mockler@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-183483

Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:	Analysis Requested
City: Brookfield	TAT Requested (days):	
State, Zip: WI, 53005		
Phone: 815-671-2258(Tel)	PO #: 4502012471	
Email: erinb@kprginc.com	WO #:	
Project Name: Joliet #29 CCR	Project #: 50011568	500-183483 COC
Site: Illinois	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Boron	2540C - TDS	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-04	6/11/20	11:58	G	Water	N		X	X		
2	MW-10	6/11/20	15:27	G	Water	N		X	X		
3	MW-03	6/11/20	11:23	G	Water	N			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6/12/20 13:00	TA		6/12/20 1300	TA
2		6/12/20 1350	TA	Stephanie Hernandez	6/12/20 1350	TA-CHI
3						

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.0→2.0 3 bag

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500-183483 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: TA Chicago

City/State: CITY University Park STATE IL Project:

Receipt Information

Date/Time Received: DATE 061320 TIME 0900 Received By:

Delivery Type: ☐ UPS ☑ FedEx Sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☑ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Correction Factor (°C):

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): NA Corrected Temp (°C): +0.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	MW-04 Plastic 1L	
Uncorrected Temp (°C):	0.4	
Corrected Temp (°C):	0.5	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-136209.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-183483-1
Address: 3019 Venture Way, ,	Due Date Requested: 6/24/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR Resample	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-04 (500-183483-1)	6/11/20	11:58 Central		Water			X	1	
MW-10 (500-183483-2)	6/11/20	15:27 Central		Water			X	1	
MW-03 (500-183483-3)	6/11/20	11:23 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/12/20 1608	TA		6/13/20	eto
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 1
Creator: Hernandez, Stephanie

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 2
Creator: Miller, Drew E

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 06/13/20 09:52 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04

Lab Sample ID: 500-183483-1

Date Collected: 06/11/20 11:58

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 15:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-10

Lab Sample ID: 500-183483-2

Date Collected: 06/11/20 15:27

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 16:16	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-03

Lab Sample ID: 500-183483-3

Date Collected: 06/11/20 11:23

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-182410-1
Client Project/Site: Joliet #29 CCR
Revision: 1

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/10/2020 12:03:56 PM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Job ID: 500-182410-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-182410-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 5/21/2020. The report (revision 1) is being revised due to: client indicated that samples were field filtered on the COC when they were not field filtered. The COC has been corrected.

Receipt
The samples were received on 5/21/2020 1:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.4º C, 3.8º C, 4.4º C and 6.7º C.

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

General Chemistry
Method SM 4500 Cl- E: A deviation from the Standard Operating Procedure (SOP) occurred for Chloride. Details are as follows: The instrument software is set up to analyze bracketing QC every ten runs; however, the system inadvertently had the wrong number of samples in each bracket. All data was bracketed by passing QC and has been reported.

Method SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-03 (500-182410-1), MW-04 (500-182410-2), MW-05 (500-182410-3), MW-10 (500-182410-4), Duplicate (500-182410-5), (400-188491-D-14), (400-188491-D-14 MS) and (400-188491-D-14 MSD). 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.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182410-1	MW-03	Water	05/20/20 11:56	05/21/20 13:55	
500-182410-2	MW-04	Water	05/20/20 13:45	05/21/20 13:55	
500-182410-3	MW-05	Water	05/20/20 11:37	05/21/20 13:55	
500-182410-4	MW-10	Water	05/20/20 09:39	05/21/20 13:55	
500-182410-5	Duplicate	Water	05/20/20 11:37	05/21/20 13:55	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03

Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.38		0.050		mg/L		05/21/20 17:45	06/04/20 16:42	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/22/20 01:20	1
Chloride	230		10		mg/L			06/02/20 13:39	5
Fluoride	0.42		0.10		mg/L			06/02/20 09:28	1
Sulfate	78		25		mg/L			05/28/20 13:18	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-04

Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050		mg/L		05/21/20 17:45	06/04/20 16:46	1
Calcium	110		0.20		mg/L		05/21/20 17:45	05/29/20 15:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			05/22/20 01:23	1
Chloride	250		10		mg/L			06/02/20 13:39	5
Fluoride	0.45		0.10		mg/L			06/02/20 09:38	1
Sulfate	110		100		mg/L			05/28/20 13:18	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-05

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:50	1
Calcium	100		0.20		mg/L		05/21/20 17:45	05/29/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	890		10		mg/L			05/23/20 00:26	1
Chloride	270		40		mg/L			06/02/20 13:50	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:41	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.85		0.050		mg/L		05/21/20 17:45	06/04/20 16:53	1
Calcium	120		0.20		mg/L		05/21/20 17:45	05/29/20 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/23/20 00:31	1
Chloride	250		10		mg/L			06/02/20 13:40	5
Fluoride	0.41		0.10		mg/L			06/02/20 09:44	1
Sulfate	100		50		mg/L			05/28/20 13:22	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: Duplicate

Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.32		0.050		mg/L		05/21/20 17:45	06/04/20 16:57	1
Calcium	98		0.20		mg/L		05/21/20 17:45	05/29/20 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			05/23/20 00:34	1
Chloride	270		40		mg/L			06/02/20 13:52	20
Fluoride	0.37		0.10		mg/L			06/02/20 09:51	1
Sulfate	67		25		mg/L			05/28/20 13:22	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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)
MQL	Method Quantitation Limit
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)

Metals

Prep Batch: 543877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	3005A	
500-182410-2	MW-04	Total Recoverable	Water	3005A	
500-182410-3	MW-05	Total Recoverable	Water	3005A	
500-182410-4	MW-10	Total Recoverable	Water	3005A	
500-182410-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 545254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

Analysis Batch: 546160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total Recoverable	Water	6020A	543877
500-182410-2	MW-04	Total Recoverable	Water	6020A	543877
500-182410-3	MW-05	Total Recoverable	Water	6020A	543877
500-182410-4	MW-10	Total Recoverable	Water	6020A	543877
500-182410-5	Duplicate	Total Recoverable	Water	6020A	543877
MB 500-543877/1-A	Method Blank	Total Recoverable	Water	6020A	543877
LCS 500-543877/2-A	Lab Control Sample	Total Recoverable	Water	6020A	543877

General Chemistry

Analysis Batch: 490714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 400-490714/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-490714/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-490714/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 543922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 2540C	
500-182410-2	MW-04	Total/NA	Water	SM 2540C	
MB 500-543922/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-543922/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-3	MW-05	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 544145 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-4	MW-10	Total/NA	Water	SM 2540C	
500-182410-5	Duplicate	Total/NA	Water	SM 2540C	
MB 500-544145/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544145/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-182410-3 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 545508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-2	MW-04	Total/NA	Water	SM 4500 F C	
500-182410-3	MW-05	Total/NA	Water	SM 4500 F C	
500-182410-4	MW-10	Total/NA	Water	SM 4500 F C	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-545508/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-545508/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-182410-1 MS	MW-03	Total/NA	Water	SM 4500 F C	
500-182410-1 MSD	MW-03	Total/NA	Water	SM 4500 F C	

Analysis Batch: 545521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182410-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-182410-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
500-182410-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-182410-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-182410-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-545521/48	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-545521/49	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/21/20 17:45	05/29/20 15:06	1

Lab Sample ID: MB 500-543877/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/21/20 17:45	06/04/20 16:05	1

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	11.9		mg/L		119	80 - 120

Lab Sample ID: LCS 500-543877/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 543877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-543922/1
Matrix: Water
Analysis Batch: 543922

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/22/20 00:24	1

Lab Sample ID: LCS 500-543922/2
Matrix: Water
Analysis Batch: 543922

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

Lab Sample ID: MB 500-544145/1
Matrix: Water
Analysis Batch: 544145

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/23/20 00:11	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-544145/2
Matrix: Water
Analysis Batch: 544145

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	246		mg/L		98	80 - 120		

Lab Sample ID: 500-182410-3 DU
Matrix: Water
Analysis Batch: 544145

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	890			928		mg/L				4	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-545521/48
Matrix: Water
Analysis Batch: 545521

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/02/20 13:33	1

Lab Sample ID: LCS 500-545521/49
Matrix: Water
Analysis Batch: 545521

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	19.6		mg/L		98	85 - 115		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-545508/3
Matrix: Water
Analysis Batch: 545508

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/02/20 09:19	1

Lab Sample ID: LCS 500-545508/4
Matrix: Water
Analysis Batch: 545508

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	11.0		mg/L		110	80 - 120		

Lab Sample ID: 500-182410-1 MS
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.42		5.00	5.99		mg/L		111	75 - 125		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-182410-1 MSD
Matrix: Water
Analysis Batch: 545508

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.42		5.00	5.96		mg/L		111	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-490714/6
Matrix: Water
Analysis Batch: 490714

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/28/20 12:29	1

Lab Sample ID: LCS 400-490714/7
Matrix: Water
Analysis Batch: 490714

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.1		mg/L		94	90 - 110

Lab Sample ID: MRL 400-490714/3
Matrix: Water
Analysis Batch: 490714

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		96	50 - 150

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: Mark Wilson/Michael Ross	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-81734-37390.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-18240
Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:			
City: Brookfield	TAT Requested (days):			
State, Zip: WI, 53005				
Phone: 815-671-2258(Tel) 500-182410 COC	PO #: 4502012471			
Email: erinb@kprginc.com	WO #:			
Project Name: Joliet #29 CCR/ Event Desc: Quarterly MWG Joliet #29 CCR	Project #: 50011568			
Site: Illinois	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
1 MW-03	5/20/20	11:56	G	Water	Y		X	X		
2 MW-04	5/20/20	13:45	G	Water	Y		X	X		
3 MW-05	5/20/20	11:37	G	Water	Y		X	X		
4 MW-10	5/20/20	9:39	G	Water	Y		X	X		
5 Duplicate	5/20/20	11:37	G	Water	Y		X	X		

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

(NO) BW 5/21/20 per Erin Bulson @ KPRG

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Michael Ross	5/21/20	KPRG	Stephanie Hernandez	5/21/20 1355	TA-CHI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 6.1 Sot, 3.8, 4.4, 3.4

Ver: 01/16/2019

6/10/2020 (Rev. 1)

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-135491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-182410-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/3/2020			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-03 (500-182410-1)	5/20/20	11:56 Central		Water			X	1	
MW-04 (500-182410-2)	5/20/20	13:45 Central		Water			X	1	
MW-05 (500-182410-3)	5/20/20	11:37 Central		Water			X	1	
MW-10 (500-182410-4)	5/20/20	09:39 Central		Water			X	1	
Duplicate (500-182410-5)	5/20/20	11:37 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/21/20 1700	TA	Kathy R Owen	5-22-20 918	EA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.0 IR9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	6.7,3.8,4.4,3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182410-1

Login Number: 182410
List Number: 2
Creator: Avery, Kathy R

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/22/20 01:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR 9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-03
Date Collected: 05/20/20 11:56
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:28	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:42	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:20	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:28	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-04
Date Collected: 05/20/20 13:45
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:46	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	543922	05/22/20 01:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:39	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490714	05/28/20 13:18	HES	TAL PEN

Client Sample ID: MW-05
Date Collected: 05/20/20 11:37
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:32	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:50	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:50	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:41	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: MW-10
Date Collected: 05/20/20 09:39
Date Received: 05/21/20 13:55

Lab Sample ID: 500-182410-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:34	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR

Job ID: 500-182410-1

Client Sample ID: MW-10

Lab Sample ID: 500-182410-4

Date Collected: 05/20/20 09:39

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:53	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:31	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	545521	06/02/20 13:40	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:44	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	490714	05/28/20 13:22	HES	TAL PEN

Client Sample ID: Duplicate

Lab Sample ID: 500-182410-5

Date Collected: 05/20/20 11:37

Matrix: Water

Date Received: 05/21/20 13:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			543877	05/21/20 17:45	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	546160	06/04/20 16:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 00:34	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	545521	06/02/20 13:52	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	545508	06/02/20 09:51	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	490714	05/28/20 13:22	HES	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-183483-1
Client Project/Site: Joliet #29 CCR Resample

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/17/2020 8:59:32 AM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

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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.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Job ID: 500-183483-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-183483-1

Comments
No additional comments.

Receipt
The samples were received on 6/12/2020 1:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0º C.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-183483-1	MW-04	Water	06/11/20 11:58	06/12/20 13:50	
500-183483-2	MW-10	Water	06/11/20 15:27	06/12/20 13:50	
500-183483-3	MW-03	Water	06/11/20 11:23	06/12/20 13:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04

Date Collected: 06/11/20 11:58
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.28		0.050		mg/L		06/15/20 07:10	06/15/20 15:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-10

Date Collected: 06/11/20 15:27
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.26		0.050		mg/L		06/15/20 07:10	06/15/20 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		150		mg/L			06/15/20 13:33	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-03
Date Collected: 06/11/20 11:23
Date Received: 06/12/20 13:50

Lab Sample ID: 500-183483-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		150		mg/L			06/15/20 13:33	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Metals

Prep Batch: 547444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	3005A	
500-183483-2	MW-10	Total Recoverable	Water	3005A	
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-183483-1 MS	MW-04	Total Recoverable	Water	3005A	
500-183483-1 MSD	MW-04	Total Recoverable	Water	3005A	
500-183483-1 DU	MW-04	Total Recoverable	Water	3005A	

Analysis Batch: 547734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total Recoverable	Water	6020A	547444
500-183483-2	MW-10	Total Recoverable	Water	6020A	547444
MB 500-547444/1-A	Method Blank	Total Recoverable	Water	6020A	547444
LCS 500-547444/2-A	Lab Control Sample	Total Recoverable	Water	6020A	547444
500-183483-1 MS	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 MSD	MW-04	Total Recoverable	Water	6020A	547444
500-183483-1 DU	MW-04	Total Recoverable	Water	6020A	547444

General Chemistry

Analysis Batch: 282103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-183483-1	MW-04	Total/NA	Water	SM 2540C	
500-183483-2	MW-10	Total/NA	Water	SM 2540C	
500-183483-3	MW-03	Total/NA	Water	SM 2540C	
MB 310-282103/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-282103/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-547444/1-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		06/15/20 07:10	06/15/20 14:31	1

Lab Sample ID: LCS 500-547444/2-A
Matrix: Water
Analysis Batch: 547734

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Lab Sample ID: 500-183483-1 MS
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.28		1.00	1.26		mg/L		98	75 - 125

Lab Sample ID: 500-183483-1 MSD
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.28		1.00	1.27		mg/L		99	75 - 125	1	20

Lab Sample ID: 500-183483-1 DU
Matrix: Water
Analysis Batch: 547734

Client Sample ID: MW-04
Prep Type: Total Recoverable
Prep Batch: 547444

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.28		0.283		mg/L		0.3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-282103/1
Matrix: Water
Analysis Batch: 282103

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30		30		mg/L			06/15/20 13:33	1

Lab Sample ID: LCS 310-282103/2
Matrix: Water
Analysis Batch: 282103

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information	Sampler: Michael Ress	Lab PM: Mockler, Diana J	Carrier Tracking No(s)	COC No: 500-82396-37647.1
Client Contact: Erin Bulson	Phone: 630-325-1300	E-Mail: diana.mockler@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-183483

Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:	Analysis Requested
City: Brookfield	TAT Requested (days):	
State, Zip: WI, 53005		
Phone: 815-671-2258(Tel)	PO #: 4502012471	
Email: erinb@kprginc.com	WO #:	
Project Name: Joliet #29 CCR	Project #: 50011568	500-183483 COC
Site: Illinois	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - Boron	2540C - TDS	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-04	6/11/20	11:58	G	Water	N		X	X		
2	MW-10	6/11/20	15:27	G	Water	N		X	X		
3	MW-03	6/11/20	11:23	G	Water	N			X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6/12/20 13:00	TA		6/12/20 1300	TA
2		6/12/20 1350	TA	Stephanie Hernandez	6/12/20 1350	TA-CHI
3						

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.0→2.0 3 bag

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500-183483 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: TA Chicago

City/State: CITY University Park STATE IL Project:

Receipt Information

Date/Time Received: DATE 061320 TIME 0900 Received By:

Delivery Type: ☐ UPS ☑ FedEx Sat ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☑ Yes	☐ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☑ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: Correction Factor (°C):

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): NA Corrected Temp (°C): +0.1

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:	MW-04 Plastic 1L	
Uncorrected Temp (°C):	0.4	
Corrected Temp (°C):	0.5	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-136209.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-183483-1
Address: 3019 Venture Way, ,	Due Date Requested: 6/24/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR Resample	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-04 (500-183483-1)	6/11/20	11:58 Central		Water			X	1	
MW-10 (500-183483-2)	6/11/20	15:27 Central		Water			X	1	
MW-03 (500-183483-3)	6/11/20	11:23 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/12/20 1608	TA		6/13/20	eto
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 1
Creator: Hernandez, Stephanie

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-183483-1

Login Number: 183483
List Number: 2
Creator: Miller, Drew E

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 06/13/20 09:52 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR Resample

Job ID: 500-183483-1

Client Sample ID: MW-04

Lab Sample ID: 500-183483-1

Date Collected: 06/11/20 11:58

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 15:57	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-10

Lab Sample ID: 500-183483-2

Date Collected: 06/11/20 15:27

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			547444	06/15/20 07:10	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	547734	06/15/20 16:16	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Client Sample ID: MW-03

Lab Sample ID: 500-183483-3

Date Collected: 06/11/20 11:23

Matrix: Water

Date Received: 06/12/20 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	282103	06/15/20 13:33	LBB	TAL CF

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-189930-1
Client Project/Site: Joliet #29 CCR - Quarterly

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
11/13/2020 8:40:01 AM

Diana Mockler, Project Manager I
(219)252-7570
Diana.Mockler@Eurofinset.com

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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.

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Job ID: 500-189930-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-189930-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2020 6:20 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.7º C.

Metals
Method 6020A: The low level continuing calibration verification (CCVL) at lines 25 and 49, associated with batch 500-569004 recovered above the upper control limit for Beryllium. The samples associated with this CCVL were non-detects for the affected analyte; therefore, the data have been reported.

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

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

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-189930-1	MW-03	Water	10/22/20 10:18	10/22/20 18:20	
500-189930-2	MW-04	Water	10/22/20 11:11	10/22/20 18:20	
500-189930-3	MW-05	Water	10/22/20 12:46	10/22/20 18:20	
500-189930-4	MW-10	Water	10/22/20 12:05	10/22/20 18:20	
500-189930-5	Duplicate	Water	10/22/20 00:00	10/22/20 18:20	

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-03

Date Collected: 10/22/20 10:18
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.010**		0.010		mg/L		10/26/20 17:38	10/27/20 11:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:34	1
Arsenic	**0.0014**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:34	1
Barium	**0.10**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:22	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:22	1
Boron	**0.32**		0.050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:34	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:34	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Molybdenum	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:34	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:22	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		30		mg/L			10/28/20 13:56	1
Chloride	**180**		10		mg/L			11/03/20 09:51	5
Fluoride	**0.43**		0.10		mg/L			11/04/20 14:47	1
Sulfate	**90**		15		mg/L			10/26/20 15:34	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-04

Date Collected: 10/22/20 11:11
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		10/26/20 17:38	10/27/20 11:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:37	1
Arsenic	**0.0015**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:37	1
Barium	**0.089**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:26	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:26	1
Boron	**0.33**		0.050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Calcium	**100**		0.20		mg/L		10/26/20 17:38	10/27/20 17:37	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Cobalt	**0.0082**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:37	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Molybdenum	**0.0061**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:37	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:26	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**770**		30		mg/L			10/28/20 13:56	1
Chloride	**190**		10		mg/L			11/03/20 09:51	5
Fluoride	**0.48**		0.10		mg/L			11/04/20 14:50	1
Sulfate	**83**		15		mg/L			10/26/20 15:35	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-05

Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		10/26/20 17:38	10/27/20 11:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:41	1
Arsenic	**0.0012**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:41	1
Barium	**0.069**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:29	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:29	1
Boron	**0.52**		0.050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Calcium	**92**		0.20		mg/L		10/26/20 17:38	10/27/20 17:41	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:41	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Molybdenum	**0.0054**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:41	1
Selenium	**0.0030**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:29	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**720**		30		mg/L			10/28/20 13:56	1
Chloride	**180**	**F1**	10		mg/L			11/03/20 11:09	5
Fluoride	**0.38**		0.10		mg/L			11/04/20 14:53	1
Sulfate	**85**		15		mg/L			10/26/20 15:36	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-10

Date Collected: 10/22/20 12:05
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		10/26/20 17:38	10/27/20 11:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:44	1
Arsenic	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:44	1
Barium	**0.043**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:33	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:33	1
Boron	**0.34**		0.050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:44	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:44	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Molybdenum	**0.0057**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:44	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:33	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**850**		30		mg/L			10/28/20 13:56	1
Chloride	**230**		10		mg/L			11/03/20 11:12	5
Fluoride	**0.41**		0.10		mg/L			11/04/20 14:56	1
Sulfate	**93**		15		mg/L			10/26/20 15:36	3

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: Duplicate

Date Collected: 10/22/20 00:00
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		10/26/20 17:38	10/27/20 11:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 17:48	1
Arsenic	**0.0015**		0.0010		mg/L		10/26/20 17:38	10/27/20 17:48	1
Barium	**0.10**		0.0025		mg/L		10/26/20 17:38	10/27/20 22:36	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 22:36	1
Boron	**0.33**		0.050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Calcium	**110**		0.20		mg/L		10/26/20 17:38	10/27/20 17:48	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 17:48	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Molybdenum	**0.0052**		0.0050		mg/L		10/26/20 17:38	10/27/20 17:48	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 22:36	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 17:48	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 09:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**760**		30		mg/L			10/28/20 13:56	1
Chloride	**180**		10		mg/L			11/03/20 11:13	5
Fluoride	**0.43**		0.10		mg/L			11/04/20 14:59	1
Sulfate	**91**		15		mg/L			10/26/20 15:36	3

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Metals

Prep Batch: 568663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	3005A	
500-189930-2	MW-04	Total Recoverable	Water	3005A	
500-189930-3	MW-05	Total Recoverable	Water	3005A	
500-189930-4	MW-10	Total Recoverable	Water	3005A	
500-189930-5	Duplicate	Total Recoverable	Water	3005A	
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 500-568663/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 568845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6010C	568663
500-189930-2	MW-04	Total Recoverable	Water	6010C	568663
500-189930-3	MW-05	Total Recoverable	Water	6010C	568663
500-189930-4	MW-10	Total Recoverable	Water	6010C	568663
500-189930-5	Duplicate	Total Recoverable	Water	6010C	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6010C	568663
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	6010C	568663

Analysis Batch: 569003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6020A	568663
500-189930-2	MW-04	Total Recoverable	Water	6020A	568663
500-189930-3	MW-05	Total Recoverable	Water	6020A	568663
500-189930-4	MW-10	Total Recoverable	Water	6020A	568663
500-189930-5	Duplicate	Total Recoverable	Water	6020A	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6020A	568663
LCS 500-568663/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568663

Analysis Batch: 569004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total Recoverable	Water	6020A	568663
500-189930-2	MW-04	Total Recoverable	Water	6020A	568663
500-189930-3	MW-05	Total Recoverable	Water	6020A	568663
500-189930-4	MW-10	Total Recoverable	Water	6020A	568663
500-189930-5	Duplicate	Total Recoverable	Water	6020A	568663
MB 500-568663/1-A	Method Blank	Total Recoverable	Water	6020A	568663
LCS 500-568663/26-A	Lab Control Sample	Total Recoverable	Water	6020A	568663

Prep Batch: 569235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	7470A	
500-189930-2	MW-04	Total/NA	Water	7470A	
500-189930-3	MW-05	Total/NA	Water	7470A	
500-189930-4	MW-10	Total/NA	Water	7470A	
500-189930-5	Duplicate	Total/NA	Water	7470A	
MB 500-569235/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-569235/13-A	Lab Control Sample	Total/NA	Water	7470A	

Metals

Analysis Batch: 569446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	7470A	569235
500-189930-2	MW-04	Total/NA	Water	7470A	569235
500-189930-3	MW-05	Total/NA	Water	7470A	569235
500-189930-4	MW-10	Total/NA	Water	7470A	569235
500-189930-5	Duplicate	Total/NA	Water	7470A	569235
MB 500-569235/12-A	Method Blank	Total/NA	Water	7470A	569235
LCS 500-569235/13-A	Lab Control Sample	Total/NA	Water	7470A	569235

General Chemistry

Analysis Batch: 297381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 2540C	
500-189930-2	MW-04	Total/NA	Water	SM 2540C	
500-189930-3	MW-05	Total/NA	Water	SM 2540C	
500-189930-4	MW-10	Total/NA	Water	SM 2540C	
500-189930-5	Duplicate	Total/NA	Water	SM 2540C	
MB 310-297381/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-297381/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 568657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 SO4 E	
500-189930-2	MW-04	Total/NA	Water	SM 4500 SO4 E	
500-189930-3	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-189930-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-568657/39	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-568657/40	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 570023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 Cl- E	
500-189930-2	MW-04	Total/NA	Water	SM 4500 Cl- E	
MB 500-570023/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-570023/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 570079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-3	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-189930-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-570079/42	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-570079/43	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-189930-3 MS	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-189930-3 MSD	MW-05	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 570407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-1	MW-03	Total/NA	Water	SM 4500 F C	
500-189930-2	MW-04	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 570407 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-189930-3	MW-05	Total/NA	Water	SM 4500 F C	
500-189930-4	MW-10	Total/NA	Water	SM 4500 F C	
500-189930-5	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-570407/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-570407/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 568845

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		10/26/20 17:38	10/27/20 11:01	1

Lab Sample ID: LCS 500-568663/26-A
Matrix: Water
Analysis Batch: 568845

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.100	0.102		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 569003

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/26/20 17:38	10/27/20 15:47	1
Arsenic	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 15:47	1
Boron	<0.050		0.050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Cadmium	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Calcium	<0.20		0.20		mg/L		10/26/20 17:38	10/27/20 15:47	1
Chromium	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Cobalt	<0.0010		0.0010		mg/L		10/26/20 17:38	10/27/20 15:47	1
Lead	<0.00050		0.00050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Molybdenum	<0.0050		0.0050		mg/L		10/26/20 17:38	10/27/20 15:47	1
Thallium	<0.0020		0.0020		mg/L		10/26/20 17:38	10/27/20 15:47	1

Lab Sample ID: MB 500-568663/1-A
Matrix: Water
Analysis Batch: 569004

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 18:50	1
Beryllium	<0.0010	^	0.0010		mg/L		10/26/20 17:38	10/27/20 18:50	1
Selenium	<0.0025		0.0025		mg/L		10/26/20 17:38	10/27/20 18:50	1

Lab Sample ID: LCS 500-568663/26-A
Matrix: Water
Analysis Batch: 569004

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.500	0.479		mg/L		96	80 - 120
Beryllium	0.0500	0.0504	^	mg/L		101	80 - 120
Selenium	0.100	0.100		mg/L		100	80 - 120

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

Lab Sample ID: LCS 500-568663/2-A
Matrix: Water
Analysis Batch: 569003

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.495		mg/L		99	80 - 120
Arsenic	0.100	0.0987		mg/L		99	80 - 120
Boron	1.00	1.00		mg/L		100	80 - 120
Cadmium	0.0500	0.0507		mg/L		101	80 - 120
Calcium	10.0	8.97		mg/L		90	80 - 120
Chromium	0.200	0.206		mg/L		103	80 - 120
Cobalt	0.500	0.508		mg/L		102	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Molybdenum	1.00	0.976		mg/L		98	80 - 120
Thallium	0.100	0.104		mg/L		104	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-569235/12-A
Matrix: Water
Analysis Batch: 569446

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 569235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/29/20 10:20	10/30/20 08:22	1

Lab Sample ID: LCS 500-569235/13-A
Matrix: Water
Analysis Batch: 569446

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 569235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00210		mg/L		105	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-297381/1
Matrix: Water
Analysis Batch: 297381

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30		30		mg/L			10/28/20 13:56	1

Lab Sample ID: LCS 310-297381/2
Matrix: Water
Analysis Batch: 297381

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	982		mg/L		98	90 - 110

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-570023/12
Matrix: Water
Analysis Batch: 570023

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/03/20 08:56	1

Lab Sample ID: LCS 500-570023/13
Matrix: Water
Analysis Batch: 570023

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.5		mg/L		99	85 - 115

Lab Sample ID: MB 500-570079/42
Matrix: Water
Analysis Batch: 570079

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/03/20 11:07	1

Lab Sample ID: LCS 500-570079/43
Matrix: Water
Analysis Batch: 570079

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.7		mg/L		103	85 - 115

Lab Sample ID: 500-189930-3 MS
Matrix: Water
Analysis Batch: 570079

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	180	F1	50.0	213	F1	mg/L		71	75 - 125

Lab Sample ID: 500-189930-3 MSD
Matrix: Water
Analysis Batch: 570079

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	180	F1	50.0	221		mg/L		88	75 - 125	4	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-570407/3
Matrix: Water
Analysis Batch: 570407

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/04/20 13:53	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-570407/4
Matrix: Water
Analysis Batch: 570407

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.9		mg/L		109	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-568657/39
Matrix: Water
Analysis Batch: 568657

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/26/20 15:32	1

Lab Sample ID: LCS 500-568657/40
Matrix: Water
Analysis Batch: 568657

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.6		mg/L		98	80 - 120

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-85986-38852.1
Client Contact: Erin Bulson	Phone:	E-Mail: Diana.Mockler@Eurofinset.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-189930

Address: 14665 West Lisbon Road, Suite 1A
City: Brookfield
State, Zip: WI, 53005
Phone: 815-671-2258(Tel)
Email: erinb@kprginc.com
500-189930 COC

Due Date Requested:
TAT Requested (days):
PO #: 4502012471
WO #:
Project Name: Joliet #29 CCR/ Event Desc: Quarterly MWG Joliet #29 CCR
Project #: 50011568
Site: Illinois
SSOW#:

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-03	10-22	1018		Water						
2	MW-04	10-22	1111		Water						
3	MW-05	10-22	1246		Water						
4	MW-10	10-22	1205		Water						
5	Duplicate	10-22	—		Water						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Erin Bulson	10-22 / 1820		Aaron Kimbrough	10/22/10 18:20	TAT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 5.7

NOTE: All SO

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-141336.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Diana.Mockler@Eurofinset.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-189930-1
Address: 3019 Venture Way, ,	Due Date Requested: 11/4/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Joliet #29 CCR - Quarterly	Project #: 50011568			
Site: NRG Midwest Generation LSQ Joliet#29 CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
MW-03 (500-189930-1)	10/22/20	10:18 Central		Water			X	1	
MW-04 (500-189930-2)	10/22/20	11:11 Central		Water			X	1	
MW-05 (500-189930-3)	10/22/20	12:46 Central		Water			X	1	
MW-10 (500-189930-4)	10/22/20	12:05 Central		Water			X	1	
Duplicate (500-189930-5)	10/22/20	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/23/20 1700			10-24-20 0750	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

eurofins | Environment Testing TestAmerica

Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: ETA chicago

City/State: CITY University Park STATE IL Project: Joliet # 29 CCR - Quarterly

Receipt Information

Date/Time Received: DATE 10-24-20 TIME 0950 Received By: EP

Delivery Type: ☐ UPS ☒ FedEx SAT ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: O Correction Factor (°C): 0.0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 1. 10-24-20 EP Corrected Temp (°C):

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	plastic 250mL	
Uncorrected Temp (°C):	1.8	
Corrected Temp (°C):	1.8	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-189930-1

Login Number: 189930
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-189930-1

Login Number: 189930
List Number: 2
Creator: Bovy, Lorrainna L

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 10/26/20 09:56 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-03

Date Collected: 10/22/20 10:18
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:15	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:34	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:22	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 08:56	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570023	11/03/20 09:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:47	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:34	RES	TAL CHI

Client Sample ID: MW-04

Date Collected: 10/22/20 11:11
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:18	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:37	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:26	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 08:58	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570023	11/03/20 09:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:50	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:35	RES	TAL CHI

Client Sample ID: MW-05

Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:21	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:41	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:29	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:00	MJG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 CCR - Quarterly

Job ID: 500-189930-1

Client Sample ID: MW-05
Date Collected: 10/22/20 12:46
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:53	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Client Sample ID: MW-10
Date Collected: 10/22/20 12:05
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:24	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:44	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:33	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:02	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:12	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:56	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Client Sample ID: Duplicate
Date Collected: 10/22/20 00:00
Date Received: 10/22/20 18:20

Lab Sample ID: 500-189930-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6010C		1	568845	10/27/20 11:28	JEF	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569003	10/27/20 17:48	FXG	TAL CHI
Total Recoverable	Prep	3005A			568663	10/26/20 17:38	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	569004	10/27/20 22:36	FXG	TAL CHI
Total/NA	Prep	7470A			569235	10/29/20 10:20	MJG	TAL CHI
Total/NA	Analysis	7470A		1	569446	10/30/20 09:05	MJG	TAL CHI
Total/NA	Analysis	SM 2540C		1	297381	10/28/20 13:56	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	570079	11/03/20 11:13	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	570407	11/04/20 14:59	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	568657	10/26/20 15:36	RES	TAL CHI

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200