



# ANALYTICAL SUMMARY REPORT

November 06, 2012

Rare Element Resources Inc  
225 Union Blvd Ste 250  
Lakewood, CO 80228-1574

Workorder No.: G12100318

Project Name: Upton

Energy Laboratories Inc. Gillette WY received the following 3 samples for Rare Element Resources Inc on 10/11/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G12100318-001	UAMS #2 Continuous	08/02/12 10:30	10/11/12	Filter	Metals on air filter by ICP/ICPMS Digestion, Total Metals Nitric acid-extraction Radium 226 Thorium, Isotopic
G12100318-002	UAMS #4 Continuous	08/20/12 18:15	10/11/12	Filter	Same As Above
G12100318-003	UAMS #3 Continuous	08/09/12 10:15	10/11/12	Filter	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted.

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these tests results, please call.

Report Approved By:



**CLIENT:** Rare Element Resources Inc  
**Project:** Upton  
**Sample Delivery Group:** G12100318

**Report Date:** 11/06/12

## CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002 and WY00937.



### LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton  
**Lab ID:** G12100318-001  
**Client Sample ID** UAMS #2 Continuous

**Report Date:** 11/06/12  
**Collection Date:** 08/02/12 10:30  
**DateReceived:** 10/11/12  
**Matrix:** Filter

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By
<b>METALS IN AIR</b>							
Cerium	19	ug/filter		1	0.4	E200.8	10/24/12 12:55 / eli-b
Lanthanum	9	ug/filter		1	0.4	E200.8	10/24/12 12:55 / eli-b
Thorium	3	ug/filter		1	0.0005	E200.8	10/26/12 11:12 / eli-b
Uranium	1	ug/filter		1	0.00008	E200.8	10/22/12 01:01 / eli-b
<b>RADIONUCLIDES - TOTAL</b>							
Radium 226	0.6	pCi/Filter	U			E903.0	10/29/12 11:55 / eli-c
Radium 226 precision (±)	0.8	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
Radium 226 MDC	1.2	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
<b>RADIOCHEMICAL</b>							
Thorium 230	0.68	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 precision (±)	0.42	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 MDC	0.56	pCi/Filter				E908.0	10/24/12 16:14 / eli-c

**Report Definitions:**

RL - Analyte reporting limit.	MDL - Method detection limit
MCL - Maximum contaminant level.	QCL - Quality control limit.
ND - Not detected at the reporting limit.	MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration	



### LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton  
**Lab ID:** G12100318-002  
**Client Sample ID** UAMS #4 Continuous

**Report Date:** 11/06/12  
**Collection Date:** 08/20/12 18:15  
**DateReceived:** 10/11/12  
**Matrix:** Filter

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By
<b>METALS IN AIR</b>							
Cerium	28	ug/filter		1	0.4	E200.8	10/24/12 13:00 / eli-b
Lanthanum	14	ug/filter		1	0.4	E200.8	10/24/12 13:00 / eli-b
Thorium	7	ug/filter		1	0.0005	E200.8	10/26/12 11:27 / eli-b
Uranium	2	ug/filter		1	0.00008	E200.8	10/22/12 01:38 / eli-b
<b>RADIONUCLIDES - TOTAL</b>							
Radium 226	1.7	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
Radium 226 precision (±)	1.0	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
Radium 226 MDC	1.3	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
<b>RADIOCHEMICAL</b>							
Thorium 230	1.3	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 precision (±)	0.55	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 MDC	0.58	pCi/Filter				E908.0	10/24/12 16:14 / eli-c

**Report Definitions:**  
RL - Analyte reporting limit.  
MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

MDL - Method detection limit  
QCL - Quality control limit.  
MDC - Minimum detectable concentration



### LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton  
**Lab ID:** G12100318-003  
**Client Sample ID** UAMS #3 Continuous

**Report Date:** 11/06/12  
**Collection Date:** 08/09/12 10:15  
**DateReceived:** 10/11/12  
**Matrix:** Filter

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By
<b>METALS IN AIR</b>							
Cerium	19	ug/filter		1	0.4	E200.8	10/24/12 13:36 / eli-b
Lanthanum	9	ug/filter		1	0.4	E200.8	10/24/12 13:36 / eli-b
Thorium	3	ug/filter		1	0.001	E200.8	10/26/12 11:30 / eli-b
Uranium	1	ug/filter		1	0.00008	E200.8	10/22/12 01:32 / eli-b
<b>RADIONUCLIDES - TOTAL</b>							
Radium 226	1	pCi/Filter	U			E903.0	10/29/12 11:55 / eli-c
Radium 226 precision (±)	0.8	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
Radium 226 MDC	1.1	pCi/Filter				E903.0	10/29/12 11:55 / eli-c
<b>RADIOCHEMICAL</b>							
Thorium 230	1.0	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 precision (±)	0.53	pCi/Filter				E908.0	10/24/12 16:14 / eli-c
Thorium 230 MDC	0.65	pCi/Filter				E908.0	10/24/12 16:14 / eli-c

**Report Definitions:**  
 RL - Analyte reporting limit.  
 MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 U - Not detected at minimum detectable concentration  
 MDL - Method detection limit  
 QCL - Quality control limit.  
 MDC - Minimum detectable concentration



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton

**Report Date:** 10/30/12  
**Work Order:** G12100318

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8	Analytical Run: ICPMS202-B_121025B								
<b>Sample ID:</b> QCS	Initial Calibration Verification Standard								10/25/12 16:08
Thorium	0.0206	mg/L	0.0010	103	90	110			
<b>Method:</b> E200.8	Batch: 66221								
<b>Sample ID:</b> LFB-66221	Laboratory Fortified Blank								Run: ICPMS202-B_121025B 10/26/12 10:19
Thorium	9.63	mg/L	1.0	96	80	120			
<b>Sample ID:</b> MB-66221	Method Blank								Run: ICPMS202-B_121025B 10/26/12 10:55
Thorium	0.03	ug/filter	4E-05						
<b>Sample ID:</b> LFB-66221	Laboratory Fortified Blank								Run: ICPMS202-B_121025B 10/26/12 11:36
Thorium	9.66	ug/filter	1.0	96	80	120			
<b>Sample ID:</b> LFBD-66221	Laboratory Fortified Blank Duplicate								Run: ICPMS202-B_121025B 10/26/12 11:39
Thorium	10.2	ug/filter	1.0	102	80	120	18	20	
<b>Sample ID:</b> B12101289-003AMS	Sample Matrix Spike								Run: ICPMS202-B_121025B 10/26/12 11:42
Thorium	69.8	ug/filter	1.0	96	70	130			
<b>Sample ID:</b> B12101289-003AMSD	Sample Matrix Spike Duplicate								Run: ICPMS202-B_121025B 10/26/12 11:45
Thorium	66.6	ug/filter	1.0	91	70	130	4.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton

**Report Date:** 10/30/12  
**Work Order:** G12100318

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_121020A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard							10/21/12 16:04	
Thorium	0.0220	mg/L	0.0010	110	90	110			
Uranium	0.0206	mg/L	0.0010	103	90	110			
<b>Method: E200.8</b>							Batch: 66221		
<b>Sample ID: MB-66221</b>	Method Blank							Run: ICPMS203-B_121020A 10/22/12 02:41	
Thorium	1.0	ug/filter	0.002						
Uranium	ND	ug/filter	7E-06						
<b>Sample ID: G12100318-003AMSD</b>	Sample Matrix Spike Duplicate							Run: ICPMS203-B_121020A 10/22/12 00:35	
Thorium	294	ug/filter	1.0	98	70	130	3.7	20	
Uranium	312	ug/filter	1.0	104	70	130	1.5	20	
<b>Sample ID: G12100318-003AMS</b>	Sample Matrix Spike							Run: ICPMS203-B_121020A 10/22/12 01:27	
Thorium	305	ug/filter	1.0	102	70	130			
Uranium	317	ug/filter	1.0	106	70	130			
<b>Sample ID: LFBD-66221</b>	Laboratory Fortified Blank Duplicate							Run: ICPMS203-B_121020A 10/22/12 02:30	
Thorium	7.98	ug/filter	1.0	70	80	120	6.9	20	S
Uranium	9.76	ug/filter	1.0	98	80	120	0.6	20	
<b>Sample ID: LFB-66221</b>	Laboratory Fortified Blank							Run: ICPMS203-B_121020A 10/22/12 02:35	
Thorium	8.55	ug/filter	1.0	76	80	120			S
Uranium	9.70	ug/filter	1.0	97	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton

**Report Date:** 10/30/12  
**Work Order:** G12100318

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_121024A			
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard								10/24/12 11:01	
Cerium	0.0520	mg/L	0.0010	104	90	110				
Lanthanum	0.0512	mg/L	0.0010	102	90	110				
<b>Method: E200.8</b>							Batch: 66221			
<b>Sample ID: MB-66221</b>	Method Blank								Run: ICPMS203-B_121024A	10/24/12 12:26
Cerium	ND	ug/filter	0.04							
Lanthanum	ND	ug/filter	0.04							
<b>Sample ID: LFB-66221</b>	Laboratory Fortified Blank								Run: ICPMS203-B_121024A	10/24/12 13:46
Cerium	10.2	ug/filter	1.0	102	80	120				
Lanthanum	10.0	ug/filter	1.0	100	80	120				
<b>Sample ID: LFBD-66221</b>	Laboratory Fortified Blank Duplicate								Run: ICPMS203-B_121024A	10/24/12 13:51
Cerium	10.3	ug/filter	1.0	103	80	120	1.9	20		
Lanthanum	10.3	ug/filter	1.0	103	80	120	2.4	20		
<b>Sample ID: G12100318-003AMS</b>	Sample Matrix Spike								Run: ICPMS203-B_121024A	10/24/12 13:56
Cerium	334	ug/filter	1.0	105	70	130				
Lanthanum	323	ug/filter	1.0	104	70	130				
<b>Sample ID: G12100318-003AMSD</b>	Sample Matrix Spike Duplicate								Run: ICPMS203-B_121024A	10/24/12 14:01
Cerium	339	ug/filter	1.0	107	70	130	1.4	20		
Lanthanum	327	ug/filter	1.0	106	70	130	1.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton

**Report Date:** 11/01/12  
**Work Order:** G12100318

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>							Batch: R166568		
<b>Sample ID: MB-35354</b>	Method Blank						Run: BERTHOLD 770-1_121019D		10/29/12 11:55
Radium 226	-0.08	pCi/Filter							U
Radium 226 precision (±)	0.1	pCi/Filter							
Radium 226 MDC	0.3	pCi/Filter							
<b>Sample ID: LCS-35354</b>	Laboratory Control Sample						Run: BERTHOLD 770-1_121019D		10/29/12 11:55
Radium 226	13.0	pCi/Filter	111		80	120			
<b>Sample ID: C12100650-003BMS</b>	Sample Matrix Spike						Run: BERTHOLD 770-1_121019D		10/29/12 13:53
Radium 226	69.5	pCi/Filter	107		70	130			
<b>Sample ID: C12100650-003BMSD</b>	Sample Matrix Spike Duplicate						Run: BERTHOLD 770-1_121019D		10/29/12 13:53
Radium 226	65.2	pCi/Filter	100		70	130	6.4		24.7

**Qualifiers:**

RL - Analyte reporting limit.  
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rare Element Resources Inc  
**Project:** Upton

**Report Date:** 11/01/12  
**Work Order:** G12100318

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E908.0									Batch: 35430
<b>Sample ID:</b> C12100650-010BMS Thorium 230	Sample Matrix Spike 106	pCi/Filter		102	70	130			Run: ALPHANALYST_121023A 10/24/12 16:14
<b>Sample ID:</b> C12100650-010BMSD Thorium 230	Sample Matrix Spike Duplicate 108	pCi/Filter		104	70	130	2.5	30.3	Run: ALPHANALYST_121023A 10/24/12 16:14
<b>Sample ID:</b> LCS-35430 Thorium 230	Laboratory Control Sample 10.9	pCi/Filter		111	80	120			Run: ALPHANALYST_121023A 10/24/12 16:15
<b>Sample ID:</b> MB-35430 Thorium 230	Method Blank 0.07	pCi/Filter							Run: ALPHANALYST_121023A 10/24/12 16:15 U
Thorium 230 precision (±)	0.1	pCi/Filter							
Thorium 230 MDC	0.2	pCi/Filter							

**Qualifiers:**

RL - Analyte reporting limit.  
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Rare Element Resources Inc

G12100318

Login completed by: Amanda Alley

Date Received: 10/11/2012

Reviewed by: BL2000\kscotruff

Received by: mav

Reviewed Date: 10/12/2012

Carrier Hand Del  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Container/Temp Blank temperature:	°C		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Contact and Corrective Action Comments:

None

**PLEASE PRINT (Provide as much information as possible.)**

Company Name: 2ER Project Name, PWS, Permit, Etc. UPSON Sample Origin: EPA/State Compliance: Yes  No

Report Mail Address (Required): ON FILE Contact Name: UPSON Phone/Fax: State: Sampler: (Please Print) SAMUEL

Invoice Address (Required): Invoice Contact & Phone: Purchase Order: Quote/Bottle Order:

No Hard Copy Email:  No Hard Copy Email:

Special Report/Formats:  DW  POTW/WWTP  State:  Other:  EDD/EDT (Electronic Data)  LEVEL IV  NELAC

Number of Containers: 2  
 Sample Type:  AWS  V  B  O  DW  
 Air  Water  Soils/Solids  Vegetation  Bioassay  Other  
 DW - Drinking Water

ANALYSIS REQUESTED: GENERAL TOXIC

SEE ATTACHED

Standard Turnaround (TAT): RUSH

Contact EIL prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments: 200318

Shipped by: David  
 Cooler ID(s): DAE

Received by: DAE  
 On Ice:  Y  N

Custody Seal:  On Bottle  On Cooler  Intact  Signature Match

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	ANALYSIS REQUESTED	SEE ATTACHED	Standard Turnaround (TAT)	Comments	LABORATORY USE ONLY
1 UAWWS # 2 Cont.	8/2/12	1030	A					
2 UAWWS # 4 Cont.	8/20/12	1815	X					
3 UAWWS # 3 Cont.	8/9/12	1015	X					
4								
5								
6								
7								
8								
9								
10								

Custody Record **MUST be Signed**

Relinquished by (print): Robert Burgess Date/Time: 10/1/12 1350 Signature: [Signature]

Received by (print): [Signature] Date/Time: 10/1/12 Signature: [Signature]

Received by Laboratory: [Signature] Date/Time: 10/1/12 Signature: [Signature]

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.