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LABORATORY IDENTIFICATION NUMBER: 1510562

SECTION 1.

3440 South 700 West
Salt Lake City, UT 84119

CASE NARRATIVE
CHAIN-OF-CUSTODIES

SECTION 2.

Phone: (801) 263-8686
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ANALYTICAL REPORTS

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web: www.awal-labs.com

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SECTION 4.

Kyle F. Gross
Laboratory Director

INSTRUMENT QC SUMMARIES

Jose Rocha
QA Officer

SECTION 5.

LOGBOOKS, RUNLOGS AND RAW DATA PER
ANALYSIS

Assembled by:

Reviewed by:

Melissa Connolly	Digitally signed by Melissa Connolly DN: cn=Melissa Connolly, o=American West Analytical Laboratories, ou, email=melissa@awa-labs.com, c=US Date: 2015.11.30 15:51:23 -07'00'	Kyle F. Gross	Digitally signed by Kyle F. Gross Date: 2015.11.30 17:37:59 -07'00'
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SECTION 1.

- ❑ CASE NARRATIVE
- ❑ AWAL CHAIN-OF-CUSTODY
- ❑ CLIENT CHAIN-OF-CUSTODY

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Kyle F. Gross
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Jose Rocha
QA Officer



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Jim Harris
Utah Division of Water Quality
PO Box 144870
SLC, UT 84114
TEL: (801) 538-6329

RE: Gold King Mine Spill / 01255.1.016.03

Dear Jim Harris:

Lab Set ID: 1510562

American West Analytical Laboratories received sample(s) on 10/27/2015 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by:

Kyle F. Gross
Digitally signed
by Kyle F. Gross
Date:
2015.11.30
17:38:17 -07'00'

Laboratory Director or designee

American West Analytical Laboratories

REVISED: 10/28/2015

D

Samples 1, 8, 9, 10, 11, and 12 taken off hold per Brad. -EH

WORK ORDER SUMMARY

Work Order: **1510562**
 Due Date: 11/11/2015

Page 1 of 2

Client: Utah Division of Water Quality

Client ID: UTD200

Contact: Jim Harris

Project: Gold King Mine Spill / 01255.1-016.03

QC Level: III+ MDL

WO Type: Standard

Comments: Email to lenoras@utah.gov / CC Brad Martin QC 3+ / 10-28-15 proceed with analysis for Samples #1, 8, 9, 10, 11, & #12 per Brad. Include EDD;

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1510562-001A	GK03-ST-13	10/15/2015 1200h	10/27/2015 1520h	200.7-W 6 SEL Analytes: AL CA FE MG K NA	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN		<input checked="" type="checkbox"/>	DF-Metals
				200.8-W-PR		<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-002A	GK03-ST-14	10/16/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-003A	GK03-ST-15	10/16/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-004A	GK03-ST-16	10/17/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-005A	GK03-ST-17	10/17/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-006A	GK03-ST-18	10/18/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-007A	GK03-ST-19	10/18/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-008A	GK03-ST-20	10/19/2015 0000h	10/27/2015 1520h	200.7-W 6 SEL Analytes: AL CA FE MG K NA	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN		<input checked="" type="checkbox"/>	DF-Metals
				200.8-W-PR		<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-009A	GK03-ST-21	10/19/2015 1200h	10/27/2015 1520h	200.7-W 6 SEL Analytes: AL CA FE MG K NA	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W 17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN		<input checked="" type="checkbox"/>	DF-Metals

WORK ORDER SUMMARY

Client: Utah Division of Water Quality

Work Order: **1510562**

Page 2 of 2

Due Date: 11/11/2015

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage
1510562-009A	GK03-ST-21	10/19/2015 1200h	10/27/2015 1520h	200.8-W-PR	Aqueous	<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-010A	GK03-ST-22	10/20/2015 0000h	10/27/2015 1520h	200.7-W	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				6 SEL Analytes: AL CA FE MG K NA			
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W		<input checked="" type="checkbox"/>	DF-Metals
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN			
				200.8-W-PR		<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-011A	GK03-ST-23	10/20/2015 1200h	10/27/2015 1520h	200.7-W	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				6 SEL Analytes: AL CA FE MG K NA			
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W		<input checked="" type="checkbox"/>	DF-Metals
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN			
				200.8-W-PR		<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-012A	GK03-ST-24	10/21/2015 0000h	10/27/2015 1520h	200.7-W	Aqueous	<input checked="" type="checkbox"/>	DF-Metals
				6 SEL Analytes: AL CA FE MG K NA			
				200.7-W-PR		<input type="checkbox"/>	DF-Metals
				200.8-W		<input checked="" type="checkbox"/>	DF-Metals
				17 SEL Analytes: SB AS BA BE CD CR CO CU PB MN MO NI SE AG TL V ZN			
				200.8-W-PR		<input type="checkbox"/>	DF-Metals
				HG-DW-245.1		<input type="checkbox"/>	DF-Metals
				HG-DW-PR		<input type="checkbox"/>	DF-Metals
1510562-013A	GK04-ST-01	10/9/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-014A	GK04-ST-02	10/10/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-015A	GK04-ST-03	10/10/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-016A	GK04-ST-04	10/11/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-017A	GK04-ST-05	10/11/2015 1200h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold
1510562-018A	GK04-ST-06	10/12/2015 0000h	10/27/2015 1520h		Aqueous	<input type="checkbox"/>	DF-Hold

Printed: 11/25/2015

FOR LABORATORY USE ONLY (fill out on page 1):

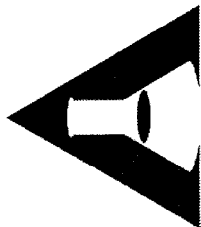
%M RT CN TAT QC

HOK_ _ _ _ _

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HOK_ _ _ _ _

COC Emailed_ _ _ _ _



American West Analytical Laboratories

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Client: State of UT / TechLaw Inc
 Address: 195 N. 1950 West
 Contact: Jim Harris (SDUT) Brad Martin (TLI)
 Phone #: 801 536 4300 Cell #: 680 697 5407
 Email: _____
 Project Name: Gold King Mine Spill
 Project #: 01255.1.016.03
 PO #: _____
 Sampler Name: TechLaw Inc

CHAIN OF CUSTODY

All analysts will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analysis lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

QC Level:	Turn Around Time:	Laboratory Use Only	
1 2 3	1 2 3 4 5	Samples Were:	Due Date:
1		1. Shipped and delivered	
2		2. Ambient or <u>Chilled</u>	
3		3. Temperature <u>33</u> °C	
4		4. Received in original (improperly sealed) <u>Y</u>	
5		5. Properly preserved <u>Y</u> Checked at bench <u>N</u>	
6		6. Received within <u>Y</u> loading times <u>N</u>	
		COC Tape Was:	
		1. Present on Outer Package <u>Y</u>	
		2. Unbroken on Outer Package <u>Y</u>	
		3. Present on Sample <u>Y</u>	
		4. Unbroken on Sample <u>Y</u>	
		Discrepancies Between Sample Labels and COC Record? <u>Y</u>	

Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	QC Level	Turn Around Time	Special Instructions:
*1 GK03-ST-13	10/15/15	1200	7	M	3	5	
*2 GK03-ST-14	10/16/15	0000	7	M	3	5	
*3 GK03-ST-15	10/17/15	1200	7	M	3	5	
*4 GK03-ST-16	10/17/15	0000	7	M	3	5	
*5 GK03-ST-17	10/18/15	1200	7	M	3	5	
*6 GK03-ST-18	10/18/15	0000	7	M	3	5	
*7 GK03-ST-19	10/19/15	1200	7	M	3	5	
*8 GK03-ST-20	10/19/15	0000	7	M	3	5	
*9 GK03-ST-21	10/20/15	1200	7	M	3	5	
*10 GK03-ST-22	10/20/15	0000	7	M	3	5	
*11 GK03-ST-23	10/21/15	1200	7	M	3	5	
*12 GK03-ST-24	10/21/15	0000	7	M	3	5	

Relinquished by:	Date:	Time:	Signature:
Paul Young	10/22/15	1400	[Signature]
Paul Young	10/27/15	15:30	[Signature]

Special Instructions: Hold for Analysis
* 10/28/15 Samples 1, 8, 9, 10, 11, 12 taken off hold for total metals



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Client: SOUI / Techlaw Inc
 Address: 195 N. 1950 West
 Contact: SLC, UT, 84119
 Phone #: 801 536 4360 Cell #: 680 697 5407
 Email: _____
 Project Name: G K M S
 Project #: 01255.1.016.03
 PO #: _____
 Sampler Name: TLI

CHAIN OF CUSTODY

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWL's standard analysis lists and reporting limits (POL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

QC Level: 1 2 2+ 3 3+ 4

Turn Around Time: 1 2 3 4 5 5 Std

Unless other arrangements have been made, signed reports will be emailed by **5:00 pm** on the day they are due.

Report down to the MDL Include EJD: Lab Filter for: Field Filtered For: _____

For Compliance With:
 NELAP RCRA CWA SDWA ELAP / A2LA NLLAP Non-Compliance Other: _____

Known Hazards & Sample Comments

1510567
 AWAL Lab Sample Set #
 Page 2 of 2
 Due Date: _____

Laboratory Use Only

Samples Were:
 1. Shipped or hand delivered
 2. Ambient or Chilled
 3. Temperature 33 °C
 4. Received Broken/Leaking (Inappropriate Seal)
 5. Properly Preserved: Checked at bench
 6. Received Within Holding Times N

COC Tape Was:
 1. Present on Outer Package
 2. Unbroken on Outer Package
 3. Present on Sample
 4. Unbroken on Sample
 Discrepancies Between Sample Labels and COC Record?

Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix
13 GK04-ST-01	10/9/15	1200	2	Water
14 GK04-ST-02	10/10/15	0800	1	Water
15 GK04-ST-03	10/10/15	1200	1	Water
16 GK04-ST-04	10/11/15	0800	1	Water
17 GR4-ST-05	10/12/15	1200	1	Water
18 GK04-ST-06	10/12/15	0800	1	Water
7				
8				
9				
10				
11				
12				

Special Instructions: Hold for Analysis

Received by: Paul Yang Date: 10/22/15 Time: 1600

Print Name: Paul Yang Signature: _____

Received by: _____ Date: _____ Time: _____

Print Name: _____ Signature: _____

Received by: _____ Date: _____ Time: _____

Print Name: _____ Signature: _____

Received by: _____ Date: 10/22/15 Time: 15:20

Print Name: Yesenia Aguilar Signature: _____

Elona Hayward

From: Rebekah Winkler
Sent: Wednesday, October 28, 2015 6:40 AM
To: Elona Hayward
Subject: FW: TechLaw - Gold King Mine samples - samples received 10/27/15
Attachments: Utah COCs 10-23-15.pdf

Take off hold/add analysis for TechLaw's samples received yesterday.

From: Martin, Bradley [<mailto:BMartin@TechLawInc.com>]
Sent: Wednesday, October 28, 2015 6:29 AM
To: Rebekah Winkler
Subject: TechLaw - Gold King Mine samples - samples received 10/27/15

Hi Rebekah – For the samples received yesterday I would like the following analyzed for total metals:

GK01-ST-13 10/15/15 1200 ✓
GK02-ST-13 10/15/15 1200
GK02-ST-20 10/19/15 0000
GK02-ST-21 10/19/15 1200
GK02-ST-22 10/20/15 0000
GK02-ST-23 10/20/15 1200
GK02-ST-24 10/21/15 0000
GK03-ST-13 10/15/15 1200
GK03-ST-20 10/19/15 0000
GK03-ST-21 10/19/15 1200
GK03-ST-22 10/20/15 0000
GK03-ST-23 10/20/15 1200
GK03-ST-24 10/21/15 0000
GK04-ST-13 10/15/15 1200
GK04-ST-19 10/18/15 1200
GK04-ST-20 10/19/15 0000
GK04-ST-21 10/19/15 1200
GK04-ST-22 10/20/15 0000
GK04-ST-23 10/20/15 1200
GK04-ST-24 10/21/15 0000

Also, can we sample the following samples for the nutrient list below (I realize several of the holding time may have expired – it's the nature of this particular sampling method)

GK01-ST-12 10/15/15 0000
GK02-ST-12 10/15/15 0000
GK03-ST-12 10/15/15 0000
GK04-ST-12 10/15/15 0000
GK05-ST-03 10/11/15 1200

Hardness	2340B
Conductivity	SM2510B
Alkalinity	SM2320B
Anions (Carbonate, Bicarbonate, Sulfate and Chloride)	300.0

Nitrate/Nitrite	353.2
Phosphorus, total	4500-PF

TDS	SM2540C	
TSS	SM2540D	
pH		9040C

Thanks, Brad

Bradley K. Martin, P.E.
TechLaw, Inc.
55 West Monroe Street, Suite 3450
Chicago, IL 60603
T 312.345.8960
M 630.697.5407
bmartin@techlawinc.com
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Inorganic Case Narrative

Client: Utah Division of Water Quality
Contact: Jim Harris
Project: Gold King Mine Spill / 01255.016.03
Lab Set ID: 1510562

3440 South 700 West
Salt Lake City, UT 84119

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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Sample Receipt Information:

Date of Receipt: 10/27/2015
Date of Collection: 10/9-10/21/2015
Date of Analyses Request: 10/28/2015
Sample Condition: Intact
C-O-C Discrepancies: None

Holding Time and Preservation Requirements: The analysis and preparation of all samples were performed within the method holding times. All samples were properly preserved.

Preparation and Analysis Requirements: The samples were analyzed following the methods stated on the analytical reports.

Analytical QC Requirements: All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

Batch QC Requirements: MB, LCS, MS, MSD, RPD, DUP, PDS, SD:

Method Blanks (MBs): No target analytes were detected above the reporting limits, indicating that the procedure was free from contamination. Vanadium and Barium were observed between the MDL and reporting limit on sample MB-40004.

Laboratory Control Sample (LCSs): All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

Matrix Spike / Matrix Spike Duplicate (MS/MSD): All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exceptions:

Sample ID	Analyte	QC	Explanation
1510561-002A	Aluminum	MS/MSD	High analyte concentration
1510561-002A	Antimony	MS/MSD	Sample matrix interference
1510561-002A	Iron	MS/MSD	High analyte concentration
1510562-001A	Aluminum	MS/MSD	High analyte concentration
1510562-001A	Antimony	MS/MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Barium	MS/MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Beryllium	MSD/RPD	Sample matrix interference or sample non-homogeneity



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

1510562-001A	Cadmium	MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Iron	MS/MSD	High analyte concentration
1510562-001A	Lead	MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Manganese	MS/MSD	Sample matrix interference
1510562-001A	Molybdenum	MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Silver	MSD/RPD	Sample matrix interference or sample non-homogeneity
1510562-001A	Thallium	MSD/RPD	Sample matrix interference or sample non-homogeneity

Duplicate (DUP): The parameters that require a duplicate analysis had RPDs within the control limits.

Post Digestion Spike (PDS): The PDS percent recoveries were within the control limits, with the following exceptions: the PDS percent recoveries for Aluminum, Calcium, Iron, Magnesium, and Potassium on 1510561-002A and for Aluminum, Calcium, Iron, and Magnesium on 1510562-001A were outside of the control limits due to sample matrix interference.

Serial Dilution (SD): The serial dilution RPDs were within the control limits, with the following exceptions: the RPDs for Aluminum, Iron, Magnesium, and Potassium on samples 1510561-002A and 1510562-001A were outside of the control limits due to matrix interference. The analyte concentrations for Antimony, Cadmium, Mercury, Molybdenum, Selenium, Silver, Thallium, and Vanadium on sample 1510561-002A and for Antimony, Molybdenum, Selenium, Silver, and Thallium on sample 1510562-001A were too low for serial dilution evaluation.

Corrective Action: None required.



SAMPLE SUMMARY

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Set ID: 1510562
Date Received: 10/27/2015 1520h

Lab Sample ID	Client Sample ID	Date Collected	Matrix	Analysis	
3440 South 700 West Salt Lake City, UT 84119	1510562-001A	GK03-ST-13	10/15/2015 1200h	Aqueous	ICPMS Metals, Total
	1510562-001A	GK03-ST-13	10/15/2015 1200h	Aqueous	ICP Metals, Total
	1510562-001A	GK03-ST-13	10/15/2015 1200h	Aqueous	Mercury, Drinking Water
	1510562-008A	GK03-ST-20	10/19/2015 000h	Aqueous	Mercury, Drinking Water
Phone: (801) 263-8686	1510562-008A	GK03-ST-20	10/19/2015 000h	Aqueous	ICPMS Metals, Total
Toll Free: (888) 263-8686	1510562-008A	GK03-ST-20	10/19/2015 000h	Aqueous	ICP Metals, Total
Fax: (801) 263-8687	1510562-009A	GK03-ST-21	10/19/2015 1200h	Aqueous	ICP Metals, Total
e-mail: awal@awal-labs.com	1510562-009A	GK03-ST-21	10/19/2015 1200h	Aqueous	Mercury, Drinking Water
	1510562-009A	GK03-ST-21	10/19/2015 1200h	Aqueous	ICPMS Metals, Total
web: www.awal-labs.com	1510562-010A	GK03-ST-22	10/20/2015 000h	Aqueous	ICPMS Metals, Total
	1510562-010A	GK03-ST-22	10/20/2015 000h	Aqueous	ICP Metals, Total
	1510562-010A	GK03-ST-22	10/20/2015 000h	Aqueous	Mercury, Drinking Water
	1510562-011A	GK03-ST-23	10/20/2015 1200h	Aqueous	Mercury, Drinking Water
Kyle F. Gross	1510562-011A	GK03-ST-23	10/20/2015 1200h	Aqueous	ICPMS Metals, Total
Laboratory Director	1510562-011A	GK03-ST-23	10/20/2015 1200h	Aqueous	ICP Metals, Total
	1510562-012A	GK03-ST-24	10/21/2015 000h	Aqueous	ICP Metals, Total
Jose Rocha	1510562-012A	GK03-ST-24	10/21/2015 000h	Aqueous	Mercury, Drinking Water
QA Officer	1510562-012A	GK03-ST-24	10/21/2015 000h	Aqueous	ICPMS Metals, Total



SECTION 2.

□ ANALYTICAL REPORTS

- The contract required detection limits (CRDL's) were met.
- There is an analytical report for each sample on the chain-of-custody.
- The results and dates on the analytical reports match the raw data.
- The information on the header of the analytical reports including the field ID's, the sample dates, and the received date match the chain-of-custody.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-001
Client Sample ID: GK03-ST-13
Collection Date: 10/15/2015 1200h
Received Date: 10/27/2015 1520h

Contact: Jim Harris

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1125h	E200.7	0.0237	0.100	14.8	² § □
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000366	0.00200	0.000197	J ¹ @S
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000920	0.00200	0.00510	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000538	0.00200	0.313	B ¹ @
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000288	0.00200	0.000928	J ¹ @
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000193	0.000500	0.000313	J ¹ @
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1028h	E200.7	0.401	10.0	119	§
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.00154	0.00200	0.00802	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000434	0.00400	0.00726	
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000692	0.00200	0.0194	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1125h	E200.7	0.0767	0.100	14.7	² § □
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000264	0.00200	0.0155	¹ @
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1125h	E200.7	0.0294	1.00	27.4	§ □
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.00153	0.00200	0.417	¹
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1010h	E245.1	0.0000892	0.000150	0.0000250	J
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000206	0.00200	0.000996	J ¹ @S
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000754	0.00200	0.0122	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1125h	E200.7	0.247	1.00	5.89	□
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000634	0.00200	0.000685	JS
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000244	0.00200	0.0000787	J ¹ @S
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1028h	E200.7	0.330	10.0	44.5	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.0000242	0.00200	0.000191	J ¹ @S
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.000438	0.00440	0.0215	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1724h	E200.8	0.00476	0.00500	0.0581	

§ - Sample concentration too low for serial dilution evaluation.

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

□ - Serial dilution RPD indicates matrix interference.

§ - Post digestion spike (PDS) recovery indicates matrix interference.

² - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-008
Client Sample ID: GK03-ST-20
Collection Date: 10/19/2015 000h
Received Date: 10/27/2015 1520h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1144h	E200.7	0.0237	0.100	5.79	
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000366	0.00200	0.000294	J
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000920	0.00200	0.00286	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000538	0.00200	0.190	B
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000288	0.00200	0.000407	J
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000193	0.000500	< 0.000500	U
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1039h	E200.7	0.401	10.0	106	
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.00154	0.00200	0.00347	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000434	0.00400	0.00320	J
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000692	0.00200	0.00921	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1144h	E200.7	0.0767	0.100	5.88	
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000264	0.00200	0.00575	
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1144h	E200.7	0.0294	1.00	24.4	
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.00153	0.00200	0.236	
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1015h	E245.1	0.0000892	0.000150	< 0.000150	U
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000206	0.00200	0.00144	J
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000754	0.00200	0.00604	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1144h	E200.7	0.247	1.00	4.47	
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000634	0.00200	0.000736	J
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000244	0.00200	0.0000830	J
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1039h	E200.7	0.330	10.0	44.4	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.0000242	0.00200	0.000148	J
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.000438	0.00440	0.0102	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1740h	E200.8	0.00476	0.00500	0.0263	

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



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Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-009
Client Sample ID: GK03-ST-21
Collection Date: 10/19/2015 1200h
Received Date: 10/27/2015 1520h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1146h	E200.7	0.0237	0.100	15.2	
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000366	0.00200	0.000197	J
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000920	0.00200	0.00539	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000538	0.00200	0.320	B
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000288	0.00200	0.00104	J
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000193	0.000500	0.000372	J
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1041h	E200.7	0.401	10.0	145	
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.00154	0.00200	0.00640	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000434	0.00400	0.00772	
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000692	0.00200	0.0188	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1146h	E200.7	0.0767	0.100	11.5	
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000264	0.00200	0.0142	
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1146h	E200.7	0.0294	1.00	30.2	
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.00153	0.00200	0.596	
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1017h	E245.1	0.0000892	0.000150	0.0000283	J
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000206	0.00200	0.000909	J
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000754	0.00200	0.0116	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1146h	E200.7	0.247	1.00	6.69	
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000634	0.00200	0.000762	J
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000244	0.00200	0.0000995	J
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1041h	E200.7	0.330	10.0	50.1	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.0000242	0.00200	0.000232	J
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.000438	0.00440	0.0184	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1743h	E200.8	0.00476	0.00500	0.0524	

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



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INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-010
Client Sample ID: GK03-ST-22
Collection Date: 10/20/2015 000h
Received Date: 10/27/2015 1520h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1043h	E200.7	0.237	1.00	53.8	
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000366	0.00200	0.000200	J
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000920	0.00200	0.0139	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000538	0.00200	1.25	B
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000288	0.00200	0.00505	
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000193	0.000500	0.00164	
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1043h	E200.7	0.401	10.0	264	
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.00154	0.00200	0.0207	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000434	0.00400	0.0258	
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000692	0.00200	0.0577	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1043h	E200.7	0.767	1.00	42.9	
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000264	0.00200	0.0721	
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1043h	E200.7	0.294	10.0	51.3	
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/5/2015 1149h	E200.8	0.00764	0.0100	2.00	
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1019h	E245.1	0.0000892	0.000150	0.000222	
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000206	0.00200	0.000600	J
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000754	0.00200	0.0412	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1148h	E200.7	0.247	1.00	14.3	
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000634	0.00200	0.00155	J
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000244	0.00200	0.000422	J
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1043h	E200.7	0.330	10.0	64.2	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.0000242	0.00200	0.000839	J
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.000438	0.00440	0.0454	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1746h	E200.8	0.00476	0.00500	0.175	

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



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Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-011
Client Sample ID: GK03-ST-23
Collection Date: 10/20/2015 1200h
Received Date: 10/27/2015 1520h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1151h	E200.7	0.0237	0.100	35.8	
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000366	0.00200	0.000195	J
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000920	0.00200	0.0110	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000538	0.00200	0.881	B
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000288	0.00200	0.00313	
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000193	0.000500	0.00130	
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1045h	E200.7	0.401	10.0	244	
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.00154	0.00200	0.0172	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000434	0.00400	0.0183	
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000692	0.00200	0.0443	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1151h	E200.7	0.0767	0.100	29.9	
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000264	0.00200	0.0480	
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1045h	E200.7	0.294	10.0	41.8	
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.00153	0.00200	1.34	
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1020h	E245.1	0.0000892	0.000150	0.000200	
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000206	0.00200	0.000904	J
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000754	0.00200	0.0342	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1151h	E200.7	0.247	1.00	12.0	
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000634	0.00200	0.00166	J
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000244	0.00200	0.000334	J
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1045h	E200.7	0.330	10.0	62.6	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.0000242	0.00200	0.000691	J
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.000438	0.00440	0.0394	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1749h	E200.8	0.00476	0.00500	0.134	

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



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Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Utah Division of Water Quality **Contact:** Jim Harris
Project: Gold King Mine Spill / 01255.1.016.03
Lab Sample ID: 1510562-012
Client Sample ID: GK03-ST-24
Collection Date: 10/21/2015 000h
Received Date: 10/27/2015 1520h

Analytical Results

TOTAL METALS

Compound	CAS	Units	Date Prepared	Date Analyzed	Method Used	MDL	Reporting Limit	Analytical Result	Qual
Aluminum	7429-90-5	mg/L	10/29/2015 1437h	11/9/2015 1153h	E200.7	0.0237	0.100	30.2	
Antimony	7440-36-0	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000366	0.00200	0.000188	J
Arsenic	7440-38-2	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000920	0.00200	0.0101	
Barium	7440-39-3	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000538	0.00200	0.689	B
Beryllium	7440-41-7	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000288	0.00200	0.00245	
Cadmium	7440-43-9	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000193	0.000500	0.000758	
Calcium	7440-70-2	mg/L	10/29/2015 1437h	11/9/2015 1054h	E200.7	0.401	10.0	213	
Chromium	7440-47-3	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.00154	0.00200	0.0110	
Cobalt	7440-48-4	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000434	0.00400	0.0136	
Copper	7440-50-8	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000692	0.00200	0.0326	
Iron	7439-89-6	mg/L	10/29/2015 1437h	11/9/2015 1153h	E200.7	0.0767	0.100	21.3	
Lead	7439-92-1	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000264	0.00200	0.0330	
Magnesium	7439-95-4	mg/L	10/29/2015 1437h	11/9/2015 1054h	E200.7	0.294	10.0	39.4	
Manganese	7439-96-5	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.00153	0.00200	1.21	
Mercury	7439-97-6	mg/L	11/3/2015 1615h	11/4/2015 1022h	E245.1	0.0000892	0.000150	0.000190	
Molybdenum	7439-98-7	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000206	0.00200	0.000745	J
Nickel	7440-02-0	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000754	0.00200	0.0208	
Potassium	7440-09-7	mg/L	10/29/2015 1437h	11/9/2015 1153h	E200.7	0.247	1.00	10.9	
Selenium	7782-49-2	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000634	0.00200	0.00129	J
Silver	7440-22-4	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000244	0.00200	0.000188	J
Sodium	7440-23-5	mg/L	10/29/2015 1437h	11/9/2015 1054h	E200.7	0.330	10.0	68.1	
Thallium	7440-28-0	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.0000242	0.00200	0.000460	J
Vanadium	7440-62-2	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.000438	0.00440	0.0313	B
Zinc	7440-66-6	mg/L	10/29/2015 1437h	11/4/2015 1802h	E200.8	0.00476	0.00500	0.0891	

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).



SECTION 3.

❑ BATCH QC REPORTS

❑ METHOD BLANK (MB) REPORTS

- ❑ Raw data matches method blank reports.
- ❑ Any results greater than the contract required detection limit are flagged.

❑ LABORATORY CONTROL SAMPLE (LCS) REPORTS

- ❑ Raw data matches LCS reports.
- ❑ Any results outside the control limits are flagged.

❑ MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD) REPORTS

- ❑ Raw data matches MS/MSD reports.
- ❑ Any results outside the control limits are flagged and qualified.

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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-40003													
Date Analyzed: 11/09/2015 959h													
Test Code: 200.7-W													
Date Prepared: 10/29/2015 1437h													
Aluminum	1.06	mg/L	E200.7	0.0237	0.100	1.000	0	106	85 - 115				
Calcium	10.5	mg/L	E200.7	0.0401	1.00	10.00	0	105	85 - 115				
Iron	1.03	mg/L	E200.7	0.0767	0.100	1.000	0	103	85 - 115				
Magnesium	10.6	mg/L	E200.7	0.0294	1.00	10.00	0	106	85 - 115				
Potassium	10.3	mg/L	E200.7	0.247	1.00	10.00	0	103	85 - 115				
Sodium	10.1	mg/L	E200.7	0.0330	1.00	10.00	0	101	85 - 115				
Lab Sample ID: LCS-40004													
Date Analyzed: 11/04/2015 1644h													
Test Code: 200.8-W													
Date Prepared: 10/29/2015 1437h													
Antimony	0.182	mg/L	E200.8	0.0000366	0.00200	0.2000	0	91.1	85 - 115				
Arsenic	0.197	mg/L	E200.8	0.0000920	0.00200	0.2000	0	98.5	85 - 115				
Barium	0.198	mg/L	E200.8	0.000538	0.00200	0.2000	0	99.0	85 - 115				
Beryllium	0.207	mg/L	E200.8	0.0000288	0.00200	0.2000	0	103	85 - 115				
Cadmium	0.200	mg/L	E200.8	0.000193	0.000500	0.2000	0	99.8	85 - 115				
Chromium	0.199	mg/L	E200.8	0.00154	0.00200	0.2000	0	99.4	85 - 115				
Cobalt	0.197	mg/L	E200.8	0.0000434	0.00400	0.2000	0	98.6	85 - 115				
Copper	0.201	mg/L	E200.8	0.000692	0.00200	0.2000	0	101	85 - 115				
Lead	0.199	mg/L	E200.8	0.000264	0.00200	0.2000	0	99.3	85 - 115				
Manganese	0.201	mg/L	E200.8	0.00153	0.00200	0.2000	0	101	85 - 115				
Molybdenum	0.200	mg/L	E200.8	0.000206	0.00200	0.2000	0	100	85 - 115				
Nickel	0.198	mg/L	E200.8	0.000754	0.00200	0.2000	0	98.9	85 - 115				
Selenium	0.194	mg/L	E200.8	0.0000634	0.00200	0.2000	0	97.1	85 - 115				
Silver	0.181	mg/L	E200.8	0.0000244	0.00200	0.2000	0	90.7	85 - 115				
Thallium	0.194	mg/L	E200.8	0.0000242	0.00200	0.2000	0	97.2	85 - 115				
Vanadium	0.202	mg/L	E200.8	0.000438	0.00440	0.2000	0	101	85 - 115				
Zinc	0.987	mg/L	E200.8	0.00476	0.00500	1.000	0	98.7	85 - 115				

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Kyle F. Gross
Laboratory Director

Jose Rocha
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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-40062	Date Analyzed:	11/04/2015	948h										
Test Code: HG-DW-245.1	Date Prepared:	11/03/2015	1615h										
Mercury	0.00336	mg/L	E245.1	0.00000892	0.000150	0.003330	0	101	85 - 115				

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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-40003	Date Analyzed:	11/09/2015	956h										
Test Code:	200.7-W	Date Prepared:	10/29/2015	1437h									
Aluminum	< 0.100	mg/L	E200.7	0.0237	0.100								U
Calcium	< 1.00	mg/L	E200.7	0.0401	1.00								U
Iron	< 0.100	mg/L	E200.7	0.0767	0.100								U
Magnesium	< 1.00	mg/L	E200.7	0.0294	1.00								U
Potassium	< 1.00	mg/L	E200.7	0.247	1.00								U
Sodium	< 1.00	mg/L	E200.7	0.0330	1.00								U
Lab Sample ID: MB-40004	Date Analyzed:	11/04/2015	1640h										
Test Code:	200.8-W	Date Prepared:	10/29/2015	1437h									
Antimony	< 0.00200	mg/L	E200.8	0.0000366	0.00200								U
Arsenic	< 0.00200	mg/L	E200.8	0.0000920	0.00200								U
Barium	0.00171	mg/L	E200.8	0.000538	0.00200								JB
Beryllium	< 0.00200	mg/L	E200.8	0.0000288	0.00200								U
Cadmium	< 0.000500	mg/L	E200.8	0.000193	0.000500								U
Chromium	< 0.00200	mg/L	E200.8	0.00154	0.00200								U
Cobalt	< 0.00400	mg/L	E200.8	0.0000434	0.00400								U
Copper	< 0.00200	mg/L	E200.8	0.000692	0.00200								U
Lead	< 0.00200	mg/L	E200.8	0.000264	0.00200								U
Manganese	< 0.00200	mg/L	E200.8	0.00153	0.00200								U
Molybdenum	< 0.00200	mg/L	E200.8	0.000206	0.00200								U
Nickel	< 0.00200	mg/L	E200.8	0.000754	0.00200								U
Selenium	< 0.00200	mg/L	E200.8	0.0000634	0.00200								U
Silver	< 0.00200	mg/L	E200.8	0.0000244	0.00200								U
Thallium	< 0.00200	mg/L	E200.8	0.0000242	0.00200								U
Vanadium	0.000464	mg/L	E200.8	0.000438	0.00440								JB
Zinc	< 0.00500	mg/L	E200.8	0.00476	0.00500								U

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QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-40062	Date Analyzed:	11/04/2015	947h										
Test Code: HG-DW-245.1	Date Prepared:	11/03/2015	1615h										
Mercury	< 0.000150	mg/L	E245.1	0.00000892	0.000150								U

B - This analyte was also detected in the method blank below the PQL.

J - Estimated value between the MDL and the reporting limit (PQL).

U - This flag indicates the compound was analyzed for but not detected above the MDL.



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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1510562
Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris
Dept: ME
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510561-002AMS													
Date Analyzed:		11/09/2015 1008h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Calcium	133	mg/L	E200.7	0.401	10.0	10.00	121	115	70 - 130				
Sodium	54.9	mg/L	E200.7	0.330	10.0	10.00	44.5	104	70 - 130				
Lab Sample ID: 1510562-001AMS													
Date Analyzed:		11/09/2015 1034h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Calcium	127	mg/L	E200.7	0.401	10.0	10.00	119	77.5	70 - 130				
Sodium	54.5	mg/L	E200.7	0.330	10.0	10.00	44.5	100	70 - 130				
Lab Sample ID: 1510561-002AMS													
Date Analyzed:		11/09/2015 1112h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Aluminum	16.7	mg/L	E200.7	0.0237	0.100	1.000	11	577	70 - 130				2
Iron	11.9	mg/L	E200.7	0.0767	0.100	1.000	10	184	70 - 130				2
Magnesium	39.1	mg/L	E200.7	0.0294	1.00	10.00	27.3	118	70 - 130				
Potassium	16.8	mg/L	E200.7	0.247	1.00	10.00	5.69	111	70 - 130				
Lab Sample ID: 1510562-001AMS													
Date Analyzed:		11/09/2015 1140h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Aluminum	17.5	mg/L	E200.7	0.0237	0.100	1.000	14.8	262	70 - 130				2
Iron	12.4	mg/L	E200.7	0.0767	0.100	1.000	14.7	-234	70 - 130				2
Magnesium	36.1	mg/L	E200.7	0.0294	1.00	10.00	27.4	86.7	70 - 130				
Potassium	15.7	mg/L	E200.7	0.247	1.00	10.00	5.89	97.8	70 - 130				
Lab Sample ID: 1510561-002AMS													
Date Analyzed:		11/04/2015 1656h											
Test Code:		200.8-W											
Date Prepared:		10/29/2015 1437h											
Antimony	0.115	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000876	57.3	75 - 125				1
Arsenic	0.204	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00432	99.7	75 - 125				
Barium	0.472	mg/L	E200.8	0.000538	0.00200	0.2000	0.301	85.7	75 - 125				
Beryllium	0.201	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000619	100	75 - 125				
Cadmium	0.202	mg/L	E200.8	0.000193	0.000500	0.2000	0.000305	101	75 - 125				

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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510561-002AMS													
Date Analyzed:	11/04/2015 1656h												
Test Code:	200.8-W												
Date Prepared:	10/29/2015 1437h												
Chromium	0.204	mg/L	E200.8	0.00154	0.00200	0.2000	0.0062	99.1	75 - 125				
Cobalt	0.198	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00506	96.6	75 - 125				
Copper	0.208	mg/L	E200.8	0.000692	0.00200	0.2000	0.014	96.9	75 - 125				
Lead	0.209	mg/L	E200.8	0.000264	0.00200	0.2000	0.00993	99.5	75 - 125				
Manganese	0.613	mg/L	E200.8	0.00153	0.00200	0.2000	0.437	88.4	75 - 125				
Molybdenum	0.192	mg/L	E200.8	0.000206	0.00200	0.2000	0.00139	95.2	75 - 125				
Nickel	0.200	mg/L	E200.8	0.000754	0.00200	0.2000	0.00888	95.8	75 - 125				
Selenium	0.192	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000599	95.7	75 - 125				
Silver	0.194	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000941	97.0	75 - 125				
Thallium	0.195	mg/L	E200.8	0.0000242	0.00200	0.2000	0.000166	97.3	75 - 125				
Vanadium	0.218	mg/L	E200.8	0.000438	0.00440	0.2000	0.0173	100	75 - 125				
Zinc	1.02	mg/L	E200.8	0.00476	0.00500	1.000	0.0405	97.9	75 - 125				
Lab Sample ID: 1510562-001AMS													
Date Analyzed:	11/04/2015 1734h												
Test Code:	200.8-W												
Date Prepared:	10/29/2015 1437h												
Antimony	0.0833	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000197	41.6	75 - 125				1
Arsenic	0.199	mg/L	E200.8	0.0000920	0.00200	0.2000	0.0051	97.1	75 - 125				
Barium	0.424	mg/L	E200.8	0.000538	0.00200	0.2000	0.313	55.2	75 - 125				1
Beryllium	0.193	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000928	96.2	75 - 125				
Cadmium	0.199	mg/L	E200.8	0.000193	0.000500	0.2000	0.000313	99.2	75 - 125				
Chromium	0.201	mg/L	E200.8	0.00154	0.00200	0.2000	0.00802	96.4	75 - 125				
Cobalt	0.195	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00726	93.8	75 - 125				
Copper	0.206	mg/L	E200.8	0.000692	0.00200	0.2000	0.0194	93.3	75 - 125				
Lead	0.206	mg/L	E200.8	0.000264	0.00200	0.2000	0.0155	95.2	75 - 125				
Manganese	0.474	mg/L	E200.8	0.00153	0.00200	0.2000	0.417	28.9	75 - 125				1
Molybdenum	0.184	mg/L	E200.8	0.000206	0.00200	0.2000	0.000996	91.5	75 - 125				
Nickel	0.200	mg/L	E200.8	0.000754	0.00200	0.2000	0.0122	93.9	75 - 125				
Selenium	0.187	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000685	93.2	75 - 125				

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Kyle F. Gross
 Laboratory Director

Jose Rocha
 QA Officer

QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1510562
Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris
Dept: ME
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510562-001AMS	Date Analyzed: 11/04/2015 1734h												
Test Code: 200.8-W	Date Prepared: 10/29/2015 1437h												
Silver	0.186	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000787	92.9	75 - 125				
Thallium	0.191	mg/L	E200.8	0.0000242	0.00200	0.2000	0.000191	95.5	75 - 125				
Vanadium	0.215	mg/L	E200.8	0.000438	0.00440	0.2000	0.0215	96.6	75 - 125				
Zinc	1.01	mg/L	E200.8	0.00476	0.00500	1.000	0.0581	95.2	75 - 125				
Lab Sample ID: 1510562-001AMS	Date Analyzed: 11/04/2015 1012h												
Test Code: HG-DW-245.1	Date Prepared: 11/03/2015 1615h												
Mercury	0.00346	mg/L	E245.1	0.00000892	0.000150	0.003330	0.000025	103	80 - 120				
Lab Sample ID: 1510561-002AMS	Date Analyzed: 11/04/2015 956h												
Test Code: HG-DW-245.1	Date Prepared: 11/03/2015 1615h												
Mercury	0.00331	mg/L	E245.1	0.00000892	0.000150	0.003330	0	99.4	80 - 120				

¹ - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

² - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.



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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510561-002AMSD													
Date Analyzed:		11/09/2015 1010h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Calcium	132	mg/L	E200.7	0.401	10.0	10.00	121	110	70 - 130	133	0.380	20	
Sodium	55.2	mg/L	E200.7	0.330	10.0	10.00	44.5	107	70 - 130	54.9	0.571	20	
Lab Sample ID: 1510562-001AMSD													
Date Analyzed:		11/09/2015 1037h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Calcium	126	mg/L	E200.7	0.401	10.0	10.00	119	70.0	70 - 130	127	0.591	20	
Sodium	53.7	mg/L	E200.7	0.330	10.0	10.00	44.5	92.0	70 - 130	54.5	1.53	20	
Lab Sample ID: 1510561-002AMSD													
Date Analyzed:		11/09/2015 1114h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Aluminum	14.9	mg/L	E200.7	0.0237	0.100	1.000	11	391	70 - 130	16.7	11.8	20	2
Iron	10.7	mg/L	E200.7	0.0767	0.100	1.000	10	64.3	70 - 130	11.9	10.6	20	2
Magnesium	38.8	mg/L	E200.7	0.0294	1.00	10.00	27.3	115	70 - 130	39.1	0.712	20	
Potassium	16.4	mg/L	E200.7	0.247	1.00	10.00	5.69	107	70 - 130	16.8	2.44	20	
Lab Sample ID: 1510562-001AMSD													
Date Analyzed:		11/09/2015 1142h											
Test Code:		200.7-W											
Date Prepared:		10/29/2015 1437h											
Aluminum	17.5	mg/L	E200.7	0.0237	0.100	1.000	14.8	269	70 - 130	17.5	0.391	20	2
Iron	12.5	mg/L	E200.7	0.0767	0.100	1.000	14.7	-222	70 - 130	12.4	0.982	20	2
Magnesium	36.4	mg/L	E200.7	0.0294	1.00	10.00	27.4	90.2	70 - 130	36.1	0.973	20	
Potassium	15.6	mg/L	E200.7	0.247	1.00	10.00	5.89	96.6	70 - 130	15.7	0.755	20	
Lab Sample ID: 1510561-002AMSD													
Date Analyzed:		11/04/2015 1659h											
Test Code:		200.8-W											
Date Prepared:		10/29/2015 1437h											
Antimony	0.112	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000876	55.4	75 - 125	0.115	3.40	20	1
Arsenic	0.206	mg/L	E200.8	0.0000920	0.00200	0.2000	0.00432	101	75 - 125	0.204	1.19	20	
Barium	0.477	mg/L	E200.8	0.000538	0.00200	0.2000	0.301	88.2	75 - 125	0.472	1.05	20	
Beryllium	0.204	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000619	102	75 - 125	0.201	1.24	20	
Cadmium	0.205	mg/L	E200.8	0.000193	0.000500	0.2000	0.000305	102	75 - 125	0.202	1.49	20	

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QC SUMMARY REPORT

Client: Utah Division of Water Quality

Lab Set ID: 1510562

Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris

Dept: ME

QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510561-002AMSD													
Date Analyzed:		11/04/2015 1659h											
Test Code:		200.8-W											
Date Prepared:		10/29/2015 1437h											
Chromium	0.209	mg/L	E200.8	0.00154	0.00200	0.2000	0.0062	101	75 - 125	0.204	2.10	20	
Cobalt	0.205	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00506	99.8	75 - 125	0.198	3.22	20	
Copper	0.213	mg/L	E200.8	0.000692	0.00200	0.2000	0.014	99.3	75 - 125	0.208	2.33	20	
Lead	0.210	mg/L	E200.8	0.000264	0.00200	0.2000	0.00993	100	75 - 125	0.209	0.506	20	
Manganese	0.631	mg/L	E200.8	0.00153	0.00200	0.2000	0.437	97.4	75 - 125	0.613	2.90	20	
Molybdenum	0.194	mg/L	E200.8	0.000206	0.00200	0.2000	0.00139	96.1	75 - 125	0.192	0.994	20	
Nickel	0.210	mg/L	E200.8	0.000754	0.00200	0.2000	0.00888	100	75 - 125	0.2	4.53	20	
Selenium	0.195	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000599	97.1	75 - 125	0.192	1.50	20	
Silver	0.191	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000941	95.7	75 - 125	0.194	1.36	20	
Thallium	0.196	mg/L	E200.8	0.0000242	0.00200	0.2000	0.000166	97.9	75 - 125	0.195	0.593	20	
Vanadium	0.223	mg/L	E200.8	0.000438	0.00440	0.2000	0.0173	103	75 - 125	0.218	2.31	20	
Zinc	1.03	mg/L	E200.8	0.00476	0.00500	1.000	0.0405	99.3	75 - 125	1.02	1.29	20	
Lab Sample ID: 1510562-001AMSD													
Date Analyzed:		11/04/2015 1737h											
Test Code:		200.8-W											
Date Prepared:		10/29/2015 1437h											
Antimony	0.123	mg/L	E200.8	0.0000366	0.00200	0.2000	0.000197	61.5	75 - 125	0.0833	38.6	20	¹ @
Arsenic	0.198	mg/L	E200.8	0.0000920	0.00200	0.2000	0.0051	96.4	75 - 125	0.199	0.726	20	
Barium	0.615	mg/L	E200.8	0.000538	0.00200	0.2000	0.313	151	75 - 125	0.424	36.9	20	¹ @
Beryllium	0.274	mg/L	E200.8	0.0000288	0.00200	0.2000	0.000928	137	75 - 125	0.193	34.5	20	¹ @
Cadmium	0.291	mg/L	E200.8	0.000193	0.000500	0.2000	0.000313	145	75 - 125	0.199	37.6	20	¹ @
Chromium	0.200	mg/L	E200.8	0.00154	0.00200	0.2000	0.00802	96.0	75 - 125	0.201	0.465	20	
Cobalt	0.196	mg/L	E200.8	0.0000434	0.00400	0.2000	0.00726	94.5	75 - 125	0.195	0.720	20	
Copper	0.205	mg/L	E200.8	0.000692	0.00200	0.2000	0.0194	92.9	75 - 125	0.206	0.321	20	
Lead	0.298	mg/L	E200.8	0.000264	0.00200	0.2000	0.0155	141	75 - 125	0.206	36.7	20	¹ @
Manganese	0.473	mg/L	E200.8	0.00153	0.00200	0.2000	0.417	28.1	75 - 125	0.474	0.346	20	¹
Molybdenum	0.269	mg/L	E200.8	0.000206	0.00200	0.2000	0.000996	134	75 - 125	0.184	37.5	20	¹ @
Nickel	0.200	mg/L	E200.8	0.000754	0.00200	0.2000	0.0122	93.7	75 - 125	0.2	0.227	20	
Selenium	0.186	mg/L	E200.8	0.0000634	0.00200	0.2000	0.000685	92.7	75 - 125	0.187	0.620	20	

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QC SUMMARY REPORT

Client: Utah Division of Water Quality
Lab Set ID: 1510562
Project: Gold King Mine Spill / 01255.1.016.03

Contact: Jim Harris
Dept: ME
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1510562-001AMSD		Date Analyzed:	11/04/2015 1737h										
Test Code: 200.8-W		Date Prepared:	10/29/2015 1437h										
Silver	0.278	mg/L	E200.8	0.0000244	0.00200	0.2000	0.0000787	139	75 - 125	0.186	39.6	20	'@
Thallium	0.277	mg/L	E200.8	0.0000242	0.00200	0.2000	0.000191	138	75 - 125	0.191	36.5	20	'@
Vanadium	0.215	mg/L	E200.8	0.000438	0.00440	0.2000	0.0215	96.6	75 - 125	0.215	0.0807	20	
Zinc	1.00	mg/L	E200.8	0.00476	0.00500	1.000	0.0581	94.3	75 - 125	1.01	0.905	20	
Lab Sample ID: 1510562-001AMSD		Date Analyzed:	11/04/2015 1013h										
Test Code: HG-DW-245.1		Date Prepared:	11/03/2015 1615h										
Mercury	0.00346	mg/L	E245.1	0.00000892	0.000150	0.003330	0.000025	103	80 - 120	0.00346	0.145	20	
Lab Sample ID: 1510561-002AMSD		Date Analyzed:	11/04/2015 957h										
Test Code: HG-DW-245.1		Date Prepared:	11/03/2015 1615h										
Mercury	0.00340	mg/L	E245.1	0.00000892	0.000150	0.003330	0	102	80 - 120	0.00331	2.54	20	

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

¹ - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

² - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.