



OGMCOAL DNR &lt;ogmcoal@utah.gov&gt;

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## Crandall Canyon: Pre-002, 002 DOGM samples

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**Steve Christensen** <stevechristensen@utah.gov>

Wed, Nov 5, 2014 at 4:44 PM

To: Jay Marshall <jmarshall@coalsource.com>, "Odendahl, Karin" <kodendahl@coalsource.com>, Erik Petersen <petersen@relia.net>, Amanda Daniels <amandadaniels@utah.gov>, OGMCOAL DNR <ogmcoal@utah.gov>

Good afternoon,

I've attached the last 6 months of water monitoring data that the Division has obtained from the mine-water discharge (pre- and post- treatment) during our routine field inspections.

With the Board's mine-water discharge update coming down the pike, I wanted to get these to you. I apologize for not getting them to you sooner.

Regards,  
Steve

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Steve Christensen  
Utah Division of Oil, Gas and Mining  
1594 W North Temple, Suite 1210  
Salt Lake City, Utah 84116  
(801) 538-5350  
[stevechristensen@utah.gov](mailto:stevechristensen@utah.gov)



**20141105162558.pdf**

974K



UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DIV. OF OIL, GAS & MINING

JUN 09 2014

RECEIVED

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY UT 84114-1210

801-538-5350

Lab Number: 201402062 Sample Type: 04 Cost Code: 901B  
Description: OUTFALL 002  
Collector: AD

Site ID:	Source No: 00	Organic Review:	
Sample Date: 05/28/2014	Time: 13:25	Inorganic Review:	06/03/2014
		Radiochemistry Review:	
		Microbiology Review:	

TEST RESULTS:

Sulfate	148.0 mg/l	T-Iron	0.326 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

END OF REPORT



# Unified State Laboratories: Public Health

## Bureau of Chemical and Environmental Services

4431 S 2700 W Taylorsville, UT 84119-8600

801 965 2400 Fax 801 969 3238

http://health.utah.gov/lab/chemistry

# CHAIN OF CUSTODY

- Hand Delivered
- Shipped Samples
- Cooler Returned

System/Agency Name: <b>Division of Oil, Gas &amp; Mining</b>		System/Agency Number: <b>WT177</b>		Cost/Project Code: <b>901B</b>	
REPORTING/CONTACT					
Address: <b>Steve Christensen</b>		Special Code:		BILLING (list if different)	
City, State, Zip:		Address:		City, State, Zip:	
Phone: <b>801-538-5350</b>		Phone:		Phone:	
Fax:		Fax:		Fax:	
Email:		Email:		Email:	
Submitted By: <b>Amanda Daniels</b>					

COLLECTION POINT DESCRIPTION	Collector Initials	Collection Date (mm/dd/yy)	Collection Time (24 hr)	COMMENTS	REQUESTED TESTS			Receipt temperature	Receipt pH	Sample Receipt Conditions
Outfall 002	AD	05/29/14	13:25	Tex 1 Rea 1	X	X		4.5	NA	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <input checked="" type="checkbox"/> Documentation complete <input checked="" type="checkbox"/> Proper containers and in-date <input checked="" type="checkbox"/> Containers intact <input checked="" type="checkbox"/> Within holding time <input type="checkbox"/> Coolant <input type="checkbox"/> Temperature within-range <input type="checkbox"/> Acceptable pH <input checked="" type="checkbox"/> Custody Seals Intact <input type="checkbox"/> N/A
Pre-Treat 002	AD	05/29/14	13:28	Rea 1 Tex 1	X	X		5.1	NA	Yes <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Documentation complete <input type="checkbox"/> Proper containers and in-date <input type="checkbox"/> Containers intact <input type="checkbox"/> Within holding time <input type="checkbox"/> Coolant <input type="checkbox"/> Temperature within-range <input type="checkbox"/> Acceptable pH <input type="checkbox"/> Custody Seals Intact <input type="checkbox"/> N/A

Dispatched By:	Date and Time:	Courier Company Name:	Invoice/Airbill #:
Relinquished By:	Date and Time:	Received by:	Date and Time:
Relinquished to USL:PH by: <b>Amanda Daniels</b>	Date and Time: <b>5/29/14 13:45</b>	Receiver: <b>USL:PH by: [Signature]</b>	Date and Time: <b>5-29-14 13:45</b>

*\* no seals present at time of receipt*

UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

---

Lab Number: 201402412      Sample Type: 04      Cost Code: 901B  
Description: PRE-002  
Collector: KRH

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Site ID:	Source No: 00	Organic Review:	
Sample Date: 06/10/2014	Time: 08:40	Inorganic Review:	06/30/2014
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Sulfate	149.0 mg/l	T-Iron	1.32 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

---

Lab Number: 201402411      Sample Type: 04      Cost Code: 901B  
Description: 002  
Collector: KRH

---

Site ID:	Source No: 00	Organic Review:	
Sample Date: 06/10/2014	Time: 08:35	Inorganic Review:	06/30/2014
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Sulfate	146.0 mg/l	T-Iron	0.337 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT



# CHAIN OF CUSTODY

Unified State Laboratories: Public Health  
 Bureau of Chemical and Environmental Services  
 4431 S 2700 W Taylorsville, UT 84129-8600  
 801 965 2400 Fax 801 969 3238  
 http://health.utah.gov/lab/chemistry

- Hand Delivered
- Shipped Samples
- Cooler Returned

System/Agency Name: <b>Oil, Gas &amp; Mining</b>	System/Agency Number: <b>WT1177</b>	Cost/Project Code: <b>9013</b>	RECEIVED TESTS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> </tr> <tr> <td>Total Iron</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sulfate</td> <td></td> <td>X</td> <td></td> <td></td> </tr> </table>							Total Iron	X				Sulfate		X		
Total Iron	X																		
Sulfate		X																	
REFORTING/CONTACT Attn: _____ Address: _____ City, State, Zip: _____ Phone: _____ Fax: _____ Submitted By: _____			BILLING (list if different) Special Code: _____ Attn: _____ Address: _____ City, State, Zip: _____ Phone: _____ Fax: _____																
COLLECTION POINT DESCRIPTION <b>002</b>  <b>PRE-002</b>	Collectors Initials <b>KRH</b>  <b>KRH</b>	Collection Date (mm/dd/yy) <b>06/10/14</b>  <b>06/10/14</b>	Collection Time (24 hr) <b>08:35</b>  <b>08:40</b>	COMMENTS <b>Tax 1</b> <b>Tax 1</b>  <b>Tax 1</b> <b>Tax 1</b>															
Received Date and Time: Receipt temperature Receipt pH		Sample Receipt Conditions Yes No <input checked="" type="checkbox"/> Documentation complete <input checked="" type="checkbox"/> Proper containers and in-date <input checked="" type="checkbox"/> Containers intact <input checked="" type="checkbox"/> Within holding time <input checked="" type="checkbox"/> Coolant <input checked="" type="checkbox"/> Temperature within-range <input checked="" type="checkbox"/> Acceptable pH <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> Custody Seals Intact																	

Dispatched By:	Date and Time:	Courier Company Name:	Invoice/Airbill #:
Relinquished By: <i>[Signature]</i>	06/12/14 07:10 AM	Received by: <i>[Signature]</i>	06/13/14 12:00 pm
Relinquished to USL/PH by: <i>[Signature]</i>	06/18/14 4:49 PM	Received at USL/PH by: <i>[Signature]</i>	06/18 - 14 1649

*No seals present at time of receipt*

UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

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Lab Number: 201402935      Sample Type: 04      Cost Code: 901B  
Description: 002  
Collector: KRH

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Site ID:	Source No: 00	Organic Review:	
Sample Date: 07/01/2014	Time: 10:15	Inorganic Review:	07/23/2014
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Sulfate	141.0 mg/l	T-Iron	0.535 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

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Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

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JUL 25 2014

DIV. OF OIL, GAS & MINING

UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

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Lab Number: 201402936      Sample Type: 04      Cost Code: 901B  
Description: PRE-002  
Collector: KRH

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Site ID:	Source No: 00	Organic Review:
Sample Date: 07/01/2014	Time: 10:20	Inorganic Review: 07/22/2014
		Radiochemistry Review:
		Microbiology Review:

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TEST RESULTS:

T-Iron                      1.38 mg/l

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QUALIFYING COMMENTS (\*) on test results:      NO COMMENTS

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Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

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JUL 25 2014

DIV. OF OIL, GAS & MINING



Unified State Laboratories: Public Health  
 Bureau of Chemical and Environmental Services

4431 S 2700 W Taylorsville, UT 84129-8600  
 801 965 2400 Fax 801 969 3238  
 http://health.utah.gov/lab/chemistry

CHAIN OF CUSTODY

RECEIVED

JUL 25 2014

Hand Delivered  Shipped Samples  Cooler Returned  
 DIV. OF OIL, GAS & MINING

System/Agency Name: <b>Division of oil, Gas &amp; Mining</b>		System/Agency Number: <b>WT1177</b>		Cost/Project Code: <b>901B</b>	
REPORTING/CONTACT		BILLING (list if different)			
Addr:	Special Code:	Addr:			
Address:	City, State, Zip:	Address:			
City, State, Zip:	Phone:	City, State, Zip:			
Phone:	Fax:	Phone:			
Fax:	Email:	Fax:			
Submitted By:					

COLLECTION POINT DESCRIPTION	Collectors Initials	Collection Date (mm/dd/yy)	Collection Time (24 hr)	COMMENTS	REQUESTED TESTS	Receipt temperature	Receipt pH	Sample Receipt Conditions
002	KRH	07/01/14	10:15	TCX1	Total Iron	4.4	N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Documentation complete Proper containers and in-date Containers intact Within holding time Coolant Temperature within-range Acceptable pH <input checked="" type="checkbox"/> Custody Seal Intact LAB NUMBER: 201402935 07/16/2014 16:48
PRE - 002	KRH	07/01/14	10:20	TMX1	Sulfate	5.2	N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No Documentation complete Proper containers and in-date Containers intact Within holding time Coolant Temperature within-range Acceptable pH <input type="checkbox"/> Custody Seal Intact LAB NUMBER: 201402936 07/16/2014 16:48

Dispatched By:	Date and Time:	Courier Company Name:	Invoice/Airbill #:
Reinquished By: <i>[Signature]</i>	7/8/14 12:00 pm		
Relinquished to USL:PH by: <i>[Signature]</i>	7/16/14 4:50 pm	Received at USL:PH by: <i>[Signature]</i>	7-16-14 1655

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UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY UT 84114-1210

801-538-5350

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Lab Number: 201404278      Sample Type: 04      Cost Code: 901B  
Description: PRE-002  
Collector: KH

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Site ID:	Source No: 00	Organic Review:
Sample Date: 09/15/2014	Time: 10:15	Inorganic Review: 09/22/2014
		Radiochemistry Review:
		Microbiology Review:

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TEST RESULTS:

Sulfate	132.0 mg/l	T-Iron	1.37 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

---

Lab Number: 201404277      Sample Type: 04      Cost Code: 901B  
Description: 002  
Collector: KH

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Site ID:	Source No: 00	Organic Review:	
Sample Date: 09/15/2014	Time: 10:08	Inorganic Review:	09/22/2014
		Radiochemistry Review:	
		Microbiology Review:	

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TEST RESULTS:

Sulfate	134.0 mg/l	T-Iron	0.524 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT



# CHAIN OF CUSTODY

Unified State Laboratories: Public Health  
Bureau of Chemical and Environmental Services

4431 S 2700 W Taylorsville, UT 84129-8600  
801 965 2400 Fax 801 969 3238  
<http://health.utah.gov/lab/chemistry>

- Hand Delivered
- Shipped Samples
- Cooler Returned

System/Agency Name: <b>Division of Gas Mining</b>		System/Agency Number: <b>WT177</b>	Cost/Project Code: <b>9015</b>	
BILLING (list if different)				
Special Code:	Attn:	Address:	City, State, Zip:	
Submitted By:	Phone:	Fax:	Email:	
REPORTING/CONTACT				
COLLECTION POINT DESCRIPTION	Collectors Initials	Collection Date (mm/dd/yy)	Collection Time (24 hr)	COMMENTS
002	KIT	9/15/14	10:08	Text
PRE-002	KIT	9/15/14	10:15	Text

Dispatched By:	Date and Time:	Courier Company Name:	Invoice/Airbill #:
Relinquished By:	Date and Time:	Received by:	Date and Time:
Relinquished to USL PH by:	Date and Time:	Received at USL PH by:	Date and Time:

*no seals present at time of receipt*

Received Date and Time:	Receipt pH	Sample Receipt Conditions
38 MA		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <input checked="" type="checkbox"/> Documentation complete <input checked="" type="checkbox"/> Proper containers and in-date <input checked="" type="checkbox"/> Containers intact <input checked="" type="checkbox"/> Within holding time <input checked="" type="checkbox"/> Coolant <input type="checkbox"/> Temperature within-range <input checked="" type="checkbox"/> Acceptable pH <input checked="" type="checkbox"/> Custody Seals Intact
60 MA		TARNITRER 201404277 09/16/2014 15:41
56 MA		201404278 09/16/2014 15:41
66		



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UTAH STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORY SERVICES  
Environmental Chemistry Analysis Report

DIV. OF OIL, GAS & MINING

DEPT OF NATURAL RESOURCES - OGM  
STEVE CHRISTENSEN  
1594 W NORTH TEMPLE - STE 1210  
SALT LAKE CITY

UT 84114-1210

801-538-5350

---

Lab Number: 201405251      Sample Type: 04      Cost Code: 901B  
Description: 002  
Collector: KRH

---

Site ID:	Source No: 00	Organic Review:
Sample Date: 10/07/2014	Time: 09:58	Inorganic Review: 10/29/2014
		Radiochemistry Review:
		Microbiology Review:

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TEST RESULTS:

Sulfate	137.0 mg/l	T-Iron	0.476 mg/l
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QUALIFYING COMMENTS (\*) on test results: NO COMMENTS

Trace levels up to 0.2 ppb metals may be present in bottles

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END OF REPORT

