

0034

Incoming
3/15/2008

From: "Karla Knoop" <kknoop@jbrenv.com>
To: "Shaver, Dave" <dshaver@coalsource.com>, "Jeffrey Studenka" <jstuden...
Date: 3/24/2008 2:47 PM
Subject: Crandall mine water discharge - lab report for March 17 sample & trend/compliance data
Attachments: Crandall 2008 wq trends.xls; Crandall 2008 UPDES compliance.xls; Crandall 02 March 17 08.pdf

All,

If you would like to opt out of receiving this information, please let me know and I will remove your email address from the bulk mailing list.

Please see attached Crandall Canyon mine water discharge laboratory results for the sample taken Monday, March 17th. Excel files showing trends and UPDES permit compliance are also attached.

Regards,

Karla Knoop, Hydrologist

jbr Environmental Consultants, Inc.

phone (435) 637-9645

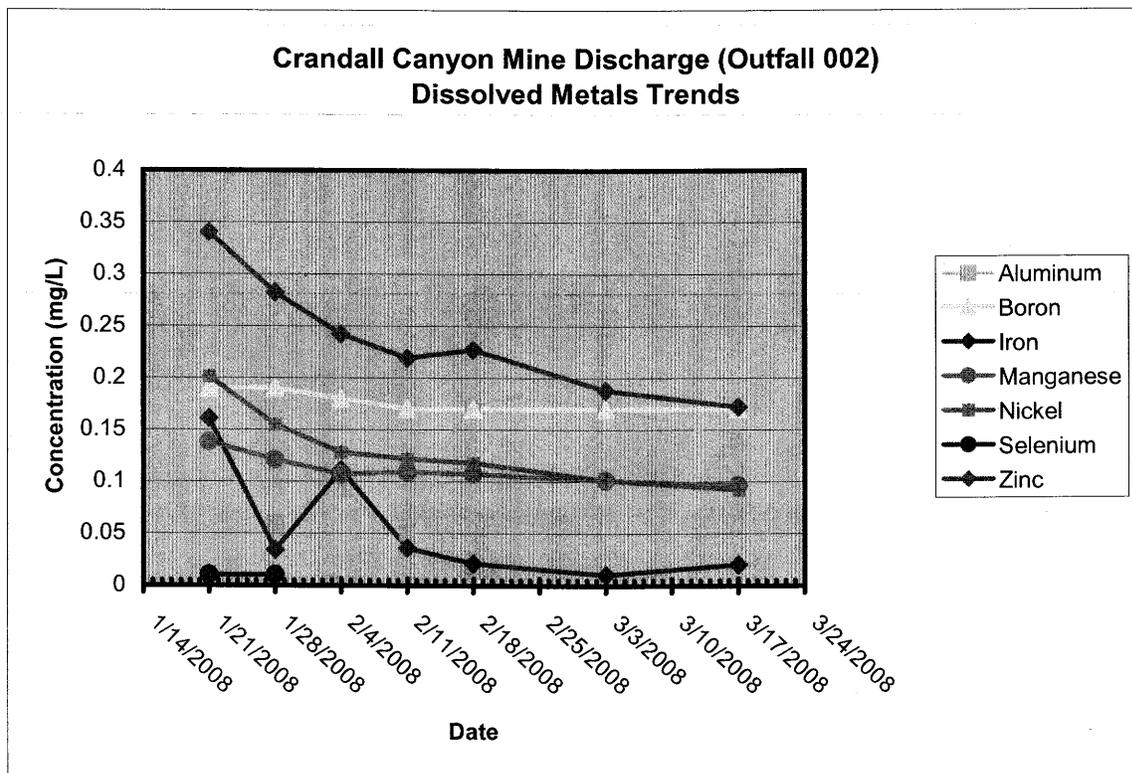
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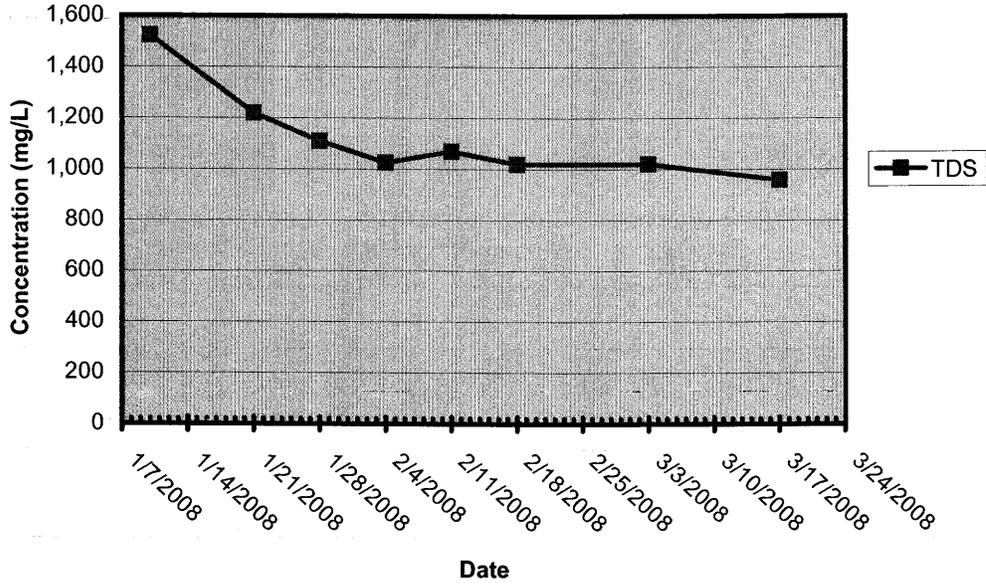
UtahAmerican Energy, Inc., Genwal Resources, Inc., Crandall Canyon Mine
In-mine Groundwater Discharge
TDS and Selected Trace Metals Trends - 2008 (mg/L)

| Date | Outfall | TDS | Al (diss) | B (diss) | Fe (tot) | Fe (diss) | Mn (diss) | Ni (diss) | Se (diss) | Zn (diss) |
|-----------|---------|-------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| 10-Jan-08 | 002 | 1,523 | | | 0.937 | | | | | |
| 21-Jan-08 | 002 | 1,218 | | 0.19 | 2.204 | 0.161 | 0.138 | 0.201 | 0.01 | 0.340 |
| 28-Jan-08 | 002 | 1,108 | 0.06 | 0.19 | 1.494 | 0.034 | 0.121 | 0.155 | 0.01 | 0.282 |
| 4-Feb-08 | 002 | 1,025 | 0.09 | 0.18 | 0.815 | 0.111 | 0.107 | 0.128 | | 0.242 |
| 11-Feb-08 | 002 | 1,068 | 0.05 | 0.17 | 0.765 | 0.036 | 0.109 | 0.122 | | 0.219 |
| 18-Feb-08 | 002 | 1,018 | 0.17 | 0.17 | 0.668 | 0.021 | 0.107 | 0.118 | | 0.227 |
| 3-Mar-08 | 002 | 1,019 | 0.17 | 0.17 | 1.846 | 0.010 | 0.101 | 0.101 | | 0.188 |
| 17-Mar-08 | 002 | 957 | 0.14 | 0.17 | 0.626 | 0.020 | 0.096 | 0.092 | | 0.172 |
| 14-Jan-08 | 001 | 1,687 | 0.09 | 0.23 | 0.758 | 0.021 | 0.172 | 0.181 | 0.02 | 0.274 |

Notes: 14-Jan-08 sample is discharge from the sediment pond. It was influenced by water previously retained in pond as well as in-mine groundwater that had flowed overland to the pond.
 Metals are reported as dissolved, except for iron, which is reported as total & dissolved.
 Selenium values reported in table as 0.01 are actually less than MRL of 0.01; shown as 0.01 for plotting ease.
 The aluminum value for 18-Feb-08 may not reflect the true trend: the lab changed the ICP method reading for this constituent due to improved QA/QC compared with the previous weeks' aluminum QA/QCs.



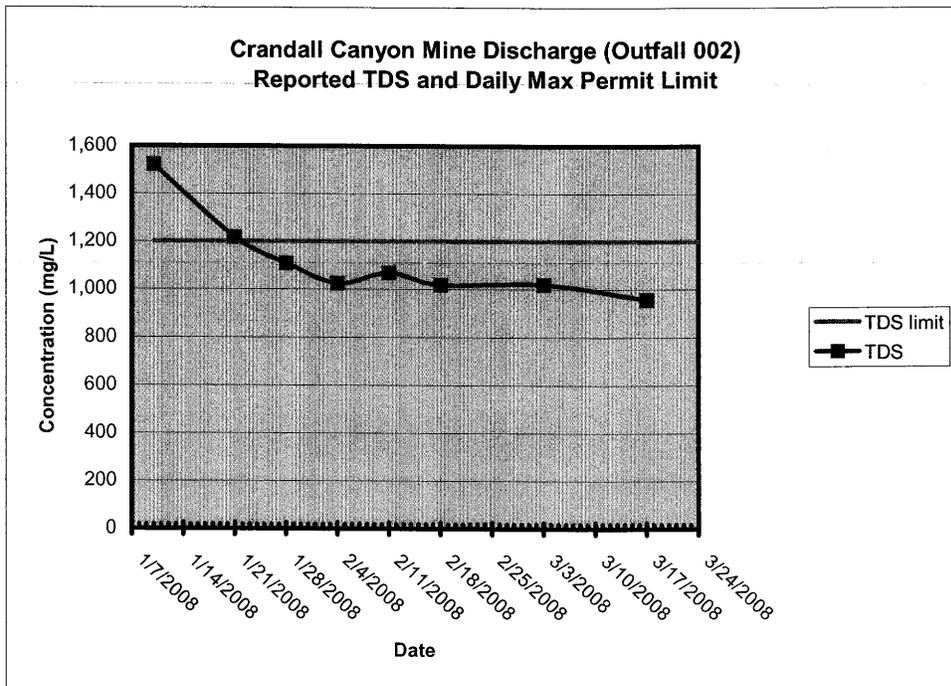
**Crandall Canyon Mine Discharge (Outfall 002)
TDS Trend**



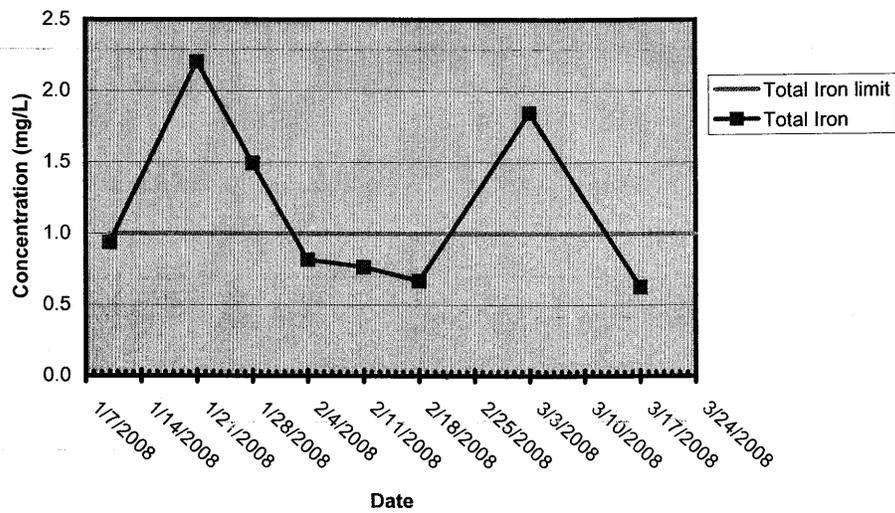
UtahAmerican Energy, Inc., Genwal Resources, Inc., Crandall Canyon Mine
In-mine Groundwater Discharge
Comparison of 2008 Data with UPDES Daily Maximum Permit Effluent Limitations (mg/L)

| Date | Outfall | TDS | | TSS | | Fe (tot) | | Oil & Grease | |
|-----------|---------|-------|----------|-------|----------|----------|----------|--------------|----------|
| | | Limit | Reported | Limit | Reported | Limit | Reported | Limit | Reported |
| 10-Jan-08 | 002 | 1,200 | 1,523 | 70 | 6 | 1.0 | 0.937 | 10 | <5 |
| 21-Jan-08 | 002 | 1,200 | 1,218 | 70 | 10 | 1.0 | 2.204 | 10 | <5 |
| 28-Jan-08 | 002 | 1,200 | 1,108 | 70 | 12 | 1.0 | 1.494 | 10 | <5 |
| 4-Feb-08 | 002 | 1,200 | 1,025 | 70 | 4 | 1.0 | 0.815 | 10 | <5 |
| 11-Feb-08 | 002 | 1,200 | 1,068 | 70 | <4 | 1.0 | 0.765 | 10 | <5 |
| 18-Feb-08 | 002 | 1,200 | 1,018 | 70 | <4 | 1.0 | 0.668 | 10 | <5 |
| 3-Mar-08 | 002 | 1,200 | 1,019 | 70 | 35 | 1.0 | 1.846 | 10 | <5 |
| 17-Mar-08 | 002 | 1,200 | 957 | 70 | 4 | 1.0 | 0.626 | 10 | <5 |
| 24-Mar-08 | 002 | 1,200 | | 70 | | 1.0 | | 10 | |
| 14-Jan-08 | 001 | 1,200 | 1,687 | 70 | 10 | 1.0 | 0.758 | 10 | <5 |

- Note 1: 14-Jan-08 sample is discharge from the sediment pond. It was influenced by water previously retained in pond as well as in-mine groundwater that had flowed overland to the pond.
- Note 2: In addition to the TDS daily maximum limit of 1,200 mg/L, the permit also has a limit of 500 mg/L for TDS 30-day average, and Genwal participates in a salinity offset program to ensure that this limit is in compliance.
- Note 3: In addition to the TSS daily maximum limit of 70 mg/L, the permit also has limit of 25 mg/L for TSS 30-day average and a limit of 35 mg/L for TSS 7-day average.



**Crandall Canyon Mine Discharge (Outfall 002)
Reported Total Iron and Daily Max Permit Limit**





General Offices: P.O. Box 995 Price, UT. 84501 (435)637-8855
 Laboratory: 65 North 300 East Price, UT. 84501

Report Date
 3/20/2008

Client
 UtahAmerican Energy Inc.
 Genwal Resources, Inc.
 PO Box 1077
 Price, UT. 84501
 Dave Shaver
 (435)888-4017

Sample I.D.
 002
Sampled By: KDK
Date: 3/17/2008 **Time:** 11:45
Received
Date: 3/17/2008 **Time:** 12:45

| Field Measurements | | | | |
|--------------------|---------|------|----------|---------------|
| Cond. uS | Temp. C | pH | D.O. ppm | Turbidity NTU |
| 1272 | 9.5 | 8.22 | 10.8 | |

Notes:
 Amended field pH value.

Lab I.D. #: 575 **Mine Code** 08 **Site Code** 40

Certificate of Analysis

| Analyte | Results | Units | MRL | Method | Date | Time | Analyst |
|-------------------------|---------|-------|-------|-----------|-----------|-------|---------|
| Wet Chem. | | | | | | | |
| Oil & Grease | <5 | mg/L | 5 | EPA 413.1 | 3/19/2008 | 10:42 | SB |
| Solids, Total Dissolved | 957 | mg/L | 20 | EPA 160.1 | 3/18/2008 | 10:48 | SB |
| Solids, Total Suspended | 4 | mg/L | 4 | EPA 160.2 | 3/18/2008 | 10:48 | SB |
| Metals by ICP | | | | | | | |
| Aluminum, Dissolved | 0.14 | mg/L | 0.02 | EPA 200.7 | 3/19/2008 | 14:12 | SB |
| Boron, Dissolved | 0.17 | mg/L | 0.05 | EPA 200.7 | 3/19/2008 | 14:12 | SB |
| Iron, Dissolved | 0.020 | mg/L | 0.010 | EPA 200.7 | 3/19/2008 | 14:12 | SB |
| Iron, Total | 0.626 | mg/L | 0.010 | EPA 200.7 | 3/20/2008 | 12:14 | SB |
| Manganese, Dissolved | 0.096 | mg/L | 0.001 | EPA 200.7 | 3/19/2008 | 14:12 | SB |
| Nickel, Dissolved | 0.092 | mg/L | 0.003 | EPA 200.7 | 3/19/2008 | 14:12 | SB |
| Zinc, Dissolved | 0.172 | mg/L | 0.005 | EPA 200.7 | 3/19/2008 | 14:12 | SB |