



The State of Utah
 Department of
 Natural Resources
 Division of
 Oil, Gas & Mining

ROBERT L. MORGAN
 Executive Director

LOWELL P. BRAXTON
 Division Director

OLENE S. WALKER
 Governor

GAYLE F. McKEACHNIE
 Lieutenant Governor

Inspection Report

Permit Number:	C0150032
Inspection Type:	TECHNICAL
Inspection Date:	Tuesday, March 16, 2010
Start Date/Time:	3/16/2010 11:00:00 AM
End Date/Time:	3/16/2010 1:00:00 PM
Last Inspection:	Wednesday, February 03, 2010

Inspector: Steve Christensen, Environmental Scientist II

Weather: 40 degrees F, Sunny, 0-5 mph winds

InspectionID Report Number: 2302

Accepted by:

Permitee: **GENWAL RESOURCES INC**
 Operator: **GENWAL RESOURCES INC**
 Site: **CRANDALL CANYON MINE**
 Address: **PO BOX 1077, PRICE UT 84501**
 County: **EMERY**
 Permit Type: **PERMANENT COAL PROGRAM**
 Permit Status: **ACTIVE**

Current Acreages

6,235.80	Total Permitted
27.15	Total Disturbed
	Phase I
	Phase II
	Phase III

Mineral Ownership

- Federal
 State
 County
 Fee
 Other

Types of Operations

- Underground
 Surface
 Loadout
 Processing
 Reprocessing

Report summary and status for pending enforcement actions, permit conditions, Division Orders, and amendments:

On March 16th, 2010, Division of Oil, Gas and Mining (the Division) representatives Steve Christensen and Kevin Lundmark inspected the recently approved/constructed mine-water treatment system at the Crandall Canyon Mine site.

At the time of the inspection, a full-scale test was underway to determine the effectiveness of the treatment system in reducing total iron (T-Fe) levels in the discharge as well as quantify the amount of injection chemical discharging in the settling basin's effluent.

Inspector's Signature:

Steve Christensen, Environmental Scientist II

Inspector ID Number: 54

Date Wednesday, March 17, 2010

Note: This inspection report does not constitute an affidavit of compliance with the regulatory program of the Division of Oil, Gas and Mining.

REVIEW OF PERMIT, PERFORMANCE STANDARDS PERMIT CONDITION REQUIREMENTS

1. Substantiate the elements on this inspection by checking the appropriate performance standard.
 - a. For COMPLETE inspections provide narrative justification for any elements not fully inspected unless element is not appropriate to the site, in which case check Not Applicable.
 - b. For PARTIAL inspections check only the elements evaluated.
2. Document any noncompliance situation by reference the NOV issued at the appropriate performance standard listed below.
3. Reference any narratives written in conjunction with this inspection at the appropriate performance standard listed below.
4. Provide a brief status report for all pending enforcement actions, permit conditions, Divison Orders, and amendments.

	Evaluated	Not Applicable	Comment	Enforcement
1. Permits, Change, Transfer, Renewal, Sale	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Signs and Markers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Topsoil	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.a Hydrologic Balance: Diversions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.b Hydrologic Balance: Sediment Ponds and Impoundments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.c Hydrologic Balance: Other Sediment Control Measures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.d Hydrologic Balance: Water Monitoring	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.e Hydrologic Balance: Effluent Limitations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Explosives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Disposal of Excess Spoil, Fills, Benches	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Coal Mine Waste, Refuse Piles, Impoundments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Noncoal Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Protection of Fish, Wildlife and Related Environmental Issues	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Slides and Other Damage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Contemporaneous Reclamation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Backfilling And Grading	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Revegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Subsidence Control	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Cessation of Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.a Roads: Construction, Maintenance, Surfacing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.b Roads: Drainage Controls	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Other Transportation Facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Support Facilities, Utility Installations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. AVS Check	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Air Quality Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Bonding and Insurance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.b Hydrologic Balance: Sediment Ponds and Impoundments

As part of the approval of the mine-water treatment system (Task ID #3461), the Permittee committed to establishing a visible reference marker within the primary sediment pond. The commitment was required in order to address concerns relative to the maintenance of the mine-water treatment system.

During periods when the mine-water treatment system must come off-line, the mine-water discharge will be routed directly to the primary sediment pond. The reference marker is to be established within the primary sediment pond at an elevation of 7,773.2'. Above the elevation of 7,773.2', the primary sediment pond no longer has the capacity to safely contain the 10-year, 24-hour storm event as required by the State of Utah R645-Coal Mining Rules.

The reference marker will allow those who are performing maintenance operations to quickly identify the point at which routing of the mine-water to the primary sediment pond must stop.

At the time of this inspection, it appeared that the reference marker had not yet been established. During the previous inspection on February 3rd, 2010, Mr. Dave Shaver (Crandall Canyon) had indicated that a surveyor had been contacted and would be out the following week (February 8th-12th) to install the reference marker.

The Division recognizes the ardent efforts by the Permittee to get the iron concentrations within compliance levels, however; the reference marker must be established as soon as possible.

4.e Hydrologic Balance: Effluent Limitations

The primary purpose of the site visit was to inspect the mine-water treatment system. At the time of the inspection, a full-scale test of the system was underway. The mine-water treatment system utilizes chemical injection, an oxidizer unit and a settling basin.

The mine-water is injected with two Nalco Chemical Company products: NALCO 7763 (polyacrylamide- flocculant) and NALCO 8158 (polyaluminum chloride-coagulant). The coagulant is injected prior to the mine-water entering the oxidizer unit. The flocculant is injected into the discharge pipe from the oxidizer unit to the settling basin.

According to Crandall Canyon representative Dana Marrelli, the current injection rates being utilized are 2.0 parts-per-million (ppm) of the NALCO 7763 flocculant and 92 ppm of the NALCO 8158 coagulant based upon an assumed flow of 400 gallons per minute (gpm).

Ms. Marrelli indicated that field-testing of the mine-water at 3:00 PM the previous day had produced a total iron (T-Fe) value of 1.9 ppm. She further stated that field-test results obtained at 9:30 AM the day of the inspection had produced a T-Fe value of 0.49 ppm.

While Division representatives were on-site, Ms. Marrelli again performed a field test for total iron and obtained a T-Fe value of 0.75 ppm.

At this stage, the Permittee is in the process of A) determining the appropriate injection levels of the two aforementioned chemicals and B) gathering water samples for analysis in order to determine the water-treatment system's effectiveness at reducing T-Fe levels as well as examine the amount of injection chemical ultimately leaving the settling basin and reporting to Crandall Creek.

Ms. Marrelli indicated that samples are being obtained daily and submitted to Nalco Chemical for titration analysis of the polyacrylamide levels in the effluent. In addition, daily samples are being submitted for analysis of aluminum. The results from the sampling should be available early in the week of March 22nd-March 26th.

The Permittee has obtained a new flow meter in order to more accurately measure the volume of mine-water entering the treatment system. In order to calibrate and fine-tune the injection system, an accurate measure of flow will be necessary. According to Mr. Dave Shaver, the ultimate goal (once the testing of the system has concluded and an appropriate ratio of chemical relative to flow is determined) will be to install an electronic injection system that is capable of modifying the chemical injection rates based upon real time flow measurements.

At the time of the inspection, the existing flow meter installed on the UPDES outfall to the Creek was not operational and the Permittee was in the process of installing the new flow meter on the outlet pipe from the oxidizer unit.

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Inspection Continuation Sheet