OK

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Inspection Report

Permit Number:	C0150032
Inspection Type:	PARTIAL
Inspection Date:	Thursday, July 21, 2011
Start Date/Time:	7/21/2011 10:00:00 AM
End Date/Time:	7/21/2011 12:00:00 PM
Last Inspection:	Tuesday, July 12, 2011

Representatives Present During the Inspection:	
OGM	Steve Christensen
Company	Dana Marrelli

Inspector: Steve Christensen,

Weather: Winds: 0-5 mph, Temp. 75 degrees F., sunny.

InspectionID Report Number: 2815

Accepted by: jhelfric
7/28/2011

Permitee: **GENWAL RESOURCES INC**
Operator: **GENWAL RESOURCES INC**
Site: **CRANDALL CANYON MINE**
Address: **PO BOX 910, EAST CARBON UT 84520-0910**
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

- [x] Federal
- [ ] State
- [ ] County
- [ ] Fee
- [ ] Other

Types of Operations

- [x] Underground
- [ ] Surface
- [ ] Loadout
- [ ] Processing
- [ ] Reprocessing

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

On July 21st, 2011, Steve Christensen (Division of Oil, Gas and Mining) conducted a partial inspection of the Crandall Canyon Mine site. The field inspection was conducted on the primary sediment pond, the mine-water treatment system and associated settling basin as well as the associcated diversions. Ms. Dana Marrelli (Genwal) was on site at the time of the inspection.

Inspector's Signature: Steve Christensen,

Inspector ID Number: 54

Date Thursday, July 21, 2011

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

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OIL, GAS & 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 performace 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	☐	☑	☐	☐
2. Signs and Markers	☐	☑	☐	☐
3. Topsoil	☐	☑	☐	☐
4.a Hydrologic Balance: Diversions	☑	☐	☑	☐
4.b Hydrologic Balance: Sediment Ponds and Impoundments	☑	☐	☑	☐
4.c Hydrologic Balance: Other Sediment Control Measures	☑	☐	☑	☐
4.d Hydrologic Balance: Water Monitoring	☐	☑	☐	☐
4.e Hydrologic Balance: Effluent Limitations	☑	☐	☑	☐
5. Explosives	☐	☐	☐	☐
6. Disposal of Excess Spoil, Fills, Benches	☐	☐	☐	☐
7. Coal Mine Waste, Refuse Piles, Impoundments	☐	☐	☐	☐
8. Noncoal Waste	☐	☐	☐	☐
9. Protection of Fish, Wildlife and Related Environmental Issues	☐	☐	☐	☐
10. Slides and Other Damage	☐	☐	☐	☐
11. Contemporaneous Reclamation	☐	☐	☐	☐
12. Backfilling And Grading	☐	☐	☐	☐
13. Revegetation	☐	☐	☐	☐
14. Subsidence Control	☐	☐	☐	☐
15. Cessation of Operations	☐	☐	☐	☐
16.a Roads: Construction, Maintenance, Surfacing	☐	☐	☐	☐
16.b Roads: Drainage Controls	☐	☐	☐	☐
17. Other Transportation Facilities	☐	☐	☐	☐
18. Support Facilities, Utility Installations	☐	☐	☐	☐
19. AVS Check	☐	☐	☐	☐
20. Air Quality Permit	☐	☐	☐	☐
21. Bonding and Insurance	☐	☐	☐	☐
22. Other	☐	☐	☐	☐

4.a Hydrologic Balance: Diversions

Disturbed diversion ditch DD-10A was observed during the field inspection. Ditch DD-10A was constructed in order to insure that any material from above the highwall that became dislodged during rainfall events would be collected and effectively routed to the primary sediment pond. Prior to the construction of ditch DD-10A, there were instances where coal fine material above the highwall was dislodged and had gone off site untreated.

At the time of the inspection, ditch DD-10A was observed to be functional and clear of any debris/material.

4.b Hydrologic Balance: Sediment Ponds and Impoundments

Primary Sediment Pond

The primary sediment pond was observed during the field inspection. The water level in the primary pond was approximately 2-3' below the 10-year, 24-hour marker. The depth and amount of sludge/sediment in the pond was not visible due to the turbidity of the water within the pond.

Treatment Basin

The mine-water treatment system collection basin was also observed during the field inspection. At the time of the inspection, sub-contractors (Scamp) were in the process of cleaning out the accumulated iron particulate from the treatment basin. According to Ms. Marrelli, Scamp personnel have been on site every day for the last two weeks performing maintenance/clean-out on the treatment basin.

As a result of utilizing the WaterSolve 3 coagulant, the iron sludge has become increasingly dense. As a result, clean out of the treatment basin has become problematic. The sludge is too dense to be vacuumed out by the established method of running a suction hose through the perforated PVC pipes located in the bottom of each treatment basin cell. Ms. Marrelli indicated that Nielsen Construction had been called to site with a vacuum truck. The contractors were successful in vacuuming out the sludge with a suction hose mounted to extension off the truck. However, the suction hose could only be extended approximately 10' into the treatment basin. As a result, the contractors were unable to clean the entire pond. At the time of the inspection, Scamp contractors were utilizing a small boat that they had attached a vacuum hose to. As a result of the increased density, the sludge can only be removed by vacuuming the material from the top down. Again, according to Ms. Marrelli the increased density of the iron sludge was the result of utilizing the WaterSolve 3 coagulant. See 'Other Sediment Controls' discussion for more detail relative to the chemicals currently being utilized.

A sump pump has been installed near the outlet of the treatment basin. The sump pump is connected to the mine water treatment system shed and is utilized as source of water for the make-down unit. Ms. Marrelli indicated that two 2,500 gallon tanks are on order. The tanks will be utilized to house make-down unit water. Currently, the water tank that supplies the make-down unit water has been fitted with a sensor that turns the sump pump on when it reaches pre-set capacity, thus assuring a more constant water supply to the make-down unit.

4.c Hydrologic Balance: Other Sediment Control Measures

The mine water treatment system was inspected during the site visit. A pre-treatment sample of mine water was collected and submitted for analysis of total iron (T-Fe) and sulfate (SO4). At the time of the sample collection, the mine water was discharging at approximately 577 gallons per minute (gpm). The new flow meter that had been recently installed has been damaged and no longer functioning. Ms. Marrelli indicated that the flow meter's electrodes were destroyed by the ferric chloride coagulant that had recently been utilized at the site (WaterSolve 3). Ms. Marrelli further indicated that Nielsen Construction had been on site to inspect the damage and will be providing a quote for removing, repairing and re-installing the flow meter at a point ahead of the treatment system. With the new flow inoperable, the Permittee is again forced to subtract the approximate recirculation rate of the system in order to obtain a more accurate flow reading. Ms. Marrelli indicated that the recirculation rate is approximately 500-520 gpm.

The current coagulant and flocculent chemicals being utilized are the Nalco chemicals 8187 and 7763 respectively. The injection rate for the coagulant (Nalco 8187) is approximately 35-40 gpm. The injection rate for the flocculent (Nalco 7763) is between 2 and 3 ppm. Residual polymer testing is no longer being conducted as the injection rate of the flocculent is below or equal to the NSF60 value of 3 ppm. Ms. Marrelli was made aware that polymer testing would need to be resumed if the injection rate were to exceed 3 ppm.

4.e Hydrologic Balance: Effluent Limitations

According to Genwal representative Ms. Dana Marrelli, the primary sediment pond has been decanted for three consecutive months (April, May and June). According to Ms. Marrelli, the samples obtained from the primary sediment pond's (UPDES Outfall 001) discharge were out of compliance for total iron (T-Fe) and total suspended solids (TSS). The Division of Water Quality (DWQ) has been notified of the April and May samples. Samples for June have been not been received back from the laboratory.

Based upon subsequent conversations with Mike Herkimer of DWQ following the field inspection, if the analytical results for the June, 2011 decanting of the primary sediment pond are out of compliance with the established UPDES limits for the mine site, DWQ will issue an Notice of Violation (NOV).

Ms. Marrelli also indicated that two recent Whole Effluent Toxicity (WET) tests performed on the effluent at Outfall 002 (as required under the UPDES permit) had failed. The WET tests were conducted on June 7th and again on June 28th. Ms. Marrelli indicated that DWQ will allow a third WET test to be conducted. Mike Herkimer (DWQ) confirmed that to be the case. The WET tests failed for Ceriodaphnia. Based upon discussions that Ms. Marrelli had with the lab manager that receives the WET test samples, it would appear that the WaterSolve 3 coagulant is the likely cause of the increased toxicity. As a result, Ms. Marrelli indicated that they are no longer using the WaterSolve 3 coagulant. They have switched back to utilizing the Nalco 8187 polyaluminum chloride coagulant for the time being.

The next WET test will be conducted within the next week or two. If they fail the 3rd WET test, Mike Herkimer from DWQ indicated that they would then need to do a Toxicity Identification Evaluation (TIE) / Toxicity Reduction Evaluation (TRE). The purpose of these tests is to identify the specific toxicant. If the third WET test of the effluent passes, Mike Herkimer indicated that would support the theory that the WaterSolve 3 caused the increased toxicity in Crandall Creek and would indicate that in a letter to the Permittee.