State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Inspection Report

Permit Number:	**C0150032**
Inspection Type:	PARTIAL
Inspection Date:	Monday, May 1, 2017
Start Date/Time:	5/1/2017 11:30:00 AM
End Date/Time:	5/1/2017 2:30:00 PM
Last Inspection:	Monday, April 17, 2017

Inspector: Priscilla Burton,

Weather: 50 F sun

InspectionID Report Number: 5835

Accepted by:DHADDOCK
5/16/2017

Representatives Present During the Inspection:	
OGM	Priscilla Burton
Company	Karin Madsen
OGM	Steve Christensen

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: **INACTIVE**

Current Acreages

1,257.75	**Total Permitted**
34.23	**Total Disturbed**
11.89	**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:

OGM staff were given an overview of the Crandall Canyon mine water treatment system. Samples of the pre-treatment and post treatment mine water discharge were taken. Arati Umarvadia (new DOGM hydrologist) and Justin Eatchel (new DOGM engineer) and Wes Sherlock (Geologist, USFS/Price Ranger District) were also present during the inspection.

Refer to Plate # 5-3 Surface Facilities for locations of the permit area boundary, USFS ownership boundary, structures and culverts.

Inspector's Signature: *Priscilla Burton*

Date Monday, May 1, 2017

Priscilla Burton,
Inspector ID Number: 37

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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UTAH DNR 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	☐	☐	☐	☐

1. Permits, Change, Transfer, Renewal, Sale

A revised reclamation plan is under review as Task 5399. The plan includes the concept of overland flow and a wetland to further aerate and treat the mine water at final reclamation. We discussed some details of the reclamation plan which differ from the currently approved plan, including the concept of terracing the south slope and leaving a cut slope above the Memorial parking area. Further discussion with UEI permitting staff will be scheduled. Mr. Sherlock was present because the USFS has an interest in the reclamation details, as it is the surface managing agency for North half of the disturbed area.

As a result of the mid-term review Task 5277, a Special Use Permit from the USFS was signed September 22, 2016 to allow continued operations on federal land since the federal lease was relinquished by the BLM.

4.b Hydrologic Balance: Sediment Ponds and Impoundments

The water level in pond 001 is far below the primary spillway. The oil skimmer on the primary spillway of pond 001 is not functional. The trash rack is missing from the principal spillway and the access walkway is functioning as a trashrack. Maintenance is required on the primary spillway to allow the trash rack and oil skimmer to function as designed. The primary sediment pond sediment markers were inspected. Two of the sediment markers were visible during the inspection. The third sediment marker (located in the south-west section of the sediment pond) was not visible. Karin Madsen indicated that Cody Ware (Ware Surveying) would be surveying the sediment markers when the sediment pond had dried out. At that time, the 60% sediment clean-out levels will be re-established on the three sediment markers. The jersey barriers located adjacent to the primary sediment ponds access road were observed in disrepair and require maintennance. Several of the barriers were leaning excessively and unstable. The Permittee must repair these barriers.

4.d Hydrologic Balance: Water Monitoring

Ms. Madsen gave us a tour of the treatment facilities and described the treatment process in detail. At the time of the inspection, mine water was flowing at 261 gpm. To treat the water, coagulant (Al+Cl-) was being added at 6.5 ppm and flocculant (polyacrilimide) was being added at 5.7 ppm. Samples of the mine water pre-treatment (location pre-001) and at the discharge point post-treatment (discharge location 001)were taken.

4.e Hydrologic Balance: Effluent Limitations

The mine-water discharge treatment system was inspected and found to be functioning as designed. Karin Madsen indicated that the treatment system settling pond had last been cleaned approximately two months ago. With the exception of the re-circulation cell (cell one), excessive accumulations of iron sludge accumulations were not observed in the remaining cells. The flocculant and coagulant injections were noted during the inspection. At the time of the inspection, a flocculant (Nalco 7763) injection rate of 5.77 parts per million (ppm) was noted. The coagulant (Nalco 8187) injection rate was 6.5 ppm. The storage unit that houses the aforementioned treatment chemicals was inspected. The secondary containment units and bulk storage tanks were observed to be in good condition. No evidence of leaks or spills were noted during the inspection.

16.a Roads: Construction, Maintenance, Surfacing

We observed damage to the gabion baskets supporting the USFS road directly above sediment pond 001. A plan for reconstruction is being formulated. The damage is within the permit area boundary. An application will be filed with the Division if changes to the approved plan are necessary.

pre-treatment
sample point

NALCO

NALCLEAR® 7763

LOT NO.	DENSITY	NET WEIGHT
GV3F1854A1	8.6 - 9.0 lb/gal	1,046.00 KG / 2,306.03 LBS

FDA: 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods and 21 CFR 176.180 Components of paper and paperboard in contact with dry foods., 21 CFR 173.315 chemicals used in washing or to assist in the lye peeling of fruits and vegetables Limitation: For use as an adjuvant in the manufacture of paper and paperboard in an amount not to exceed that necessary to accomplish the technical effect and not to exceed 2 percent (as polymer) by weight of the paper or paperboard.21 CFR 173.315 Limitation: For use only in the washing of sugar beets as a flume mud dewatering aid applied to the underflow of the final flume water clarifier just prior to the flume mud belt press at maximum concentration of 500 ppm as product.

NSF: The official name is "Polyacrylamide." This product has received NSF/International certification under NSF/ANSI Standard 60 in the coagulation and flocculation category., This product has received NSF/International certification under NSF/ANSI Standard 60 in the Filtration Aid category. Maximum dosage 1 mg/l. Only product manufactured at Plant 150 (Burlington, Canada) and whose container label bears the NSF/ANSI Mark may be used in potable water treatment applications., Only product manufactured at Plant 109 USA and whose container label bears the NSF/ANSI Mark may be used in potable water treatment applications., Only product manufactured at Plant 140 USA and whose container label bears the NSF/ANSI Mark may be used in potable water treatment applications., Only product manufactured at Plant 101 USA and whose container label bears the NSF/ANSI Mark may be used in potable water treatment applications.

NSF

Certified to NSF/ANSI 60

CAUTION! May cause irritation with prolonged contact. Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Use a mild soap if available. Protect product from freezing. Water in contact with the product will cause slippery floor conditions. Wear suitable protective clothing, gloves and eye/face protection.

flocculant = polyacrilimide

ATTENTION: For more information refer to the material safety data sheet. Empty containers may contain residual product. DO NOT reuse containers unless properly reconditioned.

NFPA **HMIS**

Degree of Hazard
4 = Extreme
3 = High
2 = Moderate
1 = Low
0 = Insignificant
* = Chronic Health Hazard
A = See MSDS
UNLESS OTHERWISE INDICATED

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	A

EMERGENCY TELEPHONE NUMBER(S): (800) 424-9300 (24 Hours) CHEMTREC

Nalco Company
Garyville Manufacturing Plant 3628 Highway 44 (River Road),
GARYVILLE, LA, USA 70051-0844
985-535-2221

Material: 7763.61 Generated: 6/21/2013

U.S. DOT Shipping Name: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO): PRODUCT IS NOT REGULATED DURING TRANSPORTATION

P

Action Link Emergency Response Team
800-424-9300
24 hour response to medical and transportation emergencies involving Nalco Company products.
Form 589 (8-01)

NALCO BULK SERVICE

NALCO
An Ecolab Company

Nalco Company
Narragansett & 66th Place 6216 West 66th Place, BEDFORD PARK, IL, USA 60638
708-496-5000

ULTRION™ 8187

WATER CLARIFICATION AID

EMERGENCY TELEPHONE NUMBER(S):
(800) 424-9300 (24 Hours)
CHEMTREC

MATERIAL	8187 91
NET WEIGHT	BULK
GENERATED	8/14/2015

U.S. DOT Shipping Name:

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO):

PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Not a hazardous substance or mixture.

Prevention: Wash hands thoroughly after handling.

Response: Specific measures: consult SDS Section 4.

Storage: Store in accordance with local regulations.

coagulant = Al+Cl-

ATTENTION: For more information refer to the material safety data sheet. Empty containers may contain residual product. DO NOT reuse containers unless properly reconditioned.

KOSHER 1005

NSF: The official name is "Polyaluminum Chloride." This product has received NSF/International certification under NSF/ANSI Standard 60 in the coagulation and flocculation category. Maximum dosage 180 mg/l. Only product containers bearing the NSF/ANSI Mark that are manufactured at the following plant(s) may be used in potable water treatment applications: 0123, 0140, 0109

W

TANK
C35071

GALLONS
2,000

MATERIAL SAFETY DATA SHEETS

chemical addition
and aeration

settling pond with
baffles directing flow

Post treatment Mine
Water discharge
sampling point

stream bypass culvert
Treated Mine water
discharge culvert

gabion failure
above pond

primary spillway

gabion failure and
primary spillway