OGMCOAL DNR <ogmcoal@utah.gov>

0150019 March 2018 Cottonwood Reclamation Inspection report

Priscilla Burton <priscillaburton@utah.gov> Thu, Mar 22, 2018 at 5:19 PM
To: Dennis Oakley <Dennis.Oakley@pacificorp.com>, OGMCOAL DNR <ogmcoal@utah.gov>
Cc: Keenan Storrar <kstorrar@utah.gov>

Hello Dennis,

I have attached the report of my site visit Tuesday this week.

The earthwork in the canyon and drainage looks great. We should review the fertilizer application before the next site is reclaimed.

I hope we get some moisture and see little sprigs of vegetation emerge soon.

Well done!

Priscilla Burton, MS, CPSSc
Soil Scientist
Division of Oil, Gas, & Mining
Price Field Office

cell: 435-609-1014
office: 435-613-3733
priscillaburton@utah.gov

3202018 Cottonwood Insp Rpt 6098.pdf
955K

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:	**C0150019**
Inspection Type:	PARTIAL
Inspection Date:	Tuesday, March 20, 2018
Start Date/Time:	3/20/2018 10:00:00 AM
End Date/Time:	3/20/2018 2:00:00 PM
Last Inspection:	Wednesday, February 7, 2018

Representatives Present During the Inspection:	
OGM	Priscilla Burton
Company	Dennis Oakley

Inspector: Priscilla Burton,

Weather: sun, 40F

InspectionID Report Number: 6098

Accepted by:DHADDOCK
3/22/2018

Permitee: **PACIFICORP**
Operator: **INTERWEST MINING CO**
Site: **COTTONWOOD/ WILBERG**
Address: **PO BOX 310, HUNTINGTON UT 84528**
County: **EMERY**
Permit Type: **PERMANENT COAL PROGRAM**
Permit Status: **ACTIVE**

Current Acreages

4,092.00	**Total Permitted**
27.83	**Total Disturbed**
21.30	**Phase I**
21.30	**Phase II**
21.30	**Phase III**

Mineral Ownership

- [x] Federal
- [ ] State
- [ ] County
- [x] 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:

WW Clyde has almost completed reclamation of the Cottonwood Mine. The foreman and equipment operators were onsite: pocking the reclaimed surface of the mine and finishing the recovery of soil at the topsoil storage location. The WWClyde project manager was onsite doing an aerial flyover of the final topography.

Refer to Vol 2. Part 4, Plate 4E, Final Reclamation Topography and Plate 4D Subsoil and Native Soil Storage
Refer to Vol. 6, Plate 3-16 Surface Yard Map for preious surface facilities,

Inspector's Signature: Priscilla Burton Priscilla Burton 2018.03.22 17:12:43 -06'00' **Date** Wednesday, March 21, 2018

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.

1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • www.ogm.utah.gov

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

The 27.83 acre Cottonwood mine disturbed area is located on USFS managed land (MRP, Plate 1-2). Former surface facilities are shown on the Surface Yard Map, Plate 3-16 and Plate 4D Subsoil and Native Soil Storage.

3. Topsoil

The operational surface was buried against the cuts. Excavated soil was passed through a sizing operation and fines were incorporated into the surface soils. The final surface soil was sampled and field analyzed for pH and EC, according to the Substitute Topsoil and Field Sampling Program described in Vol 2, Part 4 Appendix A1. Approximately 1 sample per acre was tested. On some high pH samples, Mr. Oakley compared field results with laboratory analysis of pH (BYU Soils Laboratory). The results of the soil testing are at the mine office and will be provided with the as-built of the reclamation work. Mr. Oakley stated that no soil with unacceptable values of pH and EC were found on the surface of this sandy loam soil.

In addition, approximately 3,200 CY of topsoil was redistributed from the 1.81 acre storage pile near the old waste rock site (shown on Plate 4D).

4.a Hydrologic Balance: Diversions

Plate 4E shows the locations of the Right and Left Forks of Grimes Wash and 6 subwatershed drainages. Channel Designs are shown in Vol. 2, Part 4 Appendix F. The R & L Forks and Main channel have three layers of filter gravels (each different sizes) for a total depth of 20 inches. A 3.5 foot layer of rock was placed on top of the filter. The rock and filter gravels were obtained on site during the sorting operation.

The sub-drainage in Right Fork was extended upstream, because an undisturbed diversion culvert was discovered, removed and the area reclaimed. A seventh sub-drainage diversion was constructed using the Vol 2, Part 4 Appendix F design. This seventh drainage runs West to East, about 100 yards from the mine entrance. Subdrainages are hardened with rock. All subdrainages were photographed. Refer to Image folder 3202018 in the mine folder.

4.b Hydrologic Balance: Sediment Ponds and Impoundments

The North and South pond shown on Plate 3-16 have been filled.

4.c Hydrologic Balance: Other Sediment Control Measures

Large, 3 ft deep diameter pocks line the perimeter of the graded site. Smaller 18 inch pocks were created over the slopes. During the inspection an 18 inch bucket was being used to create the pocks. To demonstrate sediment control by pocking, Mr. Oakley will establish a rain gauge, three Manning remote water samplers, two sediment transects and 4 sediment monitoring points as shown on Plate 4E.

12. Backfilling And Grading

Approximately 175,000 CY of cut and 160,000 CY of fill were handled during grading of the Grimes Wash canyon. All highwalls are covered. The cutslopes are tied into the reclaim slopes. The drainages are tied in to the undisturbed drainages. The final slopes are less than 2h:1v. All the slopes are pocked and 2Tons/acre hay was incorporated into the soil with pocking. Boulders will be placed on the slope above the undisturbed Grimes Wash at in the current work area. Followiong hydromulching of the remaining area, the access for the hydromulch truck will be ripped and covered with soil. In addition boulders will be placed at the entrance to prevent motorized entry.

13. Revegetation

The regraded topsoiled area was broadcast seeded. The seed mix is described in Vol 2, Part 4, Table 3-3. The seed mix includes western wheatgrass, bluebunch wheatgrass, Indian ricegrass, needle and thread grass, thickspike wheatgrass and basin wildrye. The mix has blueleaf aster, small burnet, lewis flax, and palmers penstemon forbs. The mix has serviceberry, fourwing saltbush, shadscale saltbush and big Wyoming sagebrush shrubs. No vegetation was noted growing on the area seeded since last November (Left Fork, Right Fork and Main Fork of Grimes Wash).

Granular fertilizer was added to the hydromulch at a rate of 50 lbs/ac urea CO(NH2)2 (or 23 lbs N/acre), and 50 lbs/ac 16-16-8 IFA Garden Fertilizer (another 8 lbs N/ac (4% of it urea and 12% ammonium NH4), 3.5 lbs P/ac, and 3.3 lbs K/ac.). This is more nitrogen and less phosphorus than anticipated in the MRP. The method of urea application may affect seed germination and is not advised in the future. Urea should be worked into the soil so that volatilization is limited and the volatile products (ammonia NH3) do not come in contact with the seed. On the positive side, the 16-16-8 fertlizer also added 1/5 lb Fe/ac, 3.75 lbs S/ac, and 4 lbs of Ca and Mg/ac to the soil.

Wood fiber hydromulch was applied at a rate of 2,000 lbs/acre over the fertilizer and seed. A small area in the upper reach of the first sub-drainage below the Left Fork had little hydromulch coverage. But the remainder of the site had good coverage.

Seeding and fertilizer/hydromulching of the last 300 ft2 of reclaimed area and the topsoil storage area will be completed this week. After which, the hydro-truck access will be ripped, covered with soil, seeded, and fertilizer/hydromulched.

ATTACHMENT A –Cottonwood Inspection March 20, 2018

PHOTO 1 Looking down the reclaimed Main Drainage

PHOTO 2 Main drainage before reclamation (Nov 2017)

PHOTO 3 Confluence Left and Right Forks

PHOTO 4 Upper Reach of Right Fork

ATTACHMENT A – continued **Cottonwood March 20, 2018**

PHOTO 5 Looking upstream at pool formed at sandstone contact in Right Fork near the undisturbed boundary.

PHOTO 6 Looking upstream at Left Fork reclamation near undisturbed boundary.

PHOTO 7
Left fork, Subdrainage and portal bench reclamation

PHOTO 8
Hydromulch and gouging Left Fork

ATTACHMENT A – continued **Cottonwood March 20, 2018**

PHOTO 5 hydromulch coverage upper Left Fork

PHOTO 6 Pocking at base of cliffs West side upper Left Fork map is 6 x 8 inches

PHOTO 7
Noted an area with little to no hydromulch at the outcrop, West side subdrainage Left Fork

PHOTO 8
Put more boulders on this reclaimed slope above undisturbed Grimes Wash