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GARY R. HERBERT  
Governor

GREG BELL  
Lieutenant Governor

# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

## Inspection Report

|                  |                             |
|------------------|-----------------------------|
| Permit Number:   | C0150015                    |
| Inspection Type: | TECHNICAL                   |
| Inspection Date: | Wednesday, October 12, 2011 |
| Start Date/Time: | 10/12/2011 9:30:00 AM       |
| End Date/Time:   | 10/12/2011 4:00:00 PM       |
| Last Inspection: | Wednesday, October 12, 2011 |

Inspector: Priscilla Burton

Weather: sun 70 F

InspectionID Report Number: 2895

Accepted by: jhelfric

10/18/2011

| Representatives Present During the Inspection: |                  |
|--|------------------|
| OGM  | Priscilla Burton |
| OGM  | Joe Helfrich     |
| Company  | Steve Behling    |
| Company  | Patrick Collins  |

Permittee: **CONSOLIDATION COAL CO**  
 Operator: **CONSOLIDATION COAL CO**  
 Site: **EMERY DEEP MINE**  
 Address: **PO BOX 566, SESSER IL 62884**  
 County: **EMERY**  
 Permit Type: **PERMANENT COAL PROGRAM**  
 Permit Status: **ACTIVE**

### Current Acreages

|        |                        |
|--------|------------------------|
| 442.50 | <b>Total Permitted</b> |
| 248.50 | <b>Total Disturbed</b> |
|        | <b>Phase I</b>         |
|        | <b>Phase II</b>        |
|        | <b>Phase III</b>       |

### 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:

Division staff, consultants, Robert Long and Patrick Collins, and mine representatives observed the sites that corresponded to the soils and vegetation data found in Attachment III-1 of the MRP. This report summarizes the planning/action recommended by the Division and discussed with the Permittee and consultants, after observing each site.

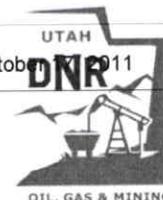
Inspector's Signature:

Priscilla Burton,

Inspector ID Number: 37

Date

Monday, October 17, 2011



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

### 1. Permits, Change, Transfer, Renewal, Sale

The meeting began with a telephone conference so as to include John Gefferth, Pittsburgh based Environmental Coordinator for Consolidation Coal, in the discussion of the four part commitment on page 4a of Chapter III, of the MRP which describes an investigative study into past reclamation practices conducted at the EmeryDeep mine. The four items listed on page 4a were discussed, all were in agreement with the following:

- 1) Hidden Valley mine reclamation practices would be separated from the Emery study. Hidden Valley revegetation and soils would be evaluated at a later date and will include similar analysis and observations as has been completed for the Emery sites, as well as site visits to the topsoil stockpiles, reclaimed areas and reference areas before plans are developed at Hidden Valley, per commitment #2 on page 4a, Chap III.
- 2) The planning for Items 2 and 3 at the Emery Mine would be discussed after today's observations of the topsoil, subsoil, and reclaimed sites that were evaluated in 2003, see report in Appendix III-1.

This report summarizes the planning/action recommended by the Division and discussed with the Permittee and consultants, after observing each site.

### 3. Topsoil

For topsoil and subsoil stockpile Sites # 1, #2, #9, #10, the vegetation on the level surface of these stockpiles appeared quite similar to the gently sloping, undisturbed surroundings. But on all piles, lower vegetation on the slopes was less than that of the desert shrub reference area. The reference area is located on fairly level ground, on top of the ridge. The difference in % desirable cover between these stockpiles and the reference area is likely due to topographic differences. Therefore, no action is recommended on these sites.

Sites #3 "pond 6 topsoil," Site #4 "pond 6 subsoil East", and Site #5 "subsoil pile West" from pond 6 construction had 0.27%, 11.14%, and 1.38% desirable cover in 2003. At the time of the inspection, all the piles appeared to have less than 1% cover. At the time the site visit, there were 20 head of horses grazing the topsoil and subsoil piles. The management of these piles is documented in Appendix III-1. Grazing on the piles has been historically a problem. The conical shape of the piles also likely has an effect on vegetation establishment. The recommendation action for these three piles is to remove grazing animals by fencing and grade the piles so that they have a lower profile, and are contiguous, but are still contained within the established footprint of the soil storage area. Sites 3 and 4 had very similar chemistry and their boundaries can be blurred. The subsoil west pile, site #5 had higher pH and SAR values and its boundaries should remain distinct. The regraded piles should then be seeded with a revised seed mix that emphasizes the shrubs noted to be successful on other topsoil and subsoil stockpiles: 4-wing saltbush, shadscale, gardner saltbush, mat saltbush, greasewood.

## **11. Contemporaneous Reclamation**

Pond 5 was developed for the preparation plant disturbance which was not developed. Pond 5 holds water and its inlet is a continual maintenance problem for the mine. Pond 4 was used as a reverse osmosis settling pond until 1992 to provide water to the mine. The soil in this pond is high in salts. Presently, the pond does not hold water.

There are several recommended actions for Site 7 (proposed preparation plant sediment pond 5) and Site 21 (reverse osmosis Pond 4) depending on Consol's need for the preparation plant. The ponds could remain in place and be maintained in accordance with the coal regulations, some additional seeding at pond 5 may be appropriate, if no longer needed the ponds could be reclaimed in accordance with the approved MRP. This may be considered to be some form of contemporaneous reclamation although the term seems more appropriate to surface mining or they could remain in place as wildlife enhancement measures, (R645-301-342.100), since the post mining land use is wildlife and grazing. The reclamation portion of the MRP may need to be revised accordingly.

Site 14, the subsoil for pond #1 may be incorrectly referenced, according to Steve Behling it may be topsoil from the adjacent swale that runs parallel to it. In any event it could be reseeded.

Site #20 Canyon Bottom Road is a site with a high pH and moderately high SAR. On paper, this site looks difficult to reclaim. There has been no contemporaneous revegetation of this road, as it is still in use. The road sides are thick with greasewood. The roadside vegetation indicates that salt tolerant species will re-establish.

Site #8, the borehole reclaimed road had only 2.6% desirable cover. This road had no topsoil removed and reclamation treatments were limited to seeding. In retrospect, this site might have benefitted from deep ripping, incorporation of straw and hydroseed/mulching methods.

Site #14, is labeled "Pond #1 Subsoil Stockpile." However, it is very far from pond 1 and appears to be soil excavated from the adjacent trench for a pipeline. Site #14 has 3.2% desirable cover. It is recommended that this site be reclaimed using the techniques recommended under the Revegetation section below.

The pond 6 pipeline road was reclaimed in 1987. It was not part of the Appendix III-1 study. According to Steve Behling, it had straw incorporated into the soil with discing and was seeded. The site is marked by roof bolts, but otherwise is undistinguishable from its surroundings. The vegetation is a monoculture of mat saltbush. Some seeded grasses are in low lying areas down wind. All agreed that this site has successfully reclaimed after 24 years. The discing of straw into the soil should be applied to other reclamation sites.

### **13. Revegetation**

Appendix III-1 reports the following desirable cover percentages for reference areas in 2003:

- Site 12, Greasewood reference area, 25.7%
- Site 13, Greasewood reference area, 29%
- Site 15, Riparian Meadow reference area, 81.8%
- Site 16, Annual Meadow reference area, 59.38%
- Site 17, Annual Forb reference area, 21%
- Site 18, Mixed Desert Shrub reference area, 31.6%

Site 19, Test Plot. The combined treatments of the test plots were reported to have 46% desirable cover. However the irrigated portion of the testplot had visibly more cover, approaching 80%. (Although only a few plots remained labeled, the irrigated portion was assumed to be that area where pipes and hoses remained.) The successful vegetation including grasses on the test plot was most likely due to irrigation. The importance of water to reclamation of the sites was evident in the vegetation surrounding site #6 pond 6, site #7 pond 5, and site #11 pond 1 banks.

Irrigation was also used in establishing vegetation on the 4th east portal topsoil stockpile (email from Susan White to Seth McCourt 7/11/2002). Although Appendix III-1 does not provide an evaluation of the % desirable cover on the 4th east portal topsoil stockpile, all present agreed that establishment was successful. This success is likely due to the soil texture (loamy sand) and the quality of the soil (low pH and low SAR). In addition, the successful establishment of vegetation on the 4th east portal topsoil was achieved by hydroseeding and hydromulching on July 10, 2002, with the 3 species cool season seed mix identified as 2. The topsoil berm was hand broadcast on July 25, 2002, with the warm season interim seed mixture identified as 1. In VIII.C.3, with Indian rice grass substituted for yellow sweet clover and Castle Valley clover at 2 lbs/ac. The topsoil pile and berm was watered with a water truck to keep it evenly moist until germination. This may have required daily or every other day applications. After germination, the watering was reduced to 2X/week for 2 weeks and then 1 time/week for 2 weeks. Water was applied at a rate of 1/4 inch/day. The goal was to apply between 6 - 8 inches of water.

## 22. Other

### Recommended Action:

The final reclamation plan action recommended is to revise the reclamation methodology for all sites, to reflect the successful methods used at the 4th east portal topsoil pile and on the Pond 6 pipeline road. The 4th East portal reclamation treatments included the incorporation of 1T/ac straw with surface roughening and hydroseed and hydromulch with a mixture of cool season grasses as well as shrubs noted to be successful on topsoil and subsoil sites in Appendix III-1 (i.e. 4-wing saltbush, mat saltbush, gardner saltbush, shadscale, greasewood). Irrigation may not be practical, but seeding should be timed for late August to January to take advantage of either the late summer/early fall rains and/ or the early spring snow melt.

Reclamation treatments to topsoil piles may differ from those to the reclaimed areas.

The results of the site visits should also be incorporated into the plans that are referenced in commitment #2.

Final contours for the 4th east portal area and main surface facilities noted in the current reclamation plan should also be reviewed in conjunction with the site visits.

Technical Inspection Report #2985  
Wednesday, October 12, 2011  
Attachment A

Below, site #1, Subsoil Pile from Ponds 4 & 5 (11.8% desirable cover in 2003)



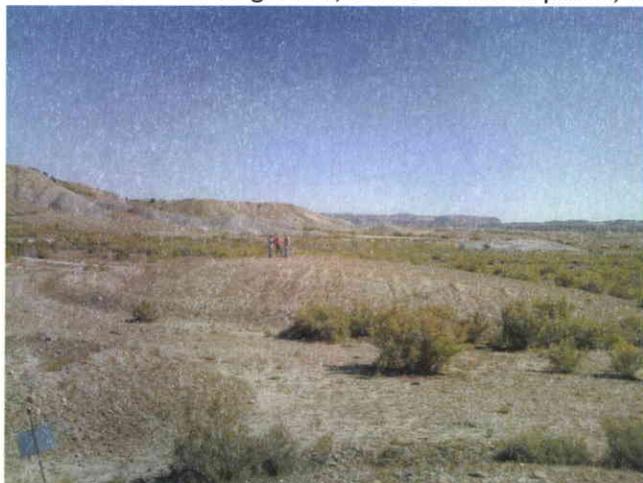
Right, site #2, Coal Pile Topsoil, (10.13% desirable cover in 2003)



Below, site #9, Substation Topsoil Pile (6.4% desirable cover in 2003)



Sites #3, #4, #5 , Pond #6 Topsoil and Subsoil stockpiles (0.27%, 11.14% and 1.38% desirable cover reported in 2003). Lack of cover due in part to 20 head of horses enclosed in topsoil/subsoil location. Below site #4 in background, site#3 on left of photo, berm of site #5 barely visible at bottom of photo.



Twenty horses were enclosed within the topsoil/subsoil area.

Horses graze on grasses growing in the low spots. Overgrazing does not allow grasses to produce seed and reduces cover.



Successful reclamation on the Pond #6 Pipeline Road, reclaimed in 1987. This location was not part of the 2003 study.



Compare the above photo with Site #8, Borehole reclaimed road (2.6% desirable cover in 2003). This site is a half mile east with the same aspect, but gently sloping topography.



Below, site #10, Topsoil Pile from Pond #1 (10.53% cover in 2003)



Site #14, Pond #1 subsoil stockpile.



Site #19 Test Plot location (46% desirable cover likely due to success of irrigation treatments.)

