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State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA
Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Inspection Report

Permit Number:	C0410002
Inspection Type:	TECHNICAL
Inspection Date:	Monday, October 19, 2009
Start Date/Time:	10/19/2009 10:00:00 AM
End Date/Time:	10/19/2009 3:30:00 PM
Last Inspection:	Tuesday, October 13, 2009

Inspector: ,
Weather: Sunny (windy) 65 F
InspectionID Report Number: 2164

Accepted by: jhelfric
10/29/2009

Representatives Present During the Inspection:	
	Ingrid Wieser Environmental Scientist II
OGM	Daron R. Haddock Environmental Manager
USFS	Tom Lloyd Ferron-Price District Geologist
USFS	Dale Harber Forest Geologist
Other	Marc Stillson Regional Engineer
Company	Mike Davis
Other	Erik Petersen
OGM	Priscilla Burton Environmental Scientist III
Company	Chris D. Hansen Environmental Manager

Permitee: **CANYON FUEL COMPANY LLC**
Operator: **CANYON FUEL COMPANY LLC**
Site: **SUFCO MINE**
Address: **397 S 800 W, SALINA UT 84654**
County: **SEVIER**
Permit Type: **PERMANENT COAL PROGRAM**
Permit Status: **ACTIVE**

Current Acreages

25,292.43	**Total Permitted**
48.43	**Total Disturbed**
	Phase I
	Phase II
	Phase III

Mineral Ownership

- [x] **Federal**
- [x] **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:

Representatives from DOGM, USFS, DWRi, Emery Stock Growers Association., SUFCO mine, Canyon Fuel Co., LLC and Peterson Hydrologic Consulting met to evaluate conditions at two spring sites on the Manti LaSal: North Water Springs and Joes Mill, both of which lost surface water seepage due to subsidence from underground mining. The mine proposes to install wells into bedrock below the level of the drained alluvial aquifer and pump water to the surface to provide water for livestock and wildlife. The excess will be used to recreate the riparian area at the spring. In addition to those persons listed above, John Wytannis, Acting District Ranger, John Heeley, and Lance Sudweeks from the Manti LaSal Nat Forest; Morris Sorenson and Russ Jensen from the Emery Stock Growers Association; and Leland Roberts from SUFCO were present.

Inspector's Signature: Ingrid Wieser **Date** Wednesday, October 21, 2009

Inspector ID Number:

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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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

North Water spring is a developed spring located in the East Fork of the East Fork of Box Canyon above panel 5L of SUFCO's Pines Tract. North Water spring was undermined in 2005. Joe's Mill Pond is a manmade structure developed to capture flow from an adjacent spring. In 2006 the springs went dry and the Division made a Finding of Material Damage (Outgoing/0013.pdf). In accordance with the finding of material damage, SUFCO provided a plan for mitigation (MRP, App. 7-22). Piezometers established that the water level in the alluvium had lowered to a depth of 20 ft below the surface. Several strategies to recapture the water in the lowered water table of the alluvium were attempted (a grout curtain; collection in perforated pipe; and pumping from a down canyon spring to the troughs), but none was sucessful in restoring the springs. An exploratory drilling program was undertaken to evaluate the availability of water from the Castle Gate Sandstone, the bedrock below the alluvium (App. 7-22, updated 2009).

During this field meeting Canyon Fuel Co., LLC explained the results of the 2009 drilling program and their proposal to develop water supply wells in the Castlegate Sandstone to pump water to the troughs and pond.

4.d Hydrologic Balance: Water Monitoring

Plate 7-3 shows the location of springs. North Water Spring and Joes Mill Pond were historically used by cattle. Both springs were overlooked in the 1981 inventory filed with the DWRi. The USFS will file dilligence claims with DWRi for both springs to secure the water rights.

North Water Spring (Pines 105) has been monitored by SUFCO and data is available in the Division's water database. Plate 7-3 shows this spring as part of a perennial stream reach that is monitored.

9. Protection of Fish, Wildlife and Related Environmental Issues

In 2000 Emery Stock Growers, installed troughs on a ridge above the North Water canyon (elevation 8,422 ft.). They installed a water line and solar pump from the North Water spring (elevation 8,327 ft.) to bring the water up to the troughs. Flow at the troughs was measured at 5-7 gpm. The cattle stay an average of 15 days/year in this location, according to Morris Sorenson.

Recent (2009) slug tests and re-evaluation of previous piezometric data have lead the investigators to conclude that the alluvial sand beds are discontinuous, and intermittent with (less permeable) organic layers providing a patchwork of water in the alluvium. Investigators concluded that the most productive means of resupplying water to the alluvium is from a deeper source. Canyon Fuel Co. recently drilled two exploratory wells 143 ft to 150 ft. below the surface, into bedrock and found an aquifer, 55 ft below the elevation of the North Horn spring (see App. 7-22 for locations of wells and other details of the drilling program). As a result of this exploratory drilling, Canyon Fuel Co., LLC. proposes to complete a water supply well near each spring site and to install solar panels or wind mills to pump approximately 5 gpm from the bedrock aquifer (below the alluvium) up to the surface to fill the water troughs and the pond. Overflow will be returned to North Water Canyon. An amendment to the Mining and Reclamation Plan will be forthcoming.

According to the USFS, the ground surface has lowered considerably since installation of the 2006 piezometers due to the drying of the organic soils. Since highly organic soils (peat) become hydrophobic and do not rewet easily, the USFS is hopeful that these organic layers may act as an aquitard to keep the water at the surface when it is replaced by pumping. Leland Roberts, SUFCO Mine, confirmed that the piezometers do illustrate the effects of draining the alluvium due to the movement of the outer, black pipe (installed within the alluvium which has lowered) against the stationary, inner, white pipe (installed on bedrock which has not moved). The elevation of the piezometer in the vicinity of northwater spring was lowered 1.8 ft. between 2006 - 2008.

14. Subsidence Control

In addition to the North Water and Joes Mill pond springs, subsidence created surface water losses in a stream section of the East Fork of Box Canyon (Pines Tract). (No determination of material damage was made on the East Fork of Box Cyn loss.) Stipulation #17 of the federal lease requires that impacted water sources be replaced. SUFCO and the Emery Stock Growers Association and the USFS are cooperatively working towards a common goal of water replacement. The Stock Growers request that they continue to be included in the dialogue between agencies and the mine operation.