



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:	C0250005
Inspection Type:	PARTIAL
Inspection Date:	Wednesday, March 16, 2016
Start Date/Time:	3/16/2016 4:00:00 PM
End Date/Time:	3/17/2016 1:00:00 PM
Last Inspection:	Tuesday, March 29, 2016

Representatives Present During the Inspection:	
OGM	Keenan Storrar
Company	Kirk Nicholes
Company	Drew Christensen
Company	Erik Petersen

Inspector: Keenan Storrar

Weather: Sunny, 55 F.

InspectionID Report Number: 5489

Accepted by:

Permittee: **ALTON COAL DEVELOPMENT LLC**
 Operator: **ALTON COAL DEVELOPMENT LLC**
 Site: **COAL HOLLOW**
 Address: **463 North 100 West, Suite 1, CEDAR CITY UT 84720**
 County: **KANE**
 Permit Type: **PERMANENT COAL PROGRAM**
 Permit Status: **ACTIVE**

Current Acreages

721.00	Total Permitted
342.00	Total Disturbed
113.50	Phase I
	Phase II
	Phase III

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:

I made a site visit to the Coal Hollow mine on March 16th and 17th 2016. During the site visit I inspected the following: 1) the installation of monitoring wells within and adjacent to the North Private Lease, 2) Coal Hollow mine Pit 10 and drainage control within the bottom and along the edge areas of the pit 3) Sediment Pond 3 - including the pipe line ending in the pond and I took a grab sample from the pond near the emergency spillway of the pond. On March 16th I drove to the site from the Glendale Bench Road then I took a left and drove North on the County Road up to the mine. On my way up I stopped at the 'Falls' or the waterfall on Kanab Creek roughly 7 miles to the south southwest of the Coal Hollow mine (Panorama 1 and 2).

Inspector's Signature:

Keenan Storrar,
Inspector ID Number: 71

Date Thursday, April 07, 2016



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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Signs and Markers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Topsoil	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.c Hydrologic Balance: Other Sediment Control Measures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.d Hydrologic Balance: Water Monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.e Hydrologic Balance: Effluent Limitations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Backfilling And Grading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Revegetation	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.b Hydrologic Balance: Sediment Ponds and Impoundments

The end of the Pit 10 to Pond 3 pipe was submerged beneath the water. Thus, it was difficult to discern if the erosion control fabric and riprap had been placed properly at its outlet (Photo 1). Pond 3 water was cloudy and had an oil sheen across the surface of the water near the inlet (Photos 2, 3).

4.c Hydrologic Balance: Other Sediment Control Measures

The sump in the bottom of Pit 10 had high TSS with coal fines collecting in it. Water had recently ponded in the working area on the bottom of the pit and had flowed across workings into the sump (Panorama 3). The runoff was collecting and carrying coal fines to the sump. The Permittee discussed plans of expanding the sump into a large settling pond. The settling pond will be along the north wall of the highwall trench and separated into two cells (see notes). One cell will receive all runoff from the bottom of the pit and working areas and be the primary settling basin. Water will then pass through a filter curtain into the second cell which will act as a secondary settling basin. When the second cell is filled to capacity with water it will be pumped to Pond 3.

4.d Hydrologic Balance: Water Monitoring

I inspected two aspects of water monitoring: 1) the well installation at the North Private Lease, and 2) flow in Kanab Creek at two locations.

1) Wells in NPL had been drilled in multiple areas. The wells were located close to the areas the Permittee and Division had agreed upon during the November inspection. The well matrix in the bottom of Kanab Creek had been installed. The matrix had two wells on either side of the creek and the wells were roughly 25 yards apart running lengthwise with the stream (Photos 5 through 8). The Permittee collected cores from the wells drilled at this matrix and was logging them. They were installed using a push probe down to a 40 ft depth to contact of alluvium and the Dakota sandstone (Photo 9). A well was actively being drilled as I was there (Photos 10 through 12). Alluvium was to a depth of roughly 80 feet deep when the driller thinks he hit sandstone which was likely the contact with the Dakota sandstone. The driller said they were going mostly through gravels at 60 ft and estimated the size of the gravels to be 3/4 inch. The gravel gets crushed by the drill bit and comes up as very angular sand shards 1/2 inch minus in size.

2) Flow in Kanab Creek was observed at a) the Falls and b) observed and measured on Kanab Creek in the North Private Lease.

a) There was a significant amount of water flowing over the Falls along Kanab Creek south of the mine (Panorama 1 and 2).

b) I measured the width, depth, and velocity of Kanab Creek 200 yards upstream from the where the county road crosses the creek (Photo 13). Refer to the attached field notes for a cross-section. The stream had a width = 3 ft (91 cm), a depth = 34 cm (1.12 ft), and two measured velocities of V1 = 1.68 m/s and V2 = 1.96 m/s.

There was flow spread out onto the flood plain on either side of Kanab Creek in many areas (Photos 14 through 16).

The water in the culvert passing under the county road was 10 inches deep (Photo 17 and 18).

Lamb's irrigation pond had recently been filled to capacity (Panorama 4, Photos 19 and 20).

4.e Hydrologic Balance: Effluent Limitations

Pond 3 was not discharging. I took a grab sample of water at the emergency spillway of Pond 3 to determine the water quality that would likely discharge through the emergency spillway. A rainfall runoff event and/or continuous discharge from the Pit 10 to Pond 3 pipe are the two factors that would cause the pond to discharge. The water quality results are attached to this report and are as follows: T-Iron = 0.115 mg/l, TDS @ 18 C = 792 mg/L, T.Sus.Sol = 6.0 mg/l.

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit



PANORAMA 1

The Falls on Kanab Creek below the mine site.
March 16, 2016



PANORAMA 2

The Falls on Kanab Creek below the mine site.
March 16, 2016

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit	
 <p>PHOTO 1 End of Pit 10 to Pond 3 pipe. Difficult to discern correct placement of erosion control fabric and riprap at end of pipe. March 17, 2016</p>	 <p>PHOTO 2 Oil sheen on surface of pond near inlet. March 17, 2016</p>
 <p>PHOTO 3 Oil sheen on surface of pond near inlet. March 17, 2016</p>	 <p>PHOTO 4 Sump in Pit 10 March 17, 2016</p>

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit



PANORAMA 3

March 17, 2016



PHOTO 5

One well in the well matrix down gradient of site.
March 16, 2016



PHOTO 6

One well in the well matrix down gradient of site.
March 16, 2016

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit



PHOTO 7
One well in the well matrix down gradient of site.
March 16, 2016



PHOTO 8
One well in the well matrix down gradient of site.
March 16, 2016



PHOTO 9
Push probe core samples at well matrix.
March 16, 2016



PHOTO 10
Drilling well west of Kanab Creek and south of county road creek crossing.
March 16, 2016

<p>ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit</p>	
	<p>PHOTO 11 Drill rig, March 16, 2016</p>
	<p>PHOTO 12 Drill bit used for well hole. March 16, 2016</p>
	<p>PHOTO 13 Section of Kanab creek that flow was measured. March 17, 2016</p>
	<p>PHOTO 14 Kanab Creek in NPL up from County road crossing. March 17, 2016</p>

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit

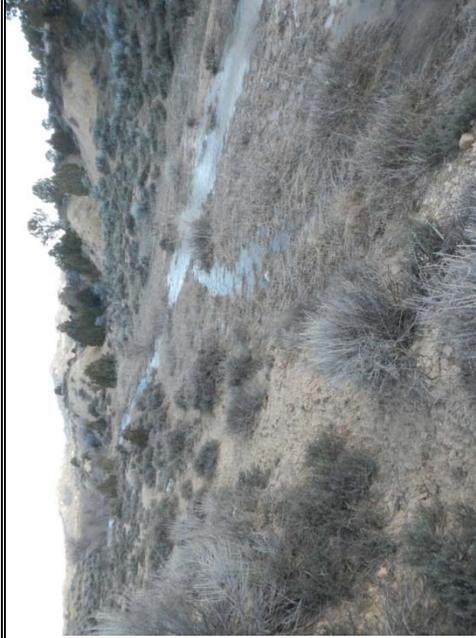


PHOTO 15
 Kanab Creek just up from County road crossing.
 March 17, 2016

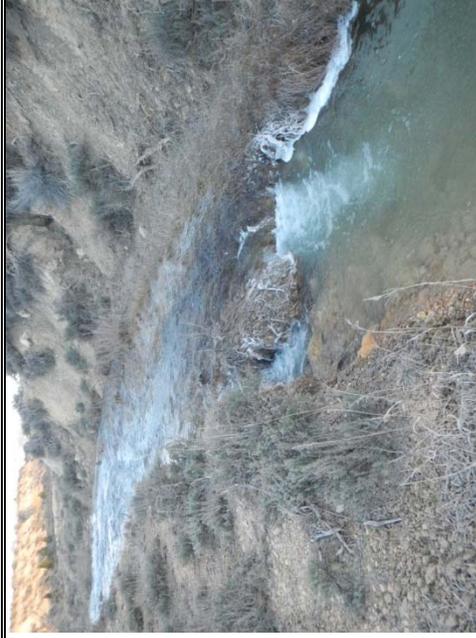


PHOTO 16
 Kanab Creek directly above County road crossing.
 March 17, 2016



PHOTO 17
 Flow is 10 inches deep in a 12 foot culvert.
 March 17, 2016



PHOTO 18
 Flow in culvert under County road.
 March 17, 2016

ATTACHMENT A – Photos Coal Hollow March 16 & 17, 2016 site visit



PANORAMA 4

Lamb's irrigation pond full to capacity.
March 16, 2016



PHOTO 19

Lamb's irrigation ditch flowing into the pond. High water mark shows the ditch recently carried flow.
March 16, 2016



PHOTO 20

Lamb's irrigation ditch flowing into the pond. High water mark shows the ditch recently carried flow.
March 16, 2016

Coal Hollow March 16-17, 2016

- Inspect Pond 3
 - ↳ take H₂O sample
 - Pit 10 - water situation
 - A/P/L - Well locations
-
- Driller in log way of Glenhale bench road
 - Stopped at 'Falls' crossing at Kumbak
 - Drove up sink valley
 - ↳ stopped at lower Robinson crossing
 - Pumping out of Pond 4
 - 5 to 10 cfs flowing over falls at Kumbak ck.
 - 1/2 to 1 cfs flowing at Lower Robinson
 - Appears kumbak irrigation pond was just filled or topped off
 - ↳ can see wetted perimeter in irrigation ditch flowing into Pond
 - Drilling just west of Kumbak ck
 - ↳ ortho read US 5000 on bench above
 - down to 15 ft & still in Alluvium
 - The 4 push probes installed at matrix are about 40 ft and it is all alluvium.

- The Driller said the gravels at the 60' depth they are at are probably 3/4" diam. The gravel pits installed by drill bit and will come up as sand shards and $1/2''$ probes
- Clayey layers are present in the push-probe drill cores
- UEM1 - push core samples
- UEM2 - push probe cores

March 17, 2016 8:00 am

Kumbak & XS 700 yds upstream of bridge



V = 9 yds 4.8 S.C

9 yds 2.8 S.C

OLD - CN 5-1 (58' screen depth)

NEW - CN 5-2 (52' screen) 21' to 5'

020 - CN 3-2

021 -	CN3-1, CN5-98	26.5
	79' to spike	
022 -	CN3-3	83' 25.37
022	CN3-4	141 st spike 108' depth
024	CN1-	70.43
025	CN1-2	18-43 Per 18.50
026	CN0-2	15-23 ^{city} 21.75
027	CN0-1	16-30 ^{city} and 33-43 sound 14.47

61-Tropic Spike



Coil follows 3-30-2016

Road release in South lease

- Snowy, snow on the ground

- Southern extent of county road

through permit

- Road road, crossed road

road getting next down a

bit

- Will build grade up to height of

country road

- Don't go to subunit

new well for pit to borrow

area + red log hill

this will increase size of water

area drinking to Pond 3

- Well SE corner of HWY-2-A

- looks appears H₂O will drain to

single valley in this area

- 1 advance in where a well

- 460,000 cy

- 5-26 Drive 5-2 AlPondix

- 1-3 road area looks so

- Western most extent of backfilled

pit