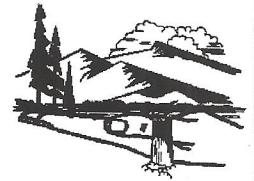




# Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.



Matthew Mead, Governor

Todd Parfitt, Director

July 9, 2015

Mr. John Cash – VP Regulatory Affairs  
Exploration and Geology  
Lost Creek ISR, LLC  
5880 Enterprise Drive, Suite 200  
Casper, WY 82609

Re: **Lost Creek ISR LLC, Permit 788, June 2015 Inspection**

Dear Mr. Cash:

Enclosed please find my report of the Site Inspection that was completed on June 29, 2015.

If there are any questions regarding or misstatements within this report, please contact Brian Wood in the Lander Land Quality Division office at (307) 332-3047.

Sincerely,

Brian R. Wood  
District 2 Assistant Supervisor  
WDEQ - Land Quality Division

w/ Enclosures – Permit 788, June 2015 Inspection Report

BRW:brw

cc: Mark Newman – BLM – P. O. Box 2407, Rawlins, WY 82301 (EC)  
John Saxton – US Nuclear Regulatory Commission (EC)  
Mike Gaither – Lost Creek ISR (EC)  
John Erickson – District 2 Permit 788 Inspection File  
Tammi Pusheck – WDEQ-LQD Cheyenne  
Chron

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Lander Field Office • 510 Meadowview Drive • Lander, WY 82520 • <http://deq.state.wy.us>

ABANDONED MINES  
(307) 332-5085  
FAX 332-7726

AIR QUALITY  
(307) 332-6755  
FAX 332-7726

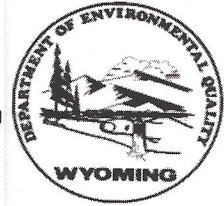
LAND QUALITY  
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SOLID & HAZARDOUS WASTE  
(307) 332-6924  
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WATER QUALITY  
(307) 332-3144  
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# IN SITU MINE INSPECTION REPORT

Wyoming Department of Environmental Quality, Land Quality Division  
510 Meadowview Drive Lander, WY 82520  
Phone: (307) 332-3047 FAX: (307) 332-7726 FAX2: (307) 332-3183



<b>Permit Number:</b>	PT0788	<b>Permittee:</b>	LOST CREEK ISR LLC
<b>Inspection Date:</b>	6/29/2015	<b>Inspector(s):</b>	Brian Wood
<b>Report Date:</b>	7/9/2015	<b>Participant(s):</b>	Kurt Brown, Lost Creek ISR Mike Gaither, Lost Creek ISR
<b>Last Inspection:</b>	12/11/2014	<b>Current Bond:</b>	\$13,296,000
<b>Inspection Reason(s):</b>	Periodic	<b>Field Conditions:</b>	
		<b>Approval Date:</b>	10/21/2011

<b>Status:</b>	Active	<b>Approved Acreage:</b>	4253.85
<b>County:</b>	Sweetwater	<b>Mineral:</b>	Uranium

## Opening Comments

This is the first inspection to occur since December 11, 2014. The inspector / permit coordinator established a goal of conducting quarterly site inspections but due to District 2 work load and staffing level this has not been achieved. At the time of the inspection all well drilling activities in Mine Unit 1 had been completed. However, all of the "plumbing" and/or testing for wells associated with Header Houses (HH) HH1-11 through HH1-13 has yet to be completed. Shortly after the inspection was performed the HH1-11 package was received and comments were sent to LCI. Well drilling in Mine Unit #2 will begin in mid to latter July. Topsoil management has been issue within Mine Unit #1 and is discussed in further detail within the body of the report. A permit revision to address this issue is to be submitted in the near future. An inspection will be performed in August to examine the implementation of the revised procedures. The leak in the primary liner within the southern evaporation pond has been repaired. The liner in the north evaporation pond has also been evaluated by LCI's contractor and no issues were noted.

There are two outstanding applications: (1) the KM Mine Plan Revision and (2) the Lost Creek East Amendment. Comments were sent to Lost Creek ISR, LLC (LCI) on November 5, 2014. To date no responses have been received. Responses to 2014 Annual Report comments were received on March 30, 2015. On April 20, 2015, the Wyoming Department of Environmental Quality - Land Quality Division (WDEQ/LQD) accepted the Annual Report. A Director's Bond Letter has been drafted and sent to WDEQ/LQD Cheyenne Administration.

## Compliance Assessment

Inspection Topic	In Compliance
General	N/A
• Deep Disposal Wells	Yes
There are three deep disposal wells at the site. At the time of the inspection only DDW #3 was operating. Photo 7 illustrates a portion of the area that was reclaimed around DDW #1. The vegetation has done exceptionally well with the large amount of late Spring moisture. Photo 8 shows some of the delineator posts that have been sunk in the DDW #1 area to identify the extent of the travel corridor. The two ponds associated with the completion of DDW #3 still exist. The water in the northern most pond is of sufficient quality to be used in drilling. The plan is to use the water when drilling is initiated later this month in Mine Unit #2.	



Inspection Topic	In Compliance
● Erosion Control	Yes
<p>Approximately two months prior to this inspection Andrea Summers From WDEQ/WQD was on-site performing a Stormwater inspection. No major issues appeared to result from her inspection. Several culverts were inspected along the access road from the Jeffrey City - Wamsuter road and all appeared essentially clear. Since Ms. Summers' inspection, the site received a significant amount of precipitation. Photo 2 illustrates the amount of grass that came in along the road-side ditches. Essentially all of the wattles installed in the road-side ditches to reduce flow velocities were in place; one wattle needs to be re-secured. The June 2014 inspection conducted by Ms. Bautz identified issues with regard to rilling in the southeast corner of the plant site, near the hydrochloric acid tanks. When the area was inspected last December, it was obvious that the area had been graded out and that grass had started to come in. Photo 10 shows the area conditions at the time of the inspection; the grass has become reasonably well established. Ms. Summers raised issues concerning the potential for erosion in the area generally east of the fire tank. Photo 9 shows the erosion control fabric that has been installed along the embankment and the straw wattles that have been placed in the channel.</p>	
● Facilities	Yes
<p>The fuel storage has been relocated to within the plant site from the lay-down area and the storage tanks are located within the confines of a cement barrier.</p>	
● Fencing	Yes
<p>The area around Mine Units 1 and 2 has been fenced according to BLM specifications. The Plant site and associated facilities are surround with a chain link fence with a lockable gate.</p>	
● Ponds	Yes
<p>There are two evaporation ponds east of the plant. Earlier in the year each pond was drawn down to repair some leaks, which were determined to exist around the boots where piping passed through the liner. The problem with the South Pond boots was repaired and no issues were found with the North Pond. There is still some residual water between the liners in the South Pond flowing into the sump, but quantities have substantially reduced with time. At the time of the inspection water levels in the ponds were minimal.</p>	
● Roads	Yes
<p>The main access road through the site and between the plant and the lay-down yard were in good condition and appeared to be well maintained. A culvert has been installed where the emergency access road intersects the main road into the plant site. All of the header house access roads in the vicinity of Header Houses 1 - 6 have been delineated.</p>	
● Signs	Yes
<p>The entrance sign from the Jeffrey City - Wamsutter Road was intact and up-to-date; see Photo 1.</p>	
● Topsoil Salvage	Yes
<p>No salvage, drilling, or construction operations were ongoing at the time of the inspection. As discussed in the vegetation section, during drilling operations in the vicinity of what will become Header Houses 10 - 13, Lost Creek has managed to reduce the amount of disturbance and several undisturbed areas were observed. Prior to the inspection there was discussion with Mike Gaither and Kurt Brown regarding Mine Unit 2 and that topsoil preservation needed to be improved during the development of this well field. Mr. Gaither indicated that they had drafted a proposal concerning topsoil handling and submitted to Ms. Bautz in 2014 for review. Four options were presented in the proposal; Lost Creek concluded that #4 was the option and Ms. Bautz concurred. Since the inspection, Lost Creek has provided a copy of the proposal sent to Ms. Bautz and I concurred with the prior conclusion. Lost Creek is to submit a NonSignificant revision to revised the permit accordingly.</p>	



Inspection Topic	In Compliance
• Topsoil Stockpiles	Yes
All of the topsoil piles observed have been signed and were reasonably well vegetated.	
• Vegetation	Yes
Vegetation density in the vicinity of Header Houses 1, 3, and 4 is even greater than what observed late last fall. Photo 6 provides an example of the revegetation in this general area. Photo 3 illustrates trunk line corridor generally west of Header House 9 that was reclaimed and seeded earlier this Spring. As shown, the grass came up quicker than expected after seeding. In the vicinity of Header Houses 10 - 13, Lost Creek personnel have attempted to improve traffic patterns during well field construction. Photo 4 illustrates an area that was left undisturbed during construction.	
Well Field Development	N/A
• Class 3 Well Completion	Yes
A total of 10 header houses have received approval since start-up with two (HH 1-9: 77 wells and HH1-10: 80 wells) receiving approval since the last inspection.	
Well Fields	N/A
• MITs	Yes
No MIT's were viewed during the inspection. MIT's were reviewed during the Annual Report review process. During the report period there were 309 wells tested of which there were a total of 23 ultimate failures (seven percent).	
• Pump House	Yes
Mine Unit 1, Header Houses HH1-1 through HH1-10 are currently in production. There are three more Header Houses that will be associated with Mine Unit. All wells have been completed and most have been under-reamed. The Header House (HH1-11) completion package was received on July 6 and comments were sent to LCI on July 7. There are no areas of Mine Unit 1 that are currently in restoration.	
• Spills	Yes
Since the last inspection there have been six spill reports filed with one report covering two separate incidents. Some of the spills have been attributed to freezing vent valves. LCI developed procedures to help reduce failure potential. They also acquired insulating hoods to cover the entire assembly inside the well house. Photo 5 illustrates one of the hoods that has been removed for the warmer months and stored in the well house. The hood is essentially an insulated envelope.	

#### Actions Required

There are no unresolved Maintenance Items

#### Actions Completed Since Last Inspection

Inspection Topic	Inspection Date	Proposed Resolution Date	Resolution Date
Erosion Control	6/25/2014	8/8/2014	12/11/2014
Repair the portion of MU1 that pinches in to the north-south drainage as depicted in Photos Number 16 and 18 of the June 2014 Inspection. Sediment control should be installed here; e.g. silt fence.			
Erosion Control	6/25/2014	8/8/2014	12/11/2014
Repair the rilling in the southeast corner of the Plant Site.			
Spills	6/25/2014	8/8/2014	12/11/2014
The ongoing, predictable flow of spill water to the north-south drainage that bisects the west edge of MU1 should be more thoroughly addressed and controlled.			



Inspection Topic	Inspection Date	Proposed Resolution Date	Resolution Date
<b>Spills</b>	<b>6/25/2014</b>	<b>8/8/2014</b>	<b>12/11/2014</b>
Repair the wattle depicted in Photo Number 15 in the June 2014 Inspection Report. This wattle became silted in after Spill #12 occurred on June 4, 2014.			
<b>Spills</b>	<b>6/25/2014</b>	<b>8/8/2014</b>	<b>12/11/2014</b>
LCI is asked to directly address the ongoing, predictable, and excessive contamination of topsoil in the well field (due to spills) and incorporate it into any forthcoming revised Permit language that addresses the stripping of topsoil prior to the development of future wells fields.			
<b>Status</b>	<b>6/25/2014</b>	<b>9/30/2014</b>	<b>12/11/2014</b>
Improve communications among LCI staff regarding bleed rate.			
<b>Surface Water Control</b>	<b>5/28/2014</b>	<b>6/25/2014</b>	<b>12/11/2014</b>
Clean out the site's culverts (C-E3 and C-W3) and install erosion control measures (sump, wattles, silt fences, straw bales) in the road ditch and up gradient from the culverts.			
<b>Surface Water Control</b>	<b>6/25/2014</b>	<b>7/31/2014</b>	<b>12/11/2014</b>
Permit Level: Clean out the site's culverts (C-E3 and C-W3) and install erosion control measures (sump, wattles, silt fences, straw bales) in the road ditch and up gradient from the culverts. The deadline for this maintenance item has been extended to the end of July 2014. LCI personnel are cautioned that it is imperative that these culverts be cleaned out and ready for the "monsoon" season which begins in August.			

#### Inspection Summary Comments

No violations have been issued as a result of this inspection. There is one straw wattle in the north ditch of the Mine Access road that needs to be re-anchored. Limited changes occurred at the site in terms of wellfield development since the last inspection in December. An inspection will be conducted in August to assess the merits of the revised topsoil management plan that is to be implement in the construction of Mine Unit #2.

**Inspection Recipient and Attachment Information**

Recipient	Email	Address/Notes
Operator	No	LOST CREEK ISR LLC

**Attachment Types:** ☒ Photo Addendum ☐ Map(s) ☐ Table(s) ☐ Other

**Attachment Notes**

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Type	FileName	Size (MB)	# Pages
Cover Letter	Pt_788_June 2015_Inspection_Cover_Letter.pdf	0.19	1
Photos	June_2015_Permit788_Photo_Addendum.pdf	1.74	5





**Photo #1 (above)** shows the entrance sign from the Jeffrey City – Wamsutter Road. **Photo 2 (below)** looks east shows the wattles in place at the first drainage crossing. On the drive into the plant, several crossings were viewed and no issues were noted. There was a substantial increase in vegetation density with the road-side ditches.







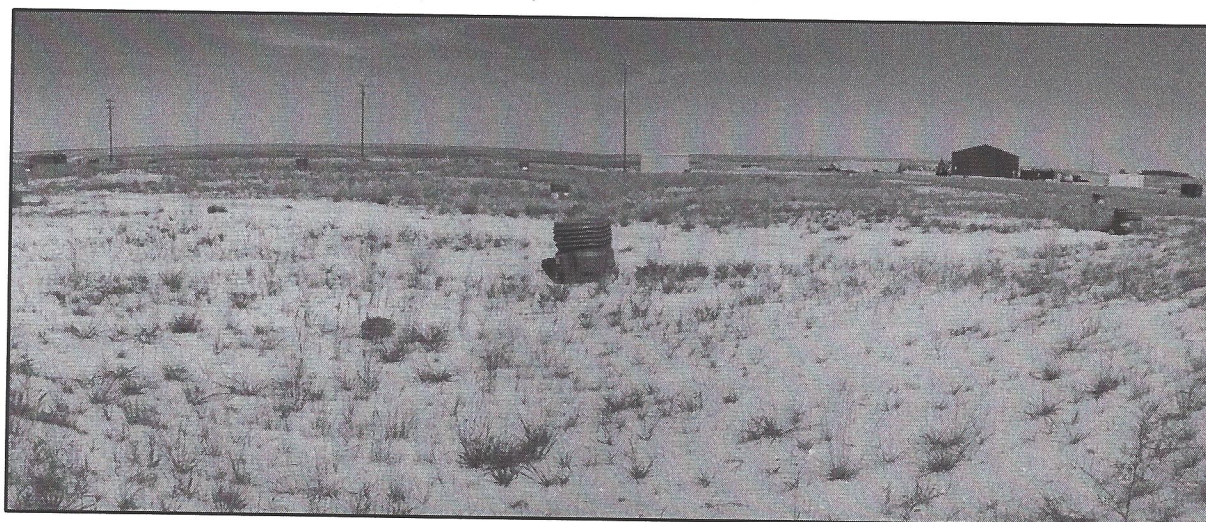
**Photo 3 (above)** looks west in the vicinity of Mine Unit #1 / Header House 9 and shows a portion of the trunk line route that was reclaimed earlier this year. **Photo 4 (below)** shows an area in Mine Unit #1 in the vicinity of Header Houses 9 and 10 that was left undisturbed during drilling. Topsoil preservation has been a substantial issue with the development of Mine Unit #1 and this effort is a step forward.







**Photo 5 (above)** shows the jacket that is used around the piping inside the well house. After these were installed LCI did not have an issue with freezing. **Photo 6 (below)** shows the general status of the reclamation in the vicinity of Header Houses 1, 3, and 4. Grasses in many areas is quite dense after the volume of moisture received in May and early June.







**Photo 7 (above)** shows some of the reclamation in the vicinity of Deep Disposal Well (DDW) #1. **Photo 8 (below)** shows the delineator posts that have been set out at the DDW #1 site to define the limits of the traffic area and keep people off the reclamation. These same posts are now set out in the reclaimed areas within Well Field #1.







**Photo 9 (above)** shows the erosion control measures that have been installed in the vicinity of the fire water storage tank. **Photo 10 (below)** shows the status of the revegetation effort / reclamation south of the hydrochloric acid storage tanks. Erosion and sedimentation has been an issue in this area before, but the expanse of revegetation this year seems to have addressed any prior issues.

