Matt Mead, Governor

Department of Environmental Quality

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

Todd Parfitt, Director

May 3, 2013

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

Re: **Summary of Bi-weekly Inspection of Lost Creek ISR LLC's Permit 788**

Dear Mr. Cash:

On April 30, 2013 a bi-weekly Inspection of the Lost Creek ISR (LCI) project was conducted. The resulting 13-page Inspection report is attached. No action items resulted from this Inspection.

There are no concerns with the Lost Creek site at this time. The next site Inspection is scheduled for Thursday May 16, 2013. If there are any questions regarding the enclosed Inspection Memorandum, please contact Melissa Bautz in the Lander Land Quality Division office at (307) 332-3047.

Sincerely,

Melissa L. Bautz, P.G.
Natural Resources Analyst
Land Quality Division - District 2 (Lander)

Enclosure 13-page Inspection Memorandum

MLB:mlb

cc: Mark Newman – BLM – P. O. Box 2407, Rawlins, WY 82301
John Saxton – US Nuclear Regulatory Commission – Federal and State Materials and Environmental Management Programs – Uranium Recovery Licensing Branch, Mail Stop T-8F5, Washington, D.C. 20555-0001
Mark Moxley - WDEQ-LQD, District II→ Permit 788 Inspection File
LQD Cheyenne → Permit 788 Inspection File
Chron

Wyoming Department of Environmental Quality (WDEQ)- Land Quality Division (LQD)
Inspection Memorandum

File:	Lost Creek ISR, LLC – Permit 788
Date of Inspection:	April 30, 2013
Date of Report:	May 3, 2013 MLB
Participants:	Eric Stonaker, Lost Creek ISR/Ur-Energy Mike Lueders, Mine Manager, Lost Creek ISR/Ur-Energy Catherine Bull, Project Engineer, Lost Creek ISR/Ur-Energy Melissa Bautz, WDEQ-Land Quality Division, Geologist
Report Prepared by:	Melissa Bautz – WDEQ-Land Quality Division, Geologist
Subject:	Bi-weekly Inspection

Background

WDEQ/LQD Permit 788 was approved on October 21, 2011. In the fall of 2012, the Project's EIS was completed and on October 5, 2012 the BLM issued a Record of Decision (ROD) authorizing commencement of work at the Project. Groundbreaking began at the Lost Creek Project on October 8, 2012. Beginning October 16, 2012 LQD District 2 started weekly inspections of site. Beginning February 27, 2013 LQD District reduced the site inspection frequency to bi-weekly (every other week). The last site Inspection was April 18, 2013.

Inspection

The primary activities occurring at the Lost Creek site during this Inspection were 1) *infrastructure construction* and 2) *Mine Unit construction*. This Report is divided into those two categories. The temporary office complex (four office trailers) south of the Plant Site is still the official site office for the Lost Creek Project. Anyone visiting the site is expected to check in at this location. Lost Creek ISR (LCI) personnel have requested that all vehicles be backed into the parking spaces outside the offices with the keys left in the vehicle. This is being requested for safety and/or emergency purposes.

Infrastructure Construction

Construction of the Plant Site and the digging of one of the main trunk line trenches were the only *infrastructure* activities occurring during this Inspection.

Plant and Pond Sites

Pond Site construction work since the last Inspection has included verification of adequate hydraulic conductivity in the ponds' floors and liner installation (see Photo Addendum). The remaining activities related to Pond construction will be continued over the next couple of weeks.

Since the last Inspection, finishing touches on the construction of the Plant building has continued. Valves are staged for installation and drywall is being installed in the office area.

The initial stages of the installation of the 80,000 gallon water tank for fire suppression was occurring during this Inspection. **There are no concerns with the Plant Site.**

Deep Disposal Well (DDW) Sites

DDW-3: The water storage pond at DDW-3 is once again being used to fill water trucks for drilling; this time in the MU2 area. The tanks at the DDW-4 drill pad are currently being used for drilling water for the MU1 area.

DDW-4: Nothing new has occurred at this drill pad site since the last Inspection except for the staging of some generators and other miscellaneous drilling equipment.

There are no concerns with any of the DDW sites.

Laydown Yard and Temporary fuel storage area

There are no concerns with the temporary fuel storage area or laydown yard.

Erosion Prevention

Topsoil stockpile sloughing: All of the site's topsoil stockpiles have v-ditches installed at their base. **The completion of this task completely addresses one of the action items from the March 27, 2013 Inspection Report.**

Seeding: The site's road ditches and long-term topsoil stockpiles began a couple weeks ago. A lack of adequate coverage in the first pass of seed application led LCI staff to do a second pass of seed application in the road ditches. About 75% of the site's road ditches and topsoil stockpiles are seeded. **Spring seeding addresses one of the action items identified in the March 27, 2013 Inspection Report.**

Mine Unit Construction

The construction of the Pattern Area for Mine Unit 1 has been ongoing since October 2012. The first four (of seven) header houses are nearing completion in anticipation of a June 25th Inspection by the NRC. LCI has also commenced the construction of the monitor well ring in MU2 as of this week (April 29 – May 3, 2013).

Drilling

Pilot-hole drilling, well-completion, and well-casing continue in the MU1 Pattern Area while exploration/delineation drilling and monitoring well installation are occurring in MU2. A twelfth drill rig has been added to the site and two more rigs (for a total of 14 rigs) are staged to begin drilling later in this week. The new rigs will focus on monitor well installation in MU2. In some instances, a portable mud-pit was used for the installation of wells near ephemeral drainages. This effort appears to be successful (see Photo Addendum, Photos 17 – 21)

LCI's Drilling Foreman (Grant) showed me his field book in which mud weights are recorded. The mud weights for MU1 well completions over the past two weeks were consistently around 14.5 ppg. The mud balances that are being used at the project are being calibrated on a weekly basis. They were last calibrated on April 25, 2013 (see Photo Addendum).

During this Inspection, well casing was being set in one of the MU1 Pattern Area wells. The attached Photo Addendum documents the annular space, the installation of centralizers every 40 feet and other aspects of well installation. The purpose of documenting this process is to facilitate a quicker review time when LCI submits the summary of their request for LQD authorization of the Class III injection wells.

There are no concerns with the drilling activities occurring at the site.

Bond evaluation
The bond was not reevaluated as a result of this Inspection. The currently-posted bond, in the amount of $8,599,000, is considered adequate.

Summary
This Inspection revealed that LCI personnel are following the approved Operations Plan for Permit 788. **No new action items resulted from this Inspection**

Next Inspection
The next site Inspection is planned for Thursday May 16, 2013 at about 10:00am. Please do not hesitate to contact Melissa Bautz regarding this Inspection Report at (307) 332-3047.

W/Photo Addendum (Pages 3 – 13)

**********END OF MEMORANDUM**********

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788

Photo Number 1: This depicts a topsoil stockpile along the west site access road that was recently seeded.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 2: This depicts the recently-seeded road ditch at the west edge of the access road.

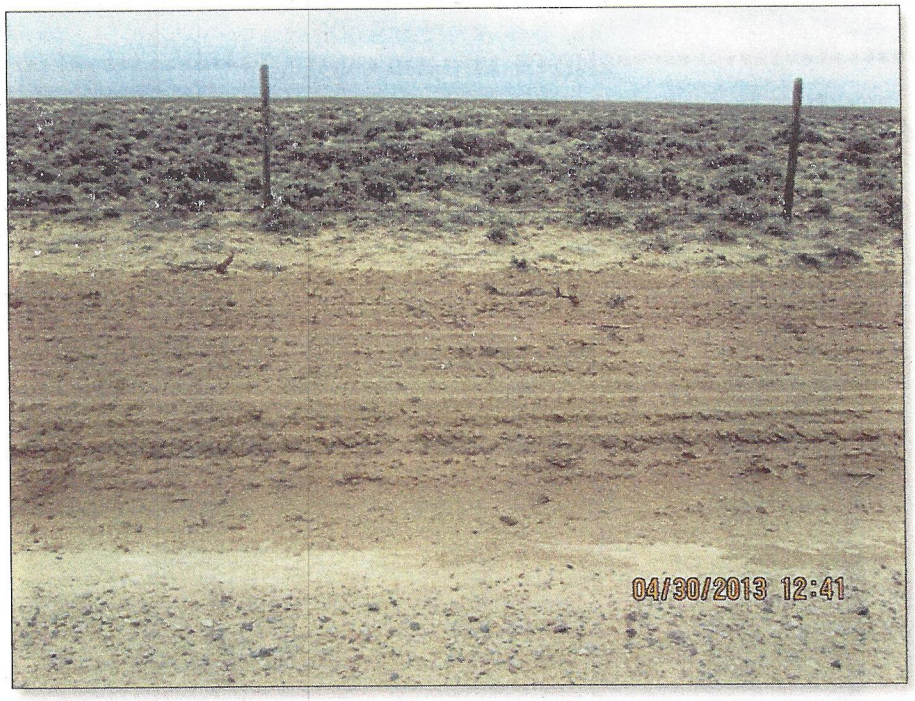

Photo Number 3: This is another view of the recently-seeded road ditch at the west end of the access road.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

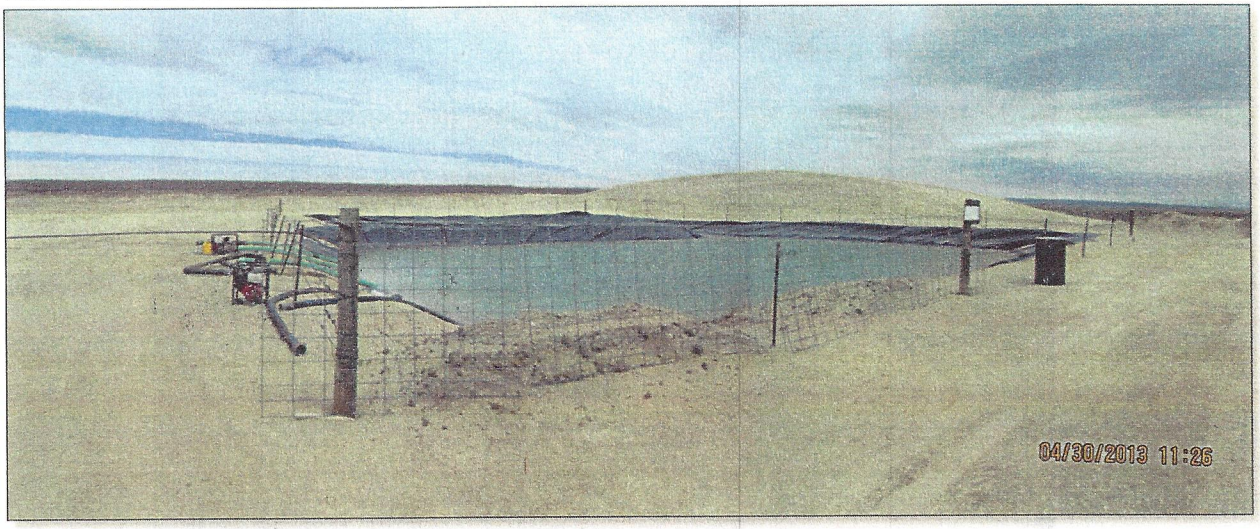

Photo Number 4: This depicts the water storage pond at the DDW-3 drill pad. Its fencing and liner are well maintained.

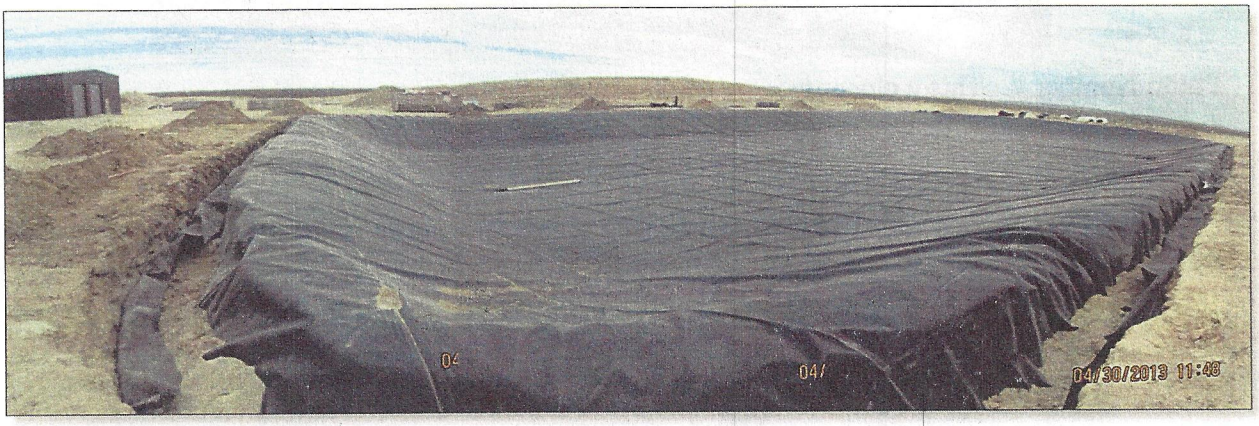

Photo Number 5: This depicts the bottom (geomembrane) liner that was recently installed in the north Pond. Its leak detection system has been installed and this pond will receive a layer of sand before the second liner is installed.

Photo Number 6: This depicts the south Pond's liner.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 7: This a close-up view of the geomembrane liner material for the Ponds.

Photo Number 8: This depicts the Plant Building's northwest corner; looking southeast.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

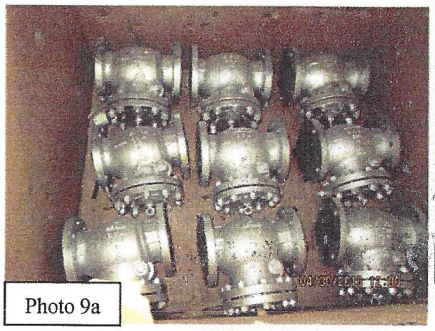
Photo 9a

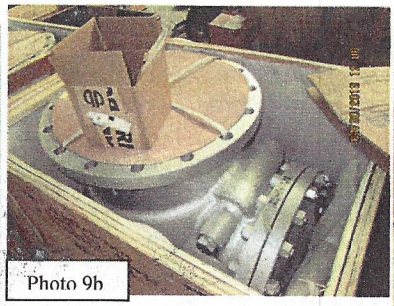
Photo 9b

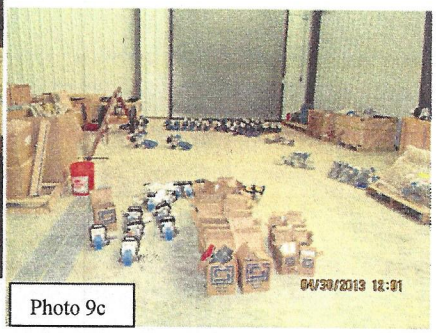

Photo 9c

Photos Number 9a-c: These photos depict the various valves that are staged in the Plant Building awaiting installation at various locations within the Plant.

Photo Number 10: This depicts the main trunk line trench just west of the Plant Building. The trench is backfilled from this point eastward to where it enters the Plant Building (in background).

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 11: This depicts the 20-foot lengths of well casing that was staged behind one of the MU1 Pattern Area wells that was being cased today. The outer diameter of this casing is 4.95" and the inner diameter is 4.25".

Photo Number 12: This photo depicts the well casing within the 7 7/8" (7.875") pilot hole. The annular space is 2.925" (7.875" - 4.95"). The centralizers depicted in the photo on the next page ensure that the casing is centered within the 2.95" of annular space.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

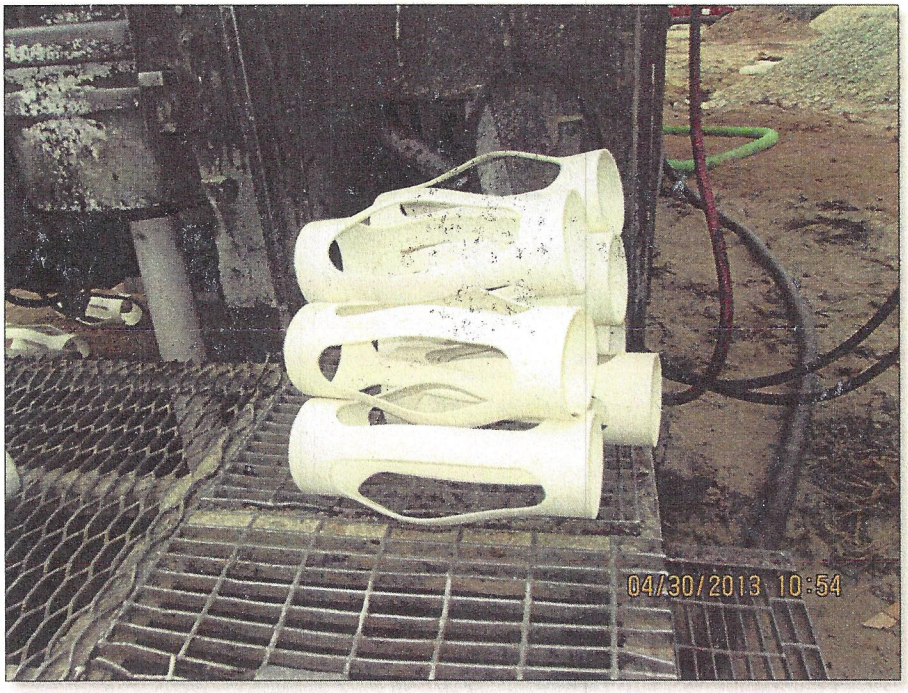

Photo Number 13: This depicts several centralizers staged behind the drill rig awaiting installation on the outside of the well casing.

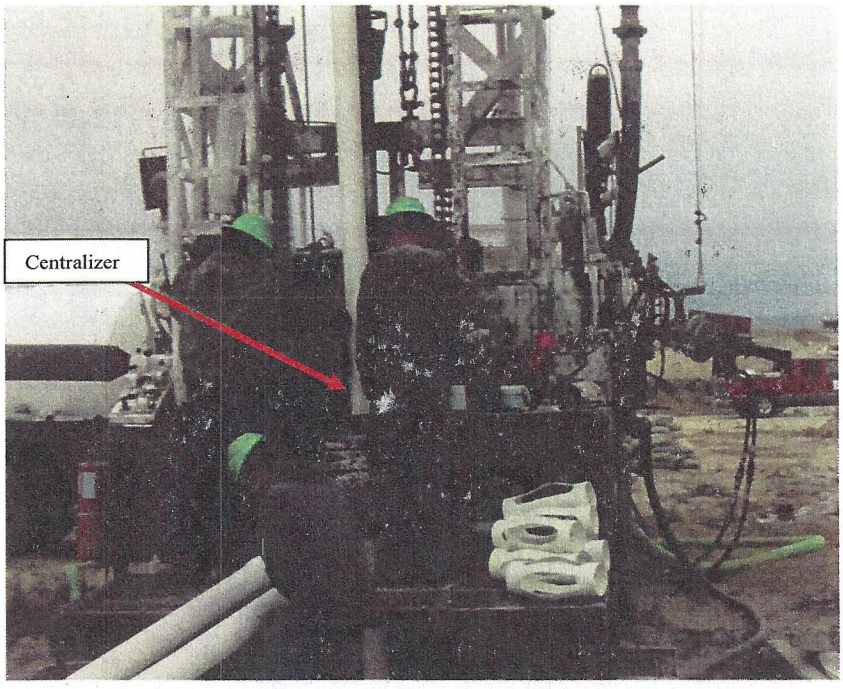

Photo Number 14: This depicts a centralizer that has been placed on the well casing, just prior to the lowering of the casing into the hole.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 15: This depicts the bell end of one of the 20 foot sections of PVC well casing. The dark circle is an O-ring and part of the spline lock system. The groove in front of the black O-ring will receive the spline material (hard plastic "string") once this casing is attached to the adjacent piece of casing.

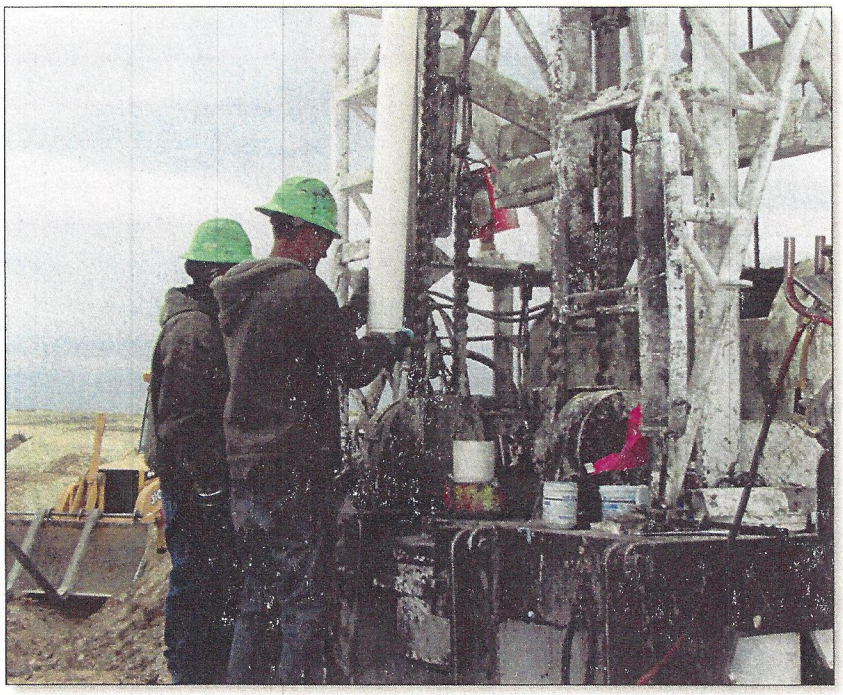

Photo Number 16: This depicts the application of the water-based lubricant at a casing joint.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 17: This depicts a portable mud-pit arrangement that was being used at one of the MU1 pattern area pilot holes that is located near an ephemeral drainage.

Photo Number 18: This is a view inside the portable mud-pit. It has partitions that route drilling mud through a labyrinth that allows mud to precipitate. The mud that accumulates in the portable mud-pit is transferred into a secondary tank (depicted on the right in Photo Number 17 above).

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

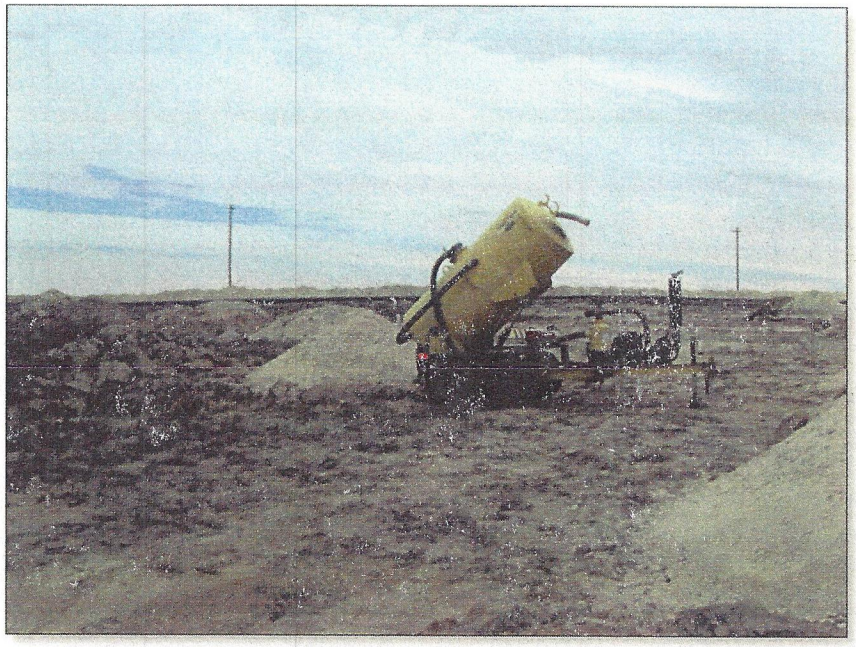

Photo Number 19: This depicts the mud-pit vacuum tank that is used to remove solids that accumulate in the oval-shaped tank depicted and described in Photos Number 17 and 18 above. The solids that are vacuumed by this device are being placed into existing in-ground mud-pits that are further away from the ephemeral drainage. If this method of drilling were to be utilized on a wide scale, a large pit would be needed to bury the mud/cuttings that are retrieved from the portable mud-pits' tanks.

Photo Number 20: This depicts a cased well installed near an ephemeral drainage. The portable mud pit was used for this well's installation. The footprint of the affected area associated with this well is, not surprisingly, significantly smaller than wells drilled with in-ground mud-pits.

Photo Addendum to accompany the April 30, 2013 Inspection Report for the Lost Creek Project – Permit 788 cont'd…

Photo Number 10: This is s view looking down-gradient at the ephemeral drainage near the well depicted in the above photo. The main purpose in using portable mud-pits is to prevent any spillage of drilling mud down the drainage. No drilling fluids were released into this drainage during the installation of the well depicted above in Photo Number 20.