



Department of Environmental Quality

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



Matt Mead, Governor

Todd Parfitt, Director

Certified Mail, Return Receipt Requested #7013 1090 0000 7319 4531

December 13, 2013

Mr. John Cash
Lost Creek ISR, LLC
5880 Enterprise Drive, Suite 200
Casper, WY 82602

RE: LETTER OF VIOLATION - Failure to follow Permit by failure to maintain a bleed at the Lost Creek ISR Project – WDEQ/LQD Permit 788 -

Dear Mr. Cash:

I have reviewed the information presented to me by you and Steve Hatten during our telephone conversation the morning of December 12, 2013 (see attached Telephone Conversation Record memorandum). I have also reviewed the language in Permit 788 and applicable Statutes. Based on those reviews, WDEQ/LQD District 2 has determined that failure to maintain an instantaneous bleed at the Lost Creek site is a violation of the approved Permit. Specifically, Section OP 3.6 of the Operations Plan, entitled "Mine Unit Control" clearly states that *"The most basic aspect of mine unit control is the bleed system; e.g., overproduction. The bleed system will be used so the volume of injection fluid will be less than the volume of production fluid in a mine unit... The anticipated bleed rate is 0.5 to 1.5 percent."*

In the attached Telephone Conversation Record it is indicated that there was no bleed on the Mine Unit 1 well field for 45 days out of the first 130 days of operation. The reason that no bleed has been maintained is because the mine currently does not have adequate waste water disposal capacity. It is believed that this problem will be resolved soon upon approval of a second deep disposal well (DDW-4). Failure to maintain a bleed in a well field is a failure to follow the approved Permit; specifically, it is a change in the approved **method of operation** at the site.

Failure to follow the approved Permit is a violation of W.S. §35-11-429(a)(iv) which prohibits "...any significant change in mining technique, **method of operation**, recovery fluid used, mining and reclamation plans or other activities that would jeopardize reclamation or protection of any water of the state unless a permit revision has been approved by the director pursuant to this act;"

This Letter of Violation (LOV) is to formally notify you of the violation and to encourage prompt resolution of this compliance problem without enforcement action. By your cooperation, we are attempting to resolve this violation through conference, conciliation and persuasion (W.S. § 35-11-701) rather than by issuance of a Notice of Violation (NOV). Please comply with the following:

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
(307) 332-3047
FAX 332-7726

SOLID & HAZARDOUS WASTE
(307) 332-6924
FAX 332-7726

WATER QUALITY
(307) 332-3144
FAX 332-7726

1. Stop injection immediately and maintain a cone of depression (hydrologic sink) in MU1 well field by pumping as necessary.
2. Provide weekly potentiometric surface maps of the production zone to LQD weekly for MU1 until the injection capacity of the new deep disposal well (DDW-4) is demonstrated to meet the disposal needs of the Plant. Also provide a graph of water levels vs. time for all of the wells that are used to generate the potentiometric surface maps. The first map and associated water level graphs should be submitted by December 18, 2013.
3. Provide a current water balance for the site. This should be submitted by December 18, 2013.
4. Provide a written explanation of the reason for the absence of a bleed at the site during the first 130 days of operation at the site (August – November 2013). This should also explain why, out of the 130 days of production at the site to date, there were 48 days without a bleed but there were only 18 days with no production occurring. This should be submitted by December 18, 2013.
5. Provide an explanation of how the plant capacity and disposal capacity problems are currently being handled and how the future capacity problems will be addressed or avoided in the future. Include injection test results for the new disposal well.
6. Submit an NSR Package, no later than December 31, 2013, that includes the following:
 - a. Change the Permit language throughout Section OP 3.6 of the Operations Plan of the Permit to indicate that an “instantaneous bleed (overproduction) at a rate of 0.5% to 1.5% of production will be in effect in the well field at all times”. This text change will result in changes primarily within Section OP 3.6 of the Operations Plan for Permit 788.
 - b. Add new language into the Section OP 3.6 of the Permit that states that a cone of depression (hydrologic sink) will be maintained in all well fields even when production is required to stop temporarily. This section should include an explanation of exactly how that will occur. This language should acknowledge that it will be necessary for production to stop sporadically over the lifetime of the operation; language describing how a bleed (cone of depression) will be maintained during those time periods is needed in the Permit.

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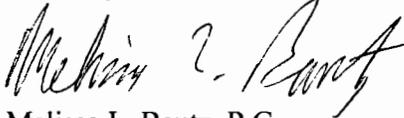
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Failure to resolve this situation will result in a recommendation for enforcement action, which could include issuance of a formal Notice of Violation and a Cease and Desist Order. The effect of the Order would be to prohibit any further mining activity in Wyoming until the issue is resolved. Please do not hesitate to contact me regarding this correspondence at (307) 332-3047.

Sincerely,



Melissa L. Bautz, P.G.
Natural Resources Analyst
WDEQ/LQD – District 2

Enclosure: Telephone Conversation Record for December 12, 2013 (4 pages plus 1 encl)

Cc: John Saxton, NRC (w/encl)
Mark Newman, BLM Rawlins, P. O. Box 2407, Rawlins, WY 82602 (w/encl)
LQD Cheyenne → Pt. 788 Correspondence File (w/encl)
Tanya King – LQD Lander → Pt. 788 Correspondence File (w/encl)
Chron (w/encl)

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Telephone Conversation Record

File: Lost Creek ISR, LLC – WDEQ/LQD Permit 788 – Lost Creek Project
Date: December 12, 2013 at 9:00 am
Participants: John Cash – Lost Creek ISR, LLC
Steve Hatten – Lost Creek ISR, LLC
Melissa Bautz – Lost Creek ISR, LLC
Subject: MU1 well field fluid control given decreased disposal capacity at the Lost Creek Project

MLB. 12/13/2013

John Cash of Lost Creek ISR (LCI) requested this conference call via e-mail on the morning of December 12, 2013. The request was in response to an e-mail (see attached copy) sent by WDEQ/LQD's Melissa Bautz on December 10, 2013. In Ms. Bautz's e-mail she iterated concerns regarding the well field operations at LCI's Lost Creek Project.

At 9am LCI staff members, John Cash and Steve Hatten, called Ms. Bautz at the WDEQ/LQD Lander (District 2) office. The following notes were taken by Ms. Bautz during that conversation.

- 1) Permeate Injection has not been going as well as anticipated because of technical problems with the Reverse Osmosis (RO) units because of the high brine concentrations of pond water. Steve Hatten explains that to date about 46,500 gallons of permeate has gone through the RO units. The RO's membranes are overwhelmed (because of the high TDS brine) and the permeate is going through the membranes slowly. The processing of permeate in the RO units is occurring to lower the water levels in the ponds to free-up storage capacity for mine process water. This is necessary because the site's one and only deep disposal well (DDW-1) is only capable of injection 7 gallons per minute (gpm). However the Plant currently requires a disposal capacity ranging from 8 – 18 gpm. The RO units at the plant were never designed for high-brine (high TDS) water. This is why the RO units are running so slowly.
- 2) Approval of DDW-4 is anticipated to occur very soon. DDW-4 will be the project's second deep disposal well (DDW) and is anticipated to provide up to 40gpm of disposal capacity. The EPA's 45-day review period (of the DDW application) ended on December 9, 2013. No comments were received on the application. Therefore, LCI personnel are hopeful to receive EPA approval of the disposal well very soon.
- 3) Plant Operations. The plant is currently running between 800 – 1800 gpm which is less than the full capacity of the plant (6000 gpm). The associated 1% bleed for running the plant at 800 – 1800 gpm is 8 – 18 gpm. However, because DDW-1 can only accommodate up to 7 gpm, there is disposal capacity shortage.

- 4) Waste Water Challenges. LCI has experienced a higher head grade of ore than was anticipated in Mine Unit 1 (MU1). Because the plant was designed for a head grade of ore that is lower than what is being mined, the concentration, precipitation, and drying processes in the Plant cannot keep up with the grade of fluids coming from the well field. This has resulted in the Plant being “backed up”. Because of this “back up”, LCI has been running the well field sporadically to allow the plant to catch up with production. The well field will be operational for a couple of days and then be turned off while the plant “catches up”.

Since start up at the mine in early August 2013, the MU1 well field has been operational for 130 days. The well field was turned off for 18 of those 130 days. The days that the well field was turned off was during the colder weather; because when the weather was warmer, evaporation in the ponds was high and there was less of disposal capacity shortage. For 48 of the 130 operational days the well field was running with no bleed. 18 of those 48 days, there was no production occurring. So an absence of bleed is mathematically understandable for 18 days. That is, a bleed is percentage of over production. If no production is occurring, a percentage of nothing is zero.

However, an absence of bleed on the other 30 days (48 – 18) was not explained during this phone conversation nor did Ms. Bautz think to ask for an explanation.

- 5) Maintaining a hydrologic sink (drawdown) with no bleed. During this telephone conversation John Cash indicated that, while there has been a 0% bleed at times (48 days) since operations began at the mine, that a hydrologic sink has been maintained. Steve Hatten iterated that LCI used the Significance and Enforcement Review Panel (SERP) process (an internal evaluation), as allowed by LCI’s License with the NRC, before engaging in days with no bleed.

John Cash indicated that LCI’s License with NRC specifies that a hydrologic sink will be maintained at the site but it does not mandate a constant, instantaneous bleed rate. This is different from the wording of the LQD Permit for this operation.

Steve Hatten indicated that his interpretation of the LQD Permit language on “maintaining a bleed” at the site is that it can be an average bleed as long as a hydrologic sink is maintained at the site. Melissa Bautz indicated this was not LQD’s interpretation of that language; i.e. LQD interprets the requirement to “maintain a bleed” at the mine, as binding and that it cannot be an average bleed. However, LQD’s Permit does not directly indicate the “bleed” requirements when production has (temporarily) stopped. This is probably a shortcoming in the LQD Permit document and should be addressed via an NSR.

Mr. Cash and Mr. Hatten essentially stated that they feel the mine is still operating within the LQD Permit because a hydrologic sink has been maintained.

- 6) Demonstration of hydrologic sink. LQD's Ms. Bautz asked if and how LCI can demonstrate that a hydrologic sink around the mine is being maintained. Mr. Cash indicated that, while it is a challenge to demonstrate, that LCI is in the process of doing the following: In addition to plotting water level readings from the monitor well ring, LCI also plans to measure water levels in wells outside the well field (wells in MU2, wells east of MU1, regional wells in the vicinity of MU1). These water levels will be used to generate a potentiometric surface map. Steve explained that water levels within the well field are not taken because they are meaningless when production and injection is occurring. This point is understood and acknowledged by LQD.
- 7) The Permit's schedule will undoubtedly change because of the fact that MU1 has produced different grades of ore than was originally anticipated. Mr. Hatten and Mr. Cash explained that the "head grade" curve (or "decline" curve) for the well field has not yet occurred. Until that decline curve is observed, predictions about altered timelines for mining and restoration are not possible. Ms. Bautz indicated that this information would need to be presented in the next Annual Report and, if necessary, changes to the Permit schedule would be required.
- 8) In summary, LCI plans to continue processing pond water through the RO units until a total of about 200,000 gallons have been removed from the ponds. That permeate will then be injected into HH 1-4 while production in HH 1-1, 2, and 3 will continue sporadically and plant capacity and disposal capacity allows. As soon as DDW-4 is approved by the EPA and WDEQ/WQD, normal mining operations will resume, as all permeate, waste water, et cetera will be sent down the disposal well.

*****END OF TELEPHONE CONVERSATION RECORD*****

Conclusion: LCI staff should be aware that this telephone conversation record is only a summary of the conversation that transpired during the above-reference telephone call. It is not considered by LQD as a thorough review of the topics covered. Nor is this conversation record to be taken as LQD's acceptance or formal approval of the assumptions, actions, and explanations detailed above.

Enclosure: Copy of the e-mail sent by WDEQ/LQD's Melissa Bautz to LCI's John Cash dated December 10, 2013 (1 page)



Lost Creek operations

Melissa Bautz <melissa.bautz@wyo.gov>

Tue, Dec 10, 2013 at 3:16 PM

To: John Cash <john.cash@ur-energy.com>

Cc: "Saxton, John" <john.saxton@nrc.gov>, "Newman, Mark A" <mnewman@blm.gov>

John,

I spoke with John Saxton yesterday. He informed me that during the NRC inspection at Lost Creek last week (Dec 2 - 6, 2013), the RO units were non-functional and that there was no bleed in the well field. He said that staff in the Plant indicated to him that there has been no bleed at the site since October 4th. The staff member explained that the bleed was 1% up until October 4th (i.e. August through September) and that there has been 0% bleed since October 4th; but that the "average" bleed over the past four months has been about 0.5%.

If this is true, Lost Creek is reminded that an absence of a bleed while mining (injecting) is contrary to the Permit.

Also, based on our conversation on November 8, 2013, I understood that over-injection of HH 1-4 would occur for about a 3-day period. However, NRC's recent inspection indicated that overinjection has occurred for longer than 3 days.

Please provide an explanation of the above situation along with the following:

- 1) A potentiometric surface map of the well field for every sampling event that has occurred since November 14, 2013,
- 2) Graphs of time versus water level for every monitoring well in MU1 (ring wells, trend wells, any others) from beginning of mining until the present, and
- 3) An NSR package to reword the text in the Permit document's Operations Plan to indicate that an "instantaneous bleed of 0.5% - 1.5% will be maintained across the well field at all times". Averaging of bleed rates over time is not an acceptable practice. A cursory look at the Operations Plan reveals that the term "bleed" is mentioned on Pages OP-43, 44, 56, 57 and 59.

This e-mail will be followed-up by a hard copy sent via regular mail; however, I wanted to communicate with you about this topic before writing that letter.

Thank you,
Melissa

—
Melissa L. Bautz, P.G.
Natural Resources Analyst
Wyoming Department of Environmental Quality
510 Meadowview Drive
Lander, WY 82520

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