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**LOST CREEK ISR, LLC**

May 29, 2018

Jean Lawlor  
State of Wyoming  
Department of Environmental Quality – Land Quality Division  
510 Meadowview Drive  
Lander, WY 82520

**Re: Responses to LQD Comments for the 2017 Annual Report  
Lost Creek ISR Project PT788**

Dear Ms. Lawlor,

Please find behind this cover Lost Creek ISR, LLC's responses to LQD Comments from the 2017 Annual Report Review Memorandum (dated April 23, 2018) for the Lost Creek ISR Project Permit PT788. Included with the replies is the modified annual surety update calculation Table RP-4 for the 2017-2018 permit year. A revised Figure 3.6-1A is also included.

If you have any questions regarding this submittal please feel free to contact me at the Casper Office.

Sincerely,  
Lost Creek ISR, LLC

A handwritten signature in blue ink, appearing to read 'Michael D. Gaither', is written over a light blue horizontal line.

Michael D. Gaither  
Manager EHS and Regulatory Affairs  
Ur-Energy USA, Inc.

**Attachments: Table RP-4: Reclamation/Restoration Bond Estimate  
Figure 3.6-1A: Disturbance**

Cc: Theresa Horne, Ur-Energy, Littleton Office (via e-mail)  
Mark Newman, Bureau of Land Management, Rawlins District (via e-mail)  
John Saxton, NRC Project Manager (via e-mail)

**LOST CREEK ISR PROJECT PT788**  
**RESPONSE TO LQD COMMENTS**  
**FROM THE ANNUAL REPORT REVIEW MEMORANDUM**

**Review Comments:**

1. *In Table 3.1-1: Operating Wellfields, the reported number of Total Wells (80) for Header House 1-10 does not equal the sum of Injection Wells (55) plus Production Wells (26). Please confirm, and correct as necessary, the well quantities for Header House 1-10.*

**LCI Response: The sum of injection wells should be 54. Therefore, the total number of wells (80) is correct.**

2. *W.S. § 35-11-411 and Wyoming Non-coal Rules and Regulations Chapter 11, Section 15(c) set forth the requirements of the annual report. Chapter 11, Section 15(c)(iii) states that annual reports shall include at a minimum "the total quantity of recovery fluid injected and the total quantity of recovery fluid extracted during the reporting period for each well-field area including a description of how these quantities were determined." This subtotal by well field is intended to provide resolution of individual well field bleeds to determine whether an inward gradient is being maintained, rather than providing gross mine injection and extraction that might mask negative bleed at an individual well field. However, the AR reports only the total (annual average) injection and recovery as measured at the central processing plant (Table 3.2-1: Mine Unit Flow Totals). As LQD understands that Mine Unit 2 has commenced production, please break down this grand total to report the subtotal fluid volumes recovered and injected in Mine Units 1 and 2, and if possible at HH2-2.*

**LCI Response: To clarify, currently the "well field area" is considered Mine Unit 1 with the addition of HH2-2 in Mine Unit 2. The measurement of total flows at the Plant currently represent the injection and production flows for that well field area. In the future, with the addition of non-contiguous or hydrologically separate Mine Units, the flows and bleed will be quantified for each of the well field areas separately. Additional discussion is provided in #3 below.**

**A revised table with the addition of the percent bleed based on total gallons pumped is included below. The Table 3.2-1 for the previous Annual Report had a column that included the total flow volumes and was inadvertently omitted from the 2017 table.**

**TABLE 3.2-1: Mine Unit Flow Totals**

Mine Unit	Date Range	Flow	Ave Flow Rate (gpm)	Flow Total (gal)	Method of Determining Flow Total
1 (+HH2-2)*	Sep 21, 2016 – Sep 20, 2017	Production Circuit (PC)	2,374	1,237,350,220	Sum of flow meter data from Plant computer
		Injection Circuit (IC)	2,361	1,233,957,888	
		Production Bleed	13.0	6,752,569	
		Bleed %	0.55	0.55	Production Bleed Flow/ Injection Circuit Flow

\*HH2-2 was operated contiguously with Mine Unit 1

- Information provided in the quarterly reports indicates that over the 3rd and 4th quarters of 2017, HH2-2 fluid volume injected exceeded fluid recovered during the majority of those quarters, suggesting a prolonged period of negative bleed (flow away from well field). A positive bleed (inward gradient) on HH2-2 will be maintained as stated in the Permit Operations Plan, Section 3.6 Mine Unit Control: "the 0.5 to 1.5% bleed will be instantaneous and continuous during normal commercial production...LCI may operate without a bleed for no more than 24 hours per event. If a bleed of at least 0.5% cannot be re-established within 24 hours, injection in the affected area will be shut down and LCI will notify LQD of the event by telephone or email by the next business day." LQD realizes that the startup of new HH2-2 may have required many flow adjustments over time to establish a pumping equilibrium and a sustainable positive bleed in Wellfield 2. As the quarterly reports indicate that the bleed on HH2-2 initially was negative, please explain when an inward gradient was established and how it is currently being maintained at Mine Unit 2.*

**LCI Response:** The operation of the header houses of Mine Unit 2 are being operated contiguously with Mine Unit 1. Header house 2-2 is adjacent to Mine Unit 1 and the “HJ” mining horizon is hydrologically continuous between Mine Unit 1 and Mine Unit 2. For the current wellfield configuration, it is not feasible to operate the Mine Units independently and therefore the bleed is determined for Mine Unit 1 and HH2-2 (as well as future MU2 header houses within the interim MU2 monitoring ring) as one “well-field area”. Localized flow schemes (i.e. per header house) may have a net positive injection flow but the overall well field area will have a net positive production flow, and therefore inward gradient, as shown by the flow values in Table 3.2-1.

- Table 3.3-1 lists the spill soil sample uranium and radium 226 data from the 12/22/2016 and 9/5/2017 spills as “still pending.” If lab results are now available, please add these to this table. If not, please explain the status of these 2016 and 2017 spill soil samples.*

**LCI Response:** The updated table with revisions in bold is provided below:

**TABLE 3.3-1: Summary of Reportable Unplanned Releases**

Release ID	Date Occurred	WDEQ Spill ID	Release Area (acres)	Est. Net Quantity (gal)	U in fluid (mg/L)	U in Soil 0-5/5-15 cm (mg/kg) <sup>†</sup>	Ra-226 in Soil 0-5/5-15 cm (pCi/g) <sup>†</sup>
HH1-5	12/22/2016	161227-1048	0.07	12,390	1.5	-2.4/-1.4	-4.9/-4.2
1I365	1/9/2017	170109-1520	0.21	3,654	1.3	5.3/5.1	33.9/12.9
HH1-8 VS	2/6/2017	170206-1603*	0**	0	0.5	31.3/3.3	65.8/34.6
1I407	5/22/2017	170522-1414	0.02	1,100	1.5	5.9/7.0	16.6/4.8
HH1-6	8/18/2017	170819-0936	0.55	188,000	1.1	11/6.0	21/11.9
HH1-10	9/5/2017	170906-0950	0.84	10,000	1.1	-1.4/-1.4	2.2/3.6

5. *Comparing Table 3.6-1A: Long-Term Topsoil Pile Summary and Table 3.6-1C: Subsoil Pile Summary to Figure 3.6-1A, I did not see Topsoil piles 1, 2, 10, 11, or MU2 labeled on this map. I did not see MU2 Trunkline or MU2 Drilling Subsoil piles labeled on this map. If these are not currently on the map, please either add the locations, or add identifying numbers to those un-numbered topsoil and subsoil locations shown.*

**LCI Response:** The omission of the topsoil piles 1, 2, 10 and 11 was inadvertent. The locations were to be added to the insets and the error is corrected as shown on the included revised Figure 3.6-1A. The MU2 topsoil and subsoil are present on the map but the labels did not have “MU2” in the designation. This has been corrected. The trunkline soils are not typically included on the map since they are temporary emplacements. However, the accounting of temporary soil is included if they exist as of the end of the reporting period.

6. *There appears to be an error in the total volume calculation for short-term topsoil stockpiles within Table 3.6-1B: Short-Term Topsoil Pile Summary. The reported total is 5526 yd<sup>3</sup>; however, only the MU2 Trunk Line (1170 yd<sup>3</sup>) and MU2 Drill Pits (440 yd<sup>3</sup>) stockpiles are listed, adding to a total volume of 1610 yd<sup>3</sup>. It appears that the total quantities are incorrect, or a topsoil pile(s) volume is/are missing. Please confirm, and correct as necessary, the list of topsoil piles and volumes in Table 3.6-1B.*

**LCI Response:** Yes. The total is an error. The value should be 1,610 cubic yards.

7. *[Affected acreage calculation specific to ISR mines is under discussion within the WMA-LQD Uranium Work Group. Comments 7 through 9 below are based on discussions with Lander LQD staff on how LQD requires bentonite and coal mines, where surface disturbance is the predominant reclamation concern, to track and calculate their affected acreage and associated reclamation bonding. Example surface disturbance area summary tables submitted by bentonite mines are attached for reference.]*

*LCI’s cumulative total disturbance area should be compared to and no greater than the Approved Acreage to Affect from LQD Permit Form 1, Item 5 (324 acres), which remains*

*the same every year unless modified by a Revision or Amendment to the permit. In Table 3.6-2: Disturbance and Reclamation Summary, for a given line item, the column "Disturbance through AR [year] Period" should reflect cumulative disturbance since the start of mine development and should be the same or greater every year such that the bottom row "Totals" for column "Disturbance through AR [year] Period" is also the same or greater every year. For example, in the 2016 AR Table 3.6-2, Pattern Area was reported as 34.8 acres disturbed and 15.2 acres reclaimed. However, in 2017 zero acres are reported as disturbed and 34.1 acres reclaimed; even if no more area was disturbed to install wellfield patterns in 2017, cumulative area disturbed should remain at 34.8 acres and may not yet be added to reclamation. This table should show both cumulative and reporting period disturbance (see examples from bentonite mines, attached). Please review previous year annual reports to revise the Table 3.6-2 disturbance areas to cumulative area disturbed since mine development commenced through 2017.*

**LCI Response:** The data on Table 3.6-2 was intended to be a snapshot in time of the current areas of disturbance as of the end of the reporting period. Since it was required to account for the reseeded area, the areas were subtracted from the disturbed total since it was believed that these areas would not need be reclaimed again. Going forward, the total affected acres and temporary reclamation seeding will be accounted separately in the next Annual Report.

Therefore, it was a misunderstanding as to how the accounting of disturbance was to be presented to LQD. In the future, the accounting of affected area, disturbance, and interim reclamation will be presented separately. The affected area will be a cumulative total of the area disturbed to be compared with the permitted limit.

8. *The "Net Disturbance Area" (bottom row of Table 3.6-2) calculation is LCI's assessment only of disturbed vs. "reclaimed" area not yet approved by LQD for bond release ("unapproved"). To record their reclamation efforts not yet approved, LCI may show cumulative area reclaimed (specifically "area seeded" or "topsoil replaced") in 2017 but not yet bond-released added to area reclaimed in previous years. However, unapproved reclaimed area may not be subtracted from the total disturbed area until LQD approves reclamation bond release. Please see the attached tables for examples of how different stages of reclamation may be tracked. As LQD understands that Mine Unit 2 construction commenced during this reporting period, please explain why the Total "Disturbance Area through AR 2016" area reported (116.88 acres) decreased to 88.31 acres reported for 2017.*

**LCI Response:** As stated in response #7, the areas that are reclaimed during operations by LCI will be accounted but will be qualified as interim.

The disturbance area had decreased from 2016 because the reclaimed areas were subtracted from the total. The issue is now understood as described in the previous reply (#7) and the correction will be applied to the next Annual Report.

9. *Complete surface reclamation (0 acres disturbed) will not be approved and may not be credited for those areas that will be disturbed again before or during final reclamation, e.g. buried trunk lines and pattern area wells that must be removed for final reclamation per NRC requirements. In Table 3.6-2 under row "Mine Unit 1, Trunkline," column "Disturbance through AR 2016 Period," 1.6 acres were listed in the 2016 AR but 0 acres are listed for 2017; this should remain as 1.6 acres disturbed, even if no further trunk lines were constructed in 2017. This appears to have been done for other facilities in this summary table from year to year, e.g. Class V wells, Deep Wells, Main Roads, Staging Area and Drill Shop. For the future 2017-2018 annual report, please review and revise disturbance areas reported considering whether reclamation of these areas a) has been approved for bond release by LQD, b) is temporary only and will undergo additional disturbance, or c) has been permanently reclaimed/seeded but not yet bond released.*

**LCI Response: The comment is addressed with replies to #7 and #8.**

10. *Table 3.6-2 facilities listed should correspond to the same facilities listed in AR Appendix A, Table RP-4: Reclamation/Restoration Bond Estimate (Oct2017) to track and compare bond coverage. As currently organized it is very difficult to determine how estimated disturbance areas shown on Table 3.6-2 correspond or compare to the same disturbance areas bonded for in Table RP-4. This table should be organized either using the same general categories outlined in Table RP-4 summary page 2 (e.g. I. Groundwater Restoration, II. Equipment Removal & Disposal Cost...VII. Total Miscellaneous Reclamation Cost), or Table RP-4 should be organized using the same general categories listed in Table 3.6-2 (e.g. Main Plant Area, Deep Wells, Pipelines...Mine Unit 1, Mine Unit 2, etc.). Consistent units also should be used, e.g. Table 3.6-2 lists road disturbance in acres, while Table RP-4 (p. 19, Wellfield Road Reclamation; p. 21, Access Road Reclamation) lists roads to be reclaimed in feet, miles, square feet, and acres. For the future 2017-2018 annual report, please reorganize one or both of these tables for consistency and to facilitate direct comparison.*

**LCI Response: Revisions to Table 3.6-2 as stated in the reply to #7 should resolve the issue and will be included in the 2018 Annual Report.**

11. *Dimensions and quantities associated with the new structures/construction reported for 2017 in Sections 3.6.2 and 3.7 do not appear to have been updated in Table RP-4 from values listed in the 2016 AR Restoration and Cost Estimate. Please confirm that the dimensions, quantities, and resulting cost to reclaim these new structures and wells is accurately listed in the corresponding reclamation item in Table RP-4, including but not limited to:*
  - a. *Section 3.6.2 states Header House 2 and associated lateral pipelines were constructed. In Table RP-4, p. 13, Wellfield Piping, the length of piping for Wellfield 2 (24,231 feet) is the same as that listed in 2016 AR Appendix B Table 5: Wellfield Buildings, p. 12, Wellfield Piping, Wellfield 2.*

- b. *MU2 trunk line apparently was constructed in 2017. In Table RP-4, p. 14-15, III Buried Trunkline lists the same trunk line footage (2172 feet) as for 2016 AR Appendix B Table 5, p. 13, III Buried Trunkline.*
- c. *Additional culverts reportedly were installed. Table RP-4, p. 23, VII Culvert Removal lists the same footage (375 feet) as for 2016 AR Appendix B Table 8, p.21, VII Culvert Removal.*
- d. *Section 3.7 states that a total of 245 injection and production wells were completed (in MU2?) in 2017. Table RP-4, p. 17, Well Abandonment lists 101 Production wells plus 234 Injection wells for 335 total new wells constructed in Wellfield 2. This is the same number of I- and P- wells listed in the 2016 AR Appendix B Table 6, p. 15, Well Abandonment Wellfield 2.*
- e. *Two monitor wells reportedly were installed in 2016. Table RP-4, p. 17, Well Abandonment lists 99 monitor wells for Wellfield 2, as does previous AR 2016 Appendix B Table 6, p. 15, Well Abandonment Wellfield 2.*
- f. *As a new wellfield is being installed, it is expected that the wellfield pattern area and road lengths would increase relative to 2016. However, Table RP-4, p. 19, Wellfield Pattern area Reclamation lists 25 acres for Wellfield 2 in 2017, as does AR 2016 Appendix B Table 7, p. 17, Wellfield Pattern Area Reclamation Wellfield 2. Wellfield road lengths listed also are the same for 2016 and 2017.*

**LCI Response:**

**(General comment) The bond calculation is not only an accounting of what is present but includes projected values for the anticipated construction for the coming year. Therefore, if the bond is sufficient for what was constructed in the year and is still sufficient for what is projected, the bond may have not changed for particular items.**

- a. **In general, the 2017 bond had anticipated construction of a certain amount of MU2 infrastructure. A portion of that construction had then occurred as described in the 2017 Report which was already bonded for. Therefore, with the calculation of the 2018 bond, the additional infrastructure was already accounted for in the previous bond even though the 2017 Report describes the additional construction. In other words, with the dynamics of the economy dictating construction schedules, the construction progressed more slowly than what was established in the bond and thus a surplus of bond was provided.**
- b. **See “a”**
- c. **There are a total of 18 culverts and at 25 ft each the total would be 450 feet of culvert for removal. Therefore, the additional footage and cost (approximately \$388) was added to the revised bond calculation.**
- d. **See “a”**
- e. **The two wells (MU104A and MU104B) on the 2016 well installation table were replacement wells for MU104 which is in Mine Unit 1. Both wells that were replaced were plugged and abandoned. The number of wells on the bond typically exceed that actual number of well to anticipate additional well construction. The number of wells did not increase with the addition of MU104A and MU104B since the number of wells on the bond exceeded the actual number of wells. Nonetheless, the numbers will be reviewed and amended as necessary for the next bond cycle.**

f. See “a”

12. *There is a discrepancy in the total wells reported for Wellfield 2 in Table RP-4. On one page, the total number of wells for Wellfield 2 is listed as 374 (Table RP-4, p. 3: Ground Water Restoration); on another page the total number of wells is listed as 434 (Table RP-4, p. 17: I. Well Abandonment). Please confirm the correct total, or if these are intentionally different totals, please explain the difference.*

**LCI Response: The number of wells presented in the tables is correct. The numbers shown in the GW Restoration tab represent the number of wells that will be involved with groundwater restoration since they will be used for mining prior to the end of the surety period. However, the number of wells shown in the well abandonment tab is a larger number because some wells will have been constructed and therefore require abandonment but they won't be used in groundwater restoration since that area won't have been placed in production prior to the end of the surety period.**

13. *An agreement with the Water Quality Division-Underground Injection Control Program requires that LQD increase cost estimates to plug and abandon (P&A) Class V Deep Disposal Wells by 3% yearly to cover the cost of inflation. When approved in 2013, the original engineering cost estimates were \$112,950 per deep disposal well. Increasing this amount 3% each year for four years (2013 – 2017) results in a cost estimate of \$127,126 per Deep Disposal Well. The costs proposed in the AR are \$111,996 per deep disposal well (Table RP-4, p. 17, II.A Waste Disposal Well Abandonment, Subtotal Well Plugging Costs per Well). LQD requests that LCI increase the cost estimate to P&A their three deep disposal wells to \$127,126 per deep disposal well for a total of \$381,378.*

**LCI Response: It appears the reviewer intended to refer to Class I wells rather than Class V wells. A new cost estimate was obtained from a firm familiar with deep well abandonment in 2016 (the same firm that made the original estimate) and adjusted for inflation for the 2017 surety calculation. From time to time we go out and get quotes for several line items in the surety calculation to ensure the estimates remain fresh instead of relying on inflation estimates which may not be representative of actual changes in cost. LCI intends to recomplete at least one of the deep wells during the summer of 2018 which will result in a slight reduction in the abandonment costs since there will be less tubing requiring disposal as 11e2 byproduct.**

14. *Guideline 12, Appendix L specifies a \$2.50 per foot cost estimate for ISR facilities. In 2012 the WMA-LQD Uranium Work Group proposed reducing the Appendix L unit cost from \$3.00 to \$2.50 per foot, which was approved by then-LQD Administrator Nancy Nuttbrock. In Table RP-4 (p. 17, I. Well Abandonment) rates of \$1.29 per foot (Well abandonment Unit Cost \$584/well divided by 454 feet average depth) and \$1.26 per foot (Unit Cost \$607/well divided by 481 feet average depth) are used for Wellfields 1 and 2, respectively. Using \$2.50/foot, cost estimates would increase in Wellfield 1 from*



*\$567,116 to \$1,102,085 and in Wellfield 2 from \$263,414 to \$521,885. In the future 2017-2018 Annual Report, please revise the well abandonment cost estimates using the unit cost to be set for the coming year by the Work Group.*

**LCI Response:** LCI calculates the abandonment cost using tab UC-WA in the surety calculation spreadsheet recommended by LQD. That tab is populated using actual data from invoices from the Lost Creek site including actual cost of delivered abandonment mud, labor and time per hole. The costs to rent a backhoe are from actual cost sheets provided by a local rental company. Only the costs for the hose reel, tow vehicles and cementer are estimated. It should also be noted that the wells at Lost Creek have an inside diameter of 4.33 inches compared to up to 5.5” in Guideline 12. Also, Guideline 12 assumes a drill rig is used to abandon wells while at Lost Creek we have always used a hose reel which is capable of pumping abandonment fluid of the proper composition and weight. We believe, based on site experience, that the cost estimate included in the surety calculation is an accurate representation of the actual cost. In the future we intend to test well abandonment using other techniques which we believe will further reduce equipment demands and labor.

15. *The NRC requested (January 10, 2018 RAI letter) and approved (March 30, 2018 letter) LCI’s revision to the proposed surety to include an estimate of the amount of radioactive contamination in onsite subsurface material (LCI February 23, 2018 response to RAI letter). Please revise Table RP-4 (in p. 23, IX. Cost to Remove, Transport, and Dispose of Contaminated Soil, or wherever is an appropriate location) to incorporate “Attachment A: Spill Cleanup Summary” cost information provided in LCI’s February 23, 2018 response letter approved by NRC.*

**LCI Response:** The inclusion was made to the revised Table RP-4.

16. *Section 3.9.1, Groundwater Monitoring, inaccurately states that no results exceeded the UCL value for MU1 or MU2 during the reporting period. Multiple chloride samples exceeding the UCL at the same well for subsequent samples are evident from review of Table 3.9-1: UCL Monitoring Results:*
- *Well MO108 (MU1 overlying) reported chloride exceeding the UCL of 21.4 mg/L in groundwater samples collected 10/19/16, 10/25/16, 11/1/16, 11/8/16, and 12/5/16. For the 12/5/16 sample, the percent difference between the assay (26 mg/L) and UCL (21.5 mg/L) concentrations exceeded 20%.*
  - *Well MU109 (MU1 underlying) reported chloride exceeding UCL in samples collected 5/5/17 (21.9 mg/L) and 5/17/17 (24.5 mg/L).*
- a. *LCI’s Fourth Quarter 2016 report (LCI January 27, 2017 letter report to LQD Lander) does mention these exceedances. Please 1) clearly indicate these specific well locations both in text and on the location map Figure 3.1-1B, 2) discuss corrective actions taken, and 3) discuss possible reasons for the elevated chloride, including the well completion zone, local groundwater flow direction and gradient during this period in this overlying unit as compared to the producing zone, and the possible significance of their proximity to HH1-6 and a mapped fault.*

- b. *In future reports, please follow up on the chloride or other indicator concentrations in these two specific wells by discussing any further exceedances and/or trends, or lack thereof, exhibited by these or any other site wells exhibiting UCL exceedances.*

**LCI Response:**

- a. **The evaluations of the exceedances for chloride provided in the quarterly reports (2016Q4 and 2017Q2) were correct and provide explanation. The omission of the events from the Annual Report was an error. Well MO108 is located just to the east of HH1-6, north of the Lost Creek Fault, and is screened in the overlying horizon (FG). Well MU109 is located south of HH1-6, south of the Lost Creek Fault, and screened in the underlying horizon (KM). In accordance with NRC parameters, the exceedance at MO108 was considered a vertical excursion and was reported as such. The exceedance did not qualify as an excursion in accordance with LQD parameters. Nonetheless, the excursion was corrected with adjustments to injection and production schemes. Localized injection was ceased and production was increased until the water quality was restored. The NRC-parameter excursion was corrected as of January 4, 2017.**
- b. **An evaluation of the water quality trends for at least these wells will be included in the 2018 Annual Report.**

*17. Depth to groundwater measurements in site wells are presented in Table 3.9-3 but not discussed. A marked increase in depth to groundwater in many wells from approximately early January to late February 2017 is evident from a quick review of the multiple plots of time vs. groundwater depth. What is the cause of this wide-spread depth increase during this period? Does this correspond to the aquifer pumping test noted during this time in the electronic version (only) of Table 3.9-1, p. 13? Groundwater levels are typically reported as elevations above sea level to enable site-wide well comparisons and potentiometric surface mapping. Is there a reason why groundwater levels are reported as depths below ground rather than elevations above sea level?*

**LCI Response: The aquifer testing mentioned on Table 3.9-1 was troubleshooting in relation to the NRC-parameter excursion in the vicinity of MO108. It entailed pumping certain production wells one at a time to determine if it affected the water level in MO108. This should not have affected the water level across the entire Mine Unit since it was both localized and occurred after the water level drop. The cause of the overall drop in water level is not fully understood but was likely due to an issue with the water level meter that had been used to take the measurements. The meter was taken out of service and a different meter was used during the end of February and going forward.**

*18. Please discuss the data in Table 3.9-4: Storage Pond Quarterly Monitoring. Most of the selenium concentrations exceed the maximum 0.02 mg/L stated in the Operations Plan (Section OP 5.2.3.1) as the concentration above which selenium can become detrimental to some wildlife species. As committed to in the Operations Plan, how is LCI protecting wildlife from selenium exposure at these ponds? The 2016 AR (Sect. 3.9.3) reported that bird netting had been replaced over both ponds in September 2016; is this*

*netting still in place and effective? For future reports, please present the pond data sorted by Sample ID such that all N Pond results are grouped together, and all S Pond results are grouped together to facilitate review and recognition of constituent trends over time.*

**LCI Response: The netting to prevent water fowl from accessing the water is still in place and is inspected during the daily Pond inspections and repaired as necessary.**

**The suggestions for data arrangement will be incorporated in the next report.**

*19. LCI may seek subsurface reclamation bond release by LQD for the 20 wells reportedly abandoned during this AR period (Table 4.2-1) and for other wells and drill holes P&A'd in previous years. As the subsurface P&A portion of the bond may be released before or separately from the surface re-vegetation portion of the bond, LQD suggests tracking subsurface reclamation (drill hole and well P&A) separately from surface disturbance/reclamation (e.g. wellfield topsoil stripping, drill pad topsoil stripping, road construction, re-seeding). However, the total number of existing vs. abandoned wells (and drill holes) needs to be reviewed for consistency across the report tables (see Comments 10d., 10e., and 11 above and 20 below).*

**LCI Response: (Note: It is assumed that the comment was referring to 11d, 11e, and 12.) The numbers of installation and abandonments for the Annual Report includes only the additional numbers for the reporting period and does not include a cumulative listing. The number of existing wells and the number of abandoned wells has been reviewed and no adjustments were necessary for Table RP-4.**

*20. Regarding surface disturbance related to delineation and/or exploration drill holes, Table 5.3-1: Drilling Disturbance Summary does not seem to be consistent with the information provided in Table 3.6-2 or Table RP-4. Table 5.3-1 lists 16 delineation holes drilled for a total disturbance of 0.41 acres. Table RP-4, p. 23, VI Exploration Hole Surface Reclamation lists 849 holes drilled 2005 – 2016 (@ 0.025 ac/hole from Table 5.3-1 calculates to 21.2 acres cumulative disturbance) with a reclamation unit cost per hole, rather than per acre. Table 3.6-2 lists 0.33 acres for Mine Unit 1 Delineation Drilling/Historic Holes, 0.05 acres for Mine Unit 2 Delineation drilling, and 0 acres for Exploration Drilling. Please confirm these drill hole quantities and revise these three tables for consistent quantities and units.*

**LCI Response: In accordance with Guideline 4 In-Situ Annual Report Format, the disturbance associated with drilling is to be described which is assumed to be for the reporting period. The disturbed acreage for Table 3.6-2 and Table 5.3-1 is an accounting of delineation/exploration disturbance that had occurred during the reporting year and was not a cumulative total. The number of holes indicated on RP-4 lists all of the historic exploration holes that are within the Permit boundary. The disturbance associated with MU1 delineation holes for PFN probing occurred in pattern areas that was already disturbed.**

**The value listed on Table 3.6-2 for MU2 delineation drilling should be 0.08 acres. The cumulative versus reporting period quantities will be reported. The numbers provided on Table RP-4 are the projected quantities through the 2017-2018 Permit year.**