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LOST CREEK ISR, LLC

September 28, 2010

Mrs. Melissa Bautz
State of Wyoming
Department of Environmental Quality
Land Quality Division
510 Meadowview Drive
Lander, WY 82520

Re: Submittal of Responses to 4th Round Comments
TFN 4 6/268

Dear Mrs. Bautz,

Please find behind this cover, responses to the Department of Environmental Quality – Land Quality Division's (WDEQ-LQD) July 23, 2010 4th round technical review comments regarding the Lost Creek Project. An index sheet is also included with the responses to assist with insertion of replacement pages into the Permit to Mine Application. Lost Creek ISR, LLC is requesting that Figure OP-A2-3 of Attachment OP-2 be held in confidence because it contains an engineering design developed at considerable cost to the company.

Given the voluminous nature of the responses, please feel free to contact me if the Lander or Cheyenne offices would like assistance inserting the replacement pages into the document.

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

Sincerely,
Lost Creek ISR, LLC
By: Ur-Energy USA Inc., Manager

John W. Cash
Director of Regulatory Affairs

Enclosures: Responses to comments
Index sheet
Replacement pages to place in Permit to Mine Application

Cc: Ms. Ramona Christensen, WDEQ-LQD Records Manager, Cheyenne Office
Mrs. Nancy FitzSimmons, Ur-Energy, Littleton Office
Ms. Tanya Oxenberg, PhD, Project Manager, U.S. NRC Rockville Office

RESPONSES TO JULY 2010 WDEQ/LQD COMMENTS ON THE MAIN PERMIT DOCUMENT

for the
LOST CREEK PROJECT
Wyoming

September 2010

The responses are organized as follows:

If a comment has been resolved, that comment is no longer included; or
If a comment has not been resolved, then the complete series of comment and response text is included. The initial LQD comment is italicized, and the most recent LQD comment is in bold font.
New comments from the July 2010 Technical Review were not addressed because they were raised after the Completeness Review (per letter of July 28, 2010 from D. McKenzie (WDEQ-LQD) to W. Heili (LC ISR, LLC)).

This document combines outstanding comments from the following:

August 2008:	LQD Comments on Appendices D5 and D6 of the Main Permit Document;
January 2009:	LQD Comments on the Main Permit Document;
November 2009:	New LQD comments on the Main Permit Document;
February 2010:	LQD comments, on the Mine Unit 1 Application, relevant to the Main Permit Document;
February 2010:	New information provided by LC ISR, LLC;
March 2010:	New LQD comments on the Main Permit Document;
April 2010:	New LQD comments, on the Mine Unit 1 Application, relevant to the Main Permit Document; and
July 2010:	New LQD comments on the Main Permit Document

The responses are separated first by permit section and then chronologically, as outlined below:

APPENDIX D5 (GEOLOGY)

August 2008:	LQD Comments on Appendices D5 and D6 of the Main Permit Document

APPENDIX D6 (HYDROLOGY)

August 2008:	LQD Comments on Appendices D5 and D6 of the Main Permit Document
February 2010:	LQD Comments, on the Mine Unit 1 Application, relevant to the Main Permit Document

OPERATIONS PLAN

January 2009:	LQD Comments on the Main Permit Document
November 2009:	New LQD comments on the Main Permit Document
February 2010:	LQD Comments, on the Mine Unit 1 Application, relevant to the Main Permit Document (specifically Comments MU1
February 2010:	New information provided by LC ISR, LLC
March 2010:	New LQD comments on the Main Permit Document
April 2010:	New LQD comments, on the Mine Unit 1 Application, relevant to the Main Permit Document.
July 2010:	New LQD comments on the Main Permit Document

RECLAMATION PLAN

January 2009:	LQD Comments on the Main Permit Document
February 2010:	LQD Comments, on the Mine Unit 1 Application, relevant to the Main Permit Document
March 2010:	New LQD comments on the Main Permit Document
April 2010:	New LQD comments, on the Mine Unit 1 Application, relevant to the Main Permit Document

APPENDIX D5 (GEOLOGY)

AUGUST 2008 - LQD REVIEW OF APPENDICES D5 AND D6 OF THE MAIN PERMIT DOCUMENT

4) *LQD (8/08) - Plates D5-1a - D5-1e. These plates provide one generalized and several detailed geologic cross sections down the centerline of the ore body, and across the centerline of the ore body. In addition, Figure D5-2a provides a very generalized geologic cross section across the northern portion of the permit area. LQD Non-Coal Rules, Chapter 11, Section 3(a)(viii) requires cross sections that show geologic features within the entire permit area, and how they relate to the production zone. Extending cross sections F, G, and H to the boundaries of the permit area with any available drill hole data, will help to provide this information.*

LC ISR, LLC (4/09) - The cross sections have been updated with the information from new borings and wells completed in 2008. As noted on the Index Sheet for the changes to Appendix D-5, Plates D5-1b through D5-1e have been replaced, and two new plates (Plates D5-1f and D5-1g) have been added. The references in the text to these plates have also been updated.

b) *LQD (6/09) - The piezometric surfaces are indicated for the DE, LFG, HJ and UKM aquifers, though it is not clear if there are any monitoring wells on the cross sections from which the water tables were derived. Please designate any monitoring wells on the cross section, and indicate their screened intervals and water levels with date.*

LC ISR, LLC (11/09) - A reference to the cross-sections and an explanation of how the potentiometric surfaces were projected onto the cross-sections has been added to D6.5.2.2 (Potentiometric Surface, Groundwater Flow Direction and Hydraulic Gradient).

LQD (12/09) - As stated previously, the cross section should indicate where specific groundwater elevation data is available from monitoring wells, and if the data points are close enough it can be extrapolated, otherwise projecting a potentiometric surface across an entire cross section could be misrepresentative. For example, on Plate D5-1e, cross section F-F', there are two clusters of monitoring wells that fall on the cross section yet are not indicated. Wells MB-01, MB-02, MB-03A, and MB04 lay in a cluster approximately 312 feet south of the North Fault. There is no groundwater data north of the fault yet the cross section assumes that the water level across the fault is consistent. Similarly, there is a well cluster (LC21M, LC22M, LC23M, and LC30M approximately 250 feet south of the Lost Creek Fault (Subsidiary) yet these wells are also not indicated on the cross section. The potentiometric surface is projected on the cross section, an additional 1.5+ miles to the south, with no data available. Granted, the surfaces appear

as dashed lines or implied, however, please add the known groundwater elevations on the cross section for each available monitoring well, and indicate the screened interval and the date for the water elevation. Extrapolation should be limited to those areas on the cross sections where there is enough data available. Please also revise Section D5.2 by deleting the statement that "Depiction of these (potentiometric) surfaces on the cross sections were generated by tracking the intersection of the plane of the cross section profile with potentiometric contours plotted for the given horizons ... ".

LC ISR, LLC (2/10) - The original focus of the cross sections was to provide information on the stratigraphy in the Permit Area, so no monitor wells were included on the cross-sections. Illustration of water levels on the cross sections was requested by NRC (*see* LC ISR, LLC's December 2008 Response to NRC's November 2008 Comment #2 on Section 2.7.2 of the Technical Report) and subsequently included in documents submitted to WDEQ-LQD for consistency. The location of monitor wells with relation to cross sections is shown on Plate D5-3, 'General Location Map – Geology'. The data requested to be illustrated from adjacent monitor wells [water elevations, screened intervals, measurement dates] is available in tables, appendices and Completion Logs elsewhere in the application therefore LC ISR, LLC does not believe that adding this specific information onto the cross sections is necessary.

Additionally, as with the potentiometric surface contour maps (Figures D6-11e through 11h), the potentiometric surfaces which are illustrated on the cross sections are generated from raw data collected from the monitor wells. The method of projecting this data onto the cross sections is explained in the statement: " Depiction of these (potentiometric) surfaces on the cross sections were generated by tracking the intersection of the plane of the cross section profile with the potentiometric contours plotted for the given horizons..." Where monitor wells are in close proximity to the plane of a cross section, this projection can be considered reasonably accurate. In regions of sparse data, the projection of the potentiometric surface can be considered more interpretive. In either case, the potentiometric surfaces illustrated on the cross sections can be considered as valid and accurate as those depicted on the potentiometric surface contour maps.

The DEQ comment stating that "There is no groundwater data north of the northern fault, yet the cross section [F-F'] assumes that the water level is consistent." makes a valid point. Therefore, Cross-Section F-F' has been revised by removing the potentiometric surfaces as shown north of the fault.

LQD (3/10) - Specific water level elevations were not provided, as LC does not believe it to be necessary, yet if there are precise points along a cross section where specific information is known, then that information should be on the cross section, and not an interpolation from a potentiometric surface map. Since the scale of the cross sections would not easily incorporate the monitoring wells and their screened intervals, please add a note and/or sticker to the legends which indicates that the potentiometric surfaces are interpolated from the regional potentiometric surface map, and not based on real data points along the cross sections. In closer examination of trying to correlate known

groundwater elevations, there is a significant discrepancy on Plate D5-1e, the F-F' cross section. It shows the DE potentiometric surface at approximately 6750 ft., yet Figure D6-11e, the DE Potentiometric Surface Map shows the water level in nearby monitoring well MB-1 as 6,853 ft., a 100 ft. difference. In attempting to find the correct elevation of the water table in MB-01 it was noted that the MB well water elevations were not provided on Table D6-6. Please revise this Table to include the MB wells. However, when looking at the completion log for MB-01 it appears that the water elevation should read 6,752.9 and it is most likely that Figure D6-11e needs to be corrected. (AB)

LC ISR, LLC (6/10) - The explanation that the piezometric surfaces shown on the cross-sections (Plates D5-1a through D5-1g) are based on interpolation from regional monitor wells (and not from the drill holes shown on the cross sections) will be added to the cross-sections in conjuction with the changes requested in Comment D5 #4(c).

The water level for well MB-1 in Figure D6-11e has been corrected.

Table D6-6 was revised to include the available water level data for the MB wells, and the revised table was submitted to LQD in May 2010. Three quarters of data are currently available, and the table will be updated once the fourth quarter of data is collected.

LQD (7/10) - Item unresolved. Stickers for Plates D5-1a through D5-1g, which indicate that the potentiometric surface shown on the cross sections is based on interpolation and not the drill holes shown, are to be provided. An updated Table D6.6 will be submitted once all of the wells have four quarters worth of baseline monitoring data. A revised Figure D6-11e was provided with the correction to the water elevation in MB-1. **(AB)**

LC ISR, LLC (9/10) - The cross sections in Plates D5-1a through g were revised to clarify that the potentiometric surfaces are based on interpolation from other wells. Table D6-6 was updated with four quarters of monitoring data.

c) *LQD (6/09) - Additional faults are indicated on the north/south trending cross sections. Please add these faults to the map key, as well as within the discussion of Section D5.2.2 the permit document. In addition, these faults should be indicated on all maps where the Lost Creek Fault is included, if they fall within the scale of the map.*

LC ISR, LLC (11/09) - The text in Section D5.2.2 (Structure) has been replaced to discuss the newly identified faults, and the location of all the faults are illustrated on a new map as Plate D5-3 (General Location Map - Geology).

LQD (12/09) - Plate D5-3 has been added and indicates the location of the other known faults in the permit area. The text states that the southern fault's downthrown block is on the north side, yet Plate D5-3 indicates that the downthrown block is to the south. Please correct this deficiency. As requested previously, any map (e.g. Plates D5-2a through D5-

2d) which showed the location of the Lost Creek Fault needs to be revised to indicate the updated version of the multiple fault locations within those maps. The permit area template within the map legends will also need to be revised to include the additional fault locations.

LC ISR, LLC (2/10) - Plate D5-3 has been revised to show that the downthrown block is on the north side of the "South Fault".

Pursuant to discussions in the February 3, 2010 phone call between Melissa Bautz (WDEQ-LQD) and John Cash (LC ISR, LLC), only Plates D5-2a through D5-2d have been revised to include the multiple fault locations.

LQD (3/10) - Plates D5-2a – D5-2d which are the isopach maps have been updated to indicate the locations of all of the known faults. However, the Plates presenting the cross sections (Plates D5-1a through D5-1g) will also need to be revised to indicate the additional fault locations on the cross section and on the reference maps.

- *Plate D5-1a which dates back to the December 2007 submittal, needs to be revised. The cross section A-A' crosses the fault six times, but only three fault crossings are indicated on the cross section.*
- *Plate D5-1b which indicates Cross Section B-C crosses the Lost Creek Subsidiary fault twice, but the cross section only indicates that it crosses the fault once.*
- *Plate D5-1c, Cross Section C-D crosses the Lost Creek Subsidiary Fault and the Lost Creek Fault, but only shows the Lost Creek Fault displacement.*
- *Plate D5-1d, Cross Section D-E, crosses the Lost Creek fault and the splinter fault only indicates the displacement of the Lost Creek Fault.*
- *Plate D5-1e may need to be revised in response to Comment 4b, above, and the reference map should be updated at that time to include all of the fault locations.*
- *The geologic cross section maps D5-1f and D5-1g, do not require revision due to the faults, but do include a reference map which does not include the new fault locations. For these cross sections, please add a sticker to the reference map, which refers the reader to Plate D5-3 for cross section locations. (AB)*

LC ISR, LLC (6/10) - The changes requested above for Plates D5-2a through D5-2e will be forthcoming in the near future, once they are complete. The requested stickers for Plates D5-1f and D5-1g (for the reference map and the note about the source of the potentiometric surface information [Comment D5 #4(b)] will also be sent at that time.

LQD (7/10) - Item unresolved. Changes requested to Plates D5-2a through D5-2e are said to be forthcoming. **(AB)**

LC ISR, LLC (9/10) – To clarify, per LQD's 3/10 comment above, the isopach maps (Plates D5-2a through D5-2d) had been updated in February 2010 to indicate the locations of all of the known faults. The cross sections (Plates D5-1a through g) have now been revised to show the location of all known faults.

APPENDIX D6 (HYDROLOGY)

AUGUST 2008 - LQD REVIEW OF APPENDICES D5 AND D6 OF THE MAIN PERMIT DOCUMENT

14) *LQD (8/08) - Section D-6. Detailed stratigraphic and well completion logs should be provided within the permit document for all monitoring wells. It is preferable if this information can be compiled on one log form. Notation of each horizon within the stratigraphic column would also be helpful. LQD Guideline 8, Appendix 5 describes the information to be included for each well.*

LC ISR, LLC (4/09) - A new attachment has been added with the well completion logs for the permit area monitoring wells. The existing Attachment D6-3 (Groundwater Quality Laboratory Results) has been renumbered to Attachment D6-4, and the title page and CD changed. Attachment D6-3 is now titled Well Completion Logs. A list of the wells for which logs are included in the attachment is at the beginning of the attachment.

Cross references to the new attachment have been added at the end of Section D6.2.2 and in Attachment D6-2a (Comment #44). Because of the size of the new Attachment D6-3 (Well Completion Logs), Volume 3 of the application has been separated into Volume 3a, which contains all of Appendix D6 through Attachment D6-2b, and Volume 3b, which contains Attachments D6-3 and D6-4.

LQD (6/09) - The following comments have been generated from a review of the well logs:

i) *LQD (6/09) - There are many wells where there is additional footage between the base of the well screen and the bottom of the hole, yet it is not indicated on the well diagram (e.g. LC29M, MBOl, MB07, MBIO, HJMO-I05, HJMO-I06, HJMO-112, HJMO-113, MB-02, MB-05, MB-08, HJMP-IOl, HJMP-I02, HJMP-I09, HJT-I02, MB-06, MB-09, HJMU-I05, HJMU-113, HJMU-114, UKMP-I02, UKMP-I03, MB-04, UKMU-IOl, UKMU-I03). Please indicate on the schematic if the boring caved into this level, if there is a sump below the screen, or if it is an open hole.*

LC ISR, LLC (11/09) - Notes on the well completion logs have been added at the beginning of Attachment D6-3.

LQD (12/09) - LC added a page at the beginning of Attachment D6-3 to explain some of the drill log discrepancies. The page is titled "Notes on the Well Completion Logs in Attachment D6-3".. In the first paragraph, please explain in further detail the penetration into the EF shale at wells MB-1 and MB-7. Specifically, how far into the shale did each drill hole penetrate, and what is the approximate thickness of the shale at the location.

LC ISR, LLC (2/10) - The page titled "Notes on the Well Completion Logs in Attachment D6-3" has been updated with the requested information.

LQD (3/10) - Discussion regarding an additional shale layer below the EF shale at MB-01 was provided, yet no discussion regarding the potential of MB-07 penetrating the EF was provided. Please specifically discuss MB-07. In addition, in the discussion, please note how far these wells may have penetrated into the EF shale, and what the thickness of the EF shale was at these locations. (AB)

LC ISR, LLC (6/10) - A detailed review of the stratigraphy of well MB-7 indicates that the EF shale had been improperly fully penetrated by the pilot hole. LC ISR, LLC has no records to indicate that the rat-hole below the well screen has been back-plugged. Although well MB-07 has insufficient water to sample, it is important that the well's completion is correct. Therefore, LC ISR, LLC will pull the screen and back-plug the rat-hole with grout and then re-set the screen. Water levels will continue to be collected to see if sufficient water is available for well development and sampling. If sufficient water is available, the well will be sampling in accordance with the standard presented in the Operations Plan.

LQD (7/10) - Item unresolved. There were no records to indicate that the rat hole at the bottom of MB-07 was backfilled, therefore this monitoring well may be penetrating below the EF Shale. Lost Creek is committed to pull the screen and back plug the rat hole. Depending on the water quality and quantity after this effort, new baseline may be required. **(AB)**

LC ISR, LLC (9/10) - LC ISR, LLC plans to physically check the completion of well MB-07 during the 2010 drilling season and will inform WDEQ-LQD of the results of this check.

16) *LQD (8/08) - Figure D6-27a, Piper Diagram - Average Water Quality at Individual Monitoring Wells. The legend designates which well is represented by which symbol, and the wells are grouped by color, yet it does not indicate which horizon the wells are monitoring. Please add the horizon noted by each color. (The colors are not consistent with which formation they represent, i.e. other Figures use green to indicate the DE horizon wells, whereas the Piper diagrams use red).*

LC ISR, LLC (4/09) - The figure has been revised to clearly indicate which horizon each well is monitoring.

LQD (6/09) - There are 27 baseline monitoring wells, yet the two Piper Diagrams are only based on data from 17 wells. Please add the additional baseline information to the diagram, or provide an explanation as to why certain wells were not included.

LC ISR, LLC (11/09) - Data from the MB wells is still being collected so the Piper Diagrams have not been updated. The first round of sampling results from the MB wells have been received and inserted into Table D6-15a. Once all of the data is received the Piper Diagrams will be updated. Please note that the order of the entries in Table D6-15a has also been updated, which is intended to make review and reference easier. Before, the table was grouped first by type of parameter (e.g., major cations and anions, radionuclides, and so forth) and then by completion interval. The table is now grouped by completion interval and then by type of parameter.

LQD (12/09) - The diagrams will be updated once the data becomes available. This comment will remain open until that time. In addition, Comments 35, 36, and 37 have been dropped and are noted here. Table D6-15a and Section D6.4.2.2 will also need to be updated when the 2009 groundwater monitoring data is finalized and incorporated into the permit.

LC ISR, LLC (2/10) - The diagrams, tables, and text will be updated once the data is available.

LQD (3/10) - Revisions are pending availability of new data. (AB)

LC ISR, LLC (6/10) - LC ISR, LLC continues to collect chemistry data from the MB wells on a quarterly basis. (Three quarters have been collected to date). LC ISR, LLC requests that this item be included as a condition of the Permit to Mine and toward that end suggests the following language:

> "The Permittee may not initiate injection of mining solutions until such time that a complete year of quarterly ground water samples have been collected from regional monitor wells MB 1, 2, 3, 4, 5, 6, 8, and 9 and the resulting chemistry is included in Table D6-15a, the Piper Diagrams in Figures D6-27a and b, and the text in Section D6.4.2.2."

LQD (7/10) - Item unresolved. The updated Piper Diagrams are awaiting the final quarter of sampling for the MB wells. Lost Creek has requested that the submittal of this information be addressed through a Permit Condition, and have provided draft language. The Division will not issue a permit condition as the final round of sampling and analysis should be complete, and the final Piper Diagrams should be submitted. **(AB)**

LC ISR, LLC (9/10) – The piper diagrams (Figures D6-27a and b), Figures D6-28a and b, Table D6-15a, Table D6-16, and the associated text (Section D6.4.2) have been updated with the four quarters of laboratory results for the MB wells.

OPERATIONS PLAN

JANUARY 2009 - LQD COMMENTS ON THE MAIN PERMIT DOCUMENT

9) *LQD (1/09) - Plate OP-1: The pond designs are unacceptable for several reasons including, but not limited to the following:*

- *No location map was provided; Plate OP 1 is not considered a location map as it is of unacceptable scale and is not tied to any coordinate system;*
- *No contour interval is provided on schematics;*
- *No description or detail as to what part of the pond is above and below existing grade;*
- *No details concerning the piping system for the supply of water to the ponds and transfer of water between ponds;*
- *No specifications concerning seaming of the liner system and QA/QC procedures to be employed to evaluate the seaming; and*
- *Pond sizing calculations to address evaporative loss, inflows, etc. under a variety of conditions to demonstrate that adequate redundancy in disposal exists.*

Please present a complete set of designs and specifications for the two proposed ponds. ***(BRW)***

LC ISR, LLC (10/09) - Plate OP-1 has been updated and revised to show the Plant and pond locations relative to the Permit Area as a whole. Plate OP-2 has been added to show more detail in the area of the ponds, including topographic contours. Design details for the ponds are included in Attachment OP-A6 to the Operations Plan. The two reports in the attachment are "Design Report, Ponds 1 & 2", dated January 2009, and "Technical Specification", dated April 2008, both by Western States Mining Consultants. Appendix B of the Design Report provides the results of the geotechnical investigation at the proposed pond location ("Subsurface Exploration and Geotechnical Engineering Report" by Inberg Miller Engineers dated September 2008).

The storage ponds will be filled from the plant waste water tank(s) via a buried line except where it is above grade to cross the storage pond embankment. The storage pond fluid will be transferred between Ponds 1 and 2 by above grade transfer pumps and piping with suctions in the storage pond fluid. Fluid will be transferred back to the waste water tank(s) for disposal via the same methods.

The primary purpose of the storage ponds is to allow for maintenance of the disposal wells not for evaporation of waste water. (The "Operations Plan, Sections OP 2.9.4 and

OP 5.2.3.1 detail that purpose.) Therefore, evaporative loss is not included in the water balance calculations, and any evaporative losses will simply enhance the disposal capacity of the waste water system. See Figures OP-5a through OP-5f for water balance diagrams.

Pond sizing was based on a normal maintenance or testing schedule for the disposal wells, or two weeks of 1% bleed from the production stream at maximum design capacity (6,000 gpm).

Single Pond Capacity = 1% x 6000 gpm x 1440 min/day x 14 days
= 1,209, 600 gallons / 7.48 gal/cu. ft.
= 161,711 cubic feet

Pond Fluid Depth = 161711 cu. ft. / (160 ft. wide x 260 ft. long)
= 3.9 feet deep

The ponds are redundant in capacity allowing for maintenance of the ponds in the event of a liner problem.

LQD (11/09) - Response not acceptable. The original comment stated that the pond designs were not acceptable for several reasons, but not limited to several items identified above. The proposed designs do not meet the criteria as outlined in 40 CFR 264, SubPart K (see attached). In addition, no details were provided concerning QA/QC criteria that would be used to evaluate seam quality, only that a factory representative would be on hand. Please make the appropriate revisions to the designs. (BRW)

LC ISR, LLC (2/10) - It is unclear what WDEQ-LQD's authority is to regulate pond design under 40 CFR 264, Subpart K, especially since this portion of regulations applies only to the storage of hazardous waste and not to 11e(2) byproduct material pursuant to the RCRA Beville Amendment. Nor did the reviewer specify with what portion of the cited regulation the pond design does not comport. Nonetheless, Attachment OP-7 has been revised to include a new Pond Design Report, Technical Specifications, slope stability calculations, and engineering drawings. The Technical Specifications address the ASTM Standards that will be used for QA/QC of the liner installation.

LQD (3/10) – Response not acceptable. Thank you for revising the design specification regarding the storage ponds. The reviewer understands that the design sheets provided are limited in terms of as there is insufficient detail for bidding as well as guidance for construction. However, in the reviewer's opinion the detail provided on the design sheets is a little too limited. For example, there is no indication as to where and how the liners are tied into the embankment, no indication of three feet of sub-excavation to install a prescriptive clay liner (a three-foot zone where K = 10-7 cm/sec or less), and no indication of the cutoff key depth. Please make the appropriate revisions to the design sheets. (BRW)

LC ISR, LLC (6/10) - Attachment OP-7 details the construction specifications for the Lost Creek storage ponds. Section TS 3.3.4 in Report 0802 (Lost Creek ISR – Ponds 1&2, Technical Specifications) details the foundation preparation, and Figure 0802.103 R2 details the liner key location and depth (5 feet deep and 10 feet wide at the base).

LQD (7/10) - Response not acceptable. LC's response references a Figure 0802.103 – **Revision 2**. No additional material concerning pond design was included in the June 2010 submission. Reviewing the previously submitted material (March 2010), the drawing presently found in the application is labeled Figure 0802.103 – **Revision 1**. The reviewer has checked all superseded materials to ensure there was not an error during the insertion process; no drawing identified as Figure 0802.103 – **Revision 2** was located. Therefore, it is assumed that LC inadvertently submitted the wrong drawing with the March 2010 submission. Please see the reviewer's previous comment-response and provide the requested information. **(BRW)**

LC ISR, LLC (9/10) - LC ISR, LLC failed to include the material in its previous submission and regrets any inconvenience the over-site caused. The material has been included as requested. Figure 0802.103 – Revision 1 of Attachment OP-7 has been replaced with the revised Figure 0802.103 – Revision 2.

36) *LQD (1/09) - Section OP 2.8.1.3, Fencing and Screening. As water in the ponds becomes concentrated over time, it is likely that screening will be required. US Fish and Wildlife Service (USFWS) and Wyoming Game and Fish (WG&F) should be consulted regarding the ponds and their requirements. Pond sampling schedule, the type of analysis to be performed, and screen design should all be presented in the Operations Plan.* ***(AB)***

LC ISR, LLC (10/09) - Table OP-5 includes the anticipated water quality in the pond, and Section OP 1.3.3 of Attachment OP-6 discusses the pond water quality relative to wildlife. Because the ponds are not evaporation ponds and because the water in the pond will be replaced periodically, the parameter concentrations are not anticipated to increase as would the concentrations in an evaporation pond. The pond sampling parameters and schedule are discussed in Section OP 2.9.4. As noted in the Response to Comment V5, OP#54, a copy of Attachment OP-6 will be sent to WGFD and USFWS for review.

LQD (11/09) - Response not acceptable. Pond sampling schedule and the parameters to be monitored were provided in Section OP2.9.4. However, the need for any deterrents to birds landing on the ponds and ingesting the water is under review of WGFD and USFWS. This comment will remain unresolved pending the review of WGFD and USFWS. (AB)

LC ISR, LLC (2/10) - The permit application will be updated as necessary in response to the WGFD and USFWS comments.

LQD (3/10) – Response not acceptable. FWS issued comments dated 12/18/09 expressing concerns about selenium and waste water disposal (i.e., land application vs. deep well disposal) and the potential for bioaccumulation in terrestrial and aquatic flora and fauna. LC should address these concerns in the permit document. (SP)

LC ISR, LLC (6/10) - The USFW comments have been received and LC ISR, LLC is waiting for comments from the WGFD which should be forthcoming after the Governor issues a second Executive Order pertaining to the establishment of sage grouse core areas.

LQD (7/10) – Item is unresolved. The LQD will wait for an updated response to this comment from Lost Creek. **(MLB for SP)**

LC ISR, LLC (9/10) – The WGFD and USFWS recommendations and concerns, along with LC ISR, LLC's responses, are shown below.

WGFD

On July 30, 2010, the WGFD issued a letter commenting on the Wildlife Monitoring and Protection Plan for the Lost Creek Project. This letter and a follow-up clarification email (dated August 5, 2010) have been added to Attachment OP-6 in Addendum OP-A6-A. The letter from WGFD contained a total of five recommendations, which are numbered (a) through (e) below:

a. Installation activities should occur in core areas between July 1 and March 14.

Item 6 in Table OP-A6-1 already contained a commitment regarding the timing of exploration activities. However, since construction was not addressed, this item has been updated to include a commitment to not initiate facility construction from March 15 and June 30. It is LC ISR LLC's understanding that drilling and construction within the monitor well ring may continue year-round but may not be initiated from March 15 to June 30. WGFD provided clarification on this matter in its August 5th email.

b. No permanent surface disturbance should occur within 0.6 miles of sage grouse leks within core areas.

Item 3 in Table OP-A6-1 already committed LC ISR, LLC to not have unapproved permanent surface disturbance within 0.6 miles of sage grouse leks.

c. Total surface disturbance should not exceed 5% for every 640 acres on average.

The Wyoming Game and Fish Department determined the Project Impact Analysis Area (PIAA), which has been added to Attachment OP-6 as Addendum OP-A6-B, meets the criteria set forth by Sage Grouse Implementation Team. This

PIAA demonstrates that the total area of surface disturbance for the life of the Project will be approximately 0.9 percent.

d. The operator should control invasive weeds during this project.

Section 1.5.1.1 of Attachment OP-6 already includes a commitment to control noxious weeds.

e. The operator should provide timely wildlife monitoring reports (at least annually) to DEQ and WGFD as this project progresses.

LC ISR, LLC already agreed to this in Section OP 2.8.

USFWS

The USFWS's concerns regarding exposure of wildlife to selenium were partially addressed in previous comments. In order to fully address the concerns, Section OP 5.2.3.1 has been revised to include a commitment to maintain the concentration of selenium in the holding ponds to less than or equal to 0.02 mg/L, which is the level at which selenium concentrations can become detrimental to some wildlife including birds. The growth of algae and other plant growth in the ponds will be minimized through the use of a biocide. This will minimize the growth of plants and therefore minimize the potential for bioaccumulation of selenium. If the level of selenium in the ponds cannot be maintained at a level of less than or equal to 0.02 mg/L selenium, the ponds will be covered to prevent access by birds and/or the affected water will be drained.

The USFWS's concerns regarding the terrestrial bioaccumulation of selenium due to land application are unfounded since LC ISR, LLC has no plans to land apply waste water.

44) *LQD (1/09) - Section OP 2.8 Wildlife Monitoring. Only monitoring of raptors and sage grouse is listed, yet vertebrates are also required to be monitored.* ***(AB)***

LC ISR, LLC (10/09) - The Wildlife Monitoring Plan is presented in Attachment OP-6 Section 2.0. LC ISR, LLC commits to monitoring: big game; sage grouse/upland birds; raptors; Migratory Birds of High Federal Interest; and lagomorphs (as prey abundance for raptors, Section 1.2.3). When completing other wildlife surveys, incidental observations of federally listed Threatened and Endangered Species, non-game mammals, non-game birds, and reptiles and amphibians made will be recorded, and these will be summarized in the Annual Report.

LQD (11/09) - Response not acceptable. Attachment OP-6, Wildlife Protection Plan and Wildlife Monitoring Plan has been added to the permit. Big game (pronghorn), lagomorphs, raptor, sage grouse and migratory birds are all included as part of the monitoring plan. This plan has been submitted to USFWS and WGFD and the permit will

need to include their recommendations. The monitoring will need to comply with the recommendations. The LQD (Steve Platt) will need to review the written responses from these agencies. This item is unresolved pending submittal and review of the USFWS and WGFD recommendations. (AB)

LC ISR, LLC (2/10) - Please see response to previous comment.

LQD (3/10) – Response not acceptable. A review letter from the WGFD has not been submitted by the operator. A letter must be included and any concerns addressed by LC. (SP)

LC ISR, LLC (6/10) - Please see Response to Comment OP#36.

LQD (7/10) – Item is unresolved. The LQD will wait for an updated response to this comment from Lost Creek. **(MLB for SP)**

LC ISR, LLC (9/10) - Please see Response to Comment OP#36.

48) *LQD (1/09) - Section OP 2.8.2.1 Raptors. The potential need for wildlife mitigation measures should be outlined in the Operations Plan. Approval from USFWS and WGF will be required for taking a nest, or any raptor deterrence plan.* ***(AB)***

LC ISR, LLC (10/09) - Attachment OP-6 Section 1.2.3 describes the potential need for mitigation measures, if a raptor nest is found within the area covered by surface activity restrictions. That section also commits to consulting USFWS and WGFD to determine appropriate mitigation measures. Attachment OP-6 Section 1.1.2.2 commits to using agency-approved designs for anti-roosting raptor deterrents.

LQD (11/09) - Response not acceptable. Attachment OP-6, Section 1.3.1 Locations and Disturbance Area states that if a raptor nest if found within 0.5 miles of project activities, that USFWS and WGFD will be consulted and if needed appropriate mitigation permits will be obtained. Following USFWS and WGFD review, they may require that a nesting deterrence plan or other mitigation be in place prior to mining. This comment is unresolved, pending the review of Attachment OP-6 by USFWS and WGFD. (AB)

LC ISR, LLC (2/10) - Please see Response to Comment V5, OP#36.

LQD (3/10) – Response not acceptable. LC will update as necessary in response to WGFD comments when received. (SP)

LC ISR, LLC (6/10) - Please see Response to Comment OP#36.

LQD (7/10) – Item is unresolved. The LQD awaits an updated response to this comment from Lost Creek. **(MLB for SP)**

LC ISR, LLC (9/10) - Neither the WGFD nor the USFWS require a nesting deterrence plan or other mitigations in their respective letters. These letters can be found in Attachment OP-6, Addendum OP-A6-A.

72) *LQD (1/09) - Section OP 2.9.2, Fuel Storage Area: More detail is needed in this section. Specifically, secondary containment must be addressed and explained. Additionally, the weekly inspection criteria should be stated here. If an inspection checklist is to be used, the items on the checklist should also be listed.* ***(MLB)***

LC ISR, LLC (10/09) - Fuel storage at the site will consist of an above ground gasoline tank with a maximum volume of 5,000 gallons and an above ground diesel tank with a maximum size of 5,000 gallons (Plate OP-2). The tanks will be within a lined spill containment system sized to contain at least 110% of one of the largest tank. A Spill Prevention Control and Countermeasure Plan is required and will be in place before the tanks are placed into service. The tanks and the containment area will be checked at least weekly for vessel, piping and containment integrity as well as indications of leaks or spills. All are planned to be documented as part of the routine inspection process.

LQD (11/09) - Response not acceptable. Section OP 2.9.5, Fuel Storage Areas, needs to be revised to include the information outlined in the above response. (MLB)

LC ISR, LLC (2/10) - The information has been incorporated into Section OP 2.9.5 (Fuel Storage Areas), as requested. However, commitment to the Spill Prevention Control and Countermeasure Plan has been removed since the EPA regulations in 40 CFR 112 do not apply to a closed basin like the Great Divide and because WDEQ has not implemented state regulations pertaining to Spill Prevention Control and Countermeasure Plans. Nonetheless, the commitments for the design and routine inspection of the fuel storage facility stand.

LQD (3/10) – Response partially acceptable. The additional text added to Section OP 2.9.5 is satisfactory. However, it does not specify the type or minimum thickness of liner to be used for spill containment. Please add a discussion of the type of liner and minimum liner thickness to Section OP 2.9.5. (MLB)

LC ISR, LLC (6/10) - As indicated in Section OP 2.9.5, LC ISR, LLC has committed to installing containment sized to hold at least 110% of the largest tank. The containment structure final design will occur upon procurement of the fuel tanks and will be dimensionally and structurally appropriate for those particular tanks. The containment will be impermeable to gasoline and diesel fuel and will have a manually controlled sump pump to collect rain or snow melt from the containment. The materials of construction may include concrete, polyethylene or equivalent.

LQD (7/10) – Response not acceptable. The reviewer understands LC's claim that a containment structure for the fuel storage area cannot be finalized until the fuel tanks are procured and on site. However, there are minimum standards for fuel storage areas that can be specified in Section OP 2.9.5 at this time. Specifically, a statement regarding the range of possible liner media must be stated. That is, if a plastic liner will be used, its composition and minimum thickness (E.g. 40 mils) must be stated in Section OP 2.9.5. Or if a clay liner will be used, the clay's composition and minimum permeability (E.g. 10-7 cm/sec) must be state in Section 2.9.5. Or if coated concrete could potentially be implemented, the specifications of the concrete and coating must be state in Section OP 2.9.5. Please provide revised text for Section OP 2.9.5 to include the above-prescribed information. **(MLB)**

LC ISR, LLC (9/10) – Section OP 2.9.5 has been revised per the email of August 2, 2010 from M. Bautz (WDEQ-LQD) to S. Hatten (LC ISR, LLC).

77) *LQD (1/09) - Section OP 2.11.2 Off-Site Wells Section OP 3.6.4.1 Mine Unit Baseline Water Quality and Upper Control Limits. These sections reference Lost Creek's Environmental Manual, and states that it discusses the sampling protocols. What is and where is this document? Sampling protocols need to be outlined in the permit document, as stated in Comment 28 from my August 26, 2008 comments on Appendix D-5 and D-6.* ***(AB)***

LC ISR, LLC (10/09) - The Lost Creek Water Well Sampling Procedure is attached as Attachment OP-8.

LQD (11/09) - Response not acceptable. Attachment OP-8 is a welcome addition to the application. Please include a Table which lists the monitoring wells, grouped by category, and includes their screened interval, which formation is being monitored, and the frequency and constituents to be monitored. In addition, please address Chain of Custody procedures and the disposal of purged water on the ground. If the monitoring well is impacted in any way the purge water may need to be disposed in either the storage ponds or deeper injection wells. Section III, Part C-iii, the text stating that if a parameter is below detection limit during the initial round of sampling that no additional analysis will be performed during quarterly sampling is unacceptable and should be removed from the text. Section IV, note 1 in both tables should be revised to indicate water level as a field parameter. Section 5, Part E should indicate that all sampling will follow the preservation and holding time procedures as outlined in Methods for Chemical Analysis of Water and Wastes, USEPA, 1983. Section VII regarding the use of compositing is not acceptable for several reasons, which include the fact that compositing tends to mask the presence of analytes at low levels and it will be impossible to detect if there are only parts of the wellfield are problematic. See also the text in Section RP 2.4. (AB and BRW)

LC ISR, LLC (2/10) -

- Generic sampling frequencies for each type of operational monitor well are provided in Section IV of the Lost Creek Water Well Sampling Procedure. Tables and completion reports which list the specific monitor wells, grouped by category, and includes their screened interval, which formation is being monitored, and the constituents to be monitored have been included with the MU1 data package submitted December 21, 2009. These types of tables and reports will be included with each successive mine unit data package. LC ISR, LLC believes that providing this information in these data packages will eliminate the need to update a monitor well table included in the Lost Creek Water Well Sampling Procedure which would require a permit amendment each time a new mine unit is proposed. Please also see Section OP 2.11.1 as well as the Response to Comment V5, OP#89.The requested information for these wells has been previously provided in the main permit document in Attachment D6-3 and Section D6.4.2.2.

- A discussion about the use of a Chain of Custody form has been added to Section VI of the Lost Creek Water Well Sampling Procedure.

- A discussion about the disposal of affected well purge water has been added to Section V(C) of the Lost Creek Water Well Sampling Procedure.

- The text stating that if a parameter is below detection limit during the initial round of sampling then no additional analysis of that parameter will be performed during quarterly sampling in Section III(C) (iii) has been removed from the text.

- In Section IV of the Lost Creek Water Well Sampling Procedure, note 1 of both tables has been revised to include water level as a field parameter.

- Section V (E) of the Lost Creek Water Well Sampling Procedure has been revised to indicate that all sampling will follow the preservation and holding time procedures as outlined in Methods for Chemical Analysis of Water and Wastes, USEPA, 1983.

- Please see LC ISR, LLC's response to Comment RP-7, which contains a discussion on the use of composite samples.

Additional revisions to the Lost Creek Water Well Sampling Procedure were made to match the text in the main permit document. The revisions include the following:

- The first sentence of the first paragraph of Section III(C) (iii) was changed to "During restoration the perimeter and underlying and overlying monitor wells will continue to be sampled at least twice per month, and no less than ten days apart, for UCL parameters". Also, the second sentence was deleted.

- The second and third sentences of the second paragraph of Section III(C) (iii) were changed to "Each production monitor well will be sampled at the beginning of stabilization and once per quarter for a period of 12 months and analyzed for Guideline 8 parameters. This will yield a total of 5 sample rounds".

- The last sentence of the second paragraph of Section III(C) (iii) was changed to "The monitor ring, overlying, and underlying monitor wells will be sampled for the UCL parameters once every two months throughout stabilization". Also, the following sentence was added to the end of the second paragraph "If an excursion occurs during stabilization, then the sampling will revert to weekly for the affected monitor well until the excursion is resolved".

- In Table C, the text was changed in the Wellfield row under the Frequency column to match the text in Section III(C) (iii).

LQD (3/10) - The requested information was incorporated into Attachment OP-8. Regarding the disposal of purged water on the ground surface, there is a concern that when the natural groundwater contains levels of radium and uranium disposal on the ground surface may have the potential to impact the background gamma survey levels in the soils within the permit area. The Division recommends that any purged water with detectable levels of these constituents, be transferred to the holding ponds in order to preserve the baseline conditions. (AB)

LC ISR, LLC (6/10) - LC ISR, LLC appreciates the concern raised by the reviewer regarding the buildup of radium and/or uranium in the soil, and LC ISR, LLC has considered this potential in the past. To ensure this is not an issue, LC ISR, LLC reviewed the sample results of all Mine Unit 1 monitor wells, including those within the pattern area, to determine the worst case scenario. The first sample round for monitor well MO-111 contained 360 pCi/l of radium-226. This is the highest concentration of radium-226 in all of the Mine Unit 1 monitor wells completed in the ring, overlying and underlying. When compared to the results of the second through fourth round of analysis of well MO-111 it is clear that this is an outlier. Nonetheless, 360 pCi/l radium-226 was used to analyze the maximum buildup that could occur. The calculation assumed a total of 96 sample rounds over the life of the well and an average purge volume of 500 gallons per sample event. Assuming the water is discharged through a sprinkler and 100% of the radium-226 is captured in the top 15 centimeters of soil the buildup will be approximately 0.36 pCi/gram of soil. The soil clean-up standard required by the NRC in 10 CFR 40 Appendix A Criterion 6 is 5 pCi/g in the top 15 centimeters. Therefore, even in the conservative scenario considered, the build-up of radium-226 in the soil is far below the

level of concern. During reclamation, radiometric surveys it may be possible to see a slight increase in activity but not to the level of any concern.

With regard to uranium, the monitor well baseline sampling shows that the highest concentration in a Mine Unit 1 monitor well was 0.916 mg/l in well MO-114. Using the assumptions outlined above, the maximum concentration of uranium that could occur is 9 x 10-7 mg U/gram of soil. The annual ingestion limit for a member of the public is 0.813 grams and the limit for inhalation is 4.5 mg. Therefore, a member of the public would have to inhale more than 4,980 grams of soil/year or ingest more than 900,000 grams of soil/year before exceeding regulatory limits. Finally, since uranium is an alpha emitter there are no direct radiation concerns. The regulatory limits are based on chemical toxicity for uranium since its heavy metal properties are more of a concern than its radiologic properties.

Therefore, based on the above assessment, LC ISR, LLC does not plan to capture well purge water unless the water has been affected by mining lixiviant and falls under the immediate jurisdiction of the NRC.

LQD (7/10) – Item unresolved. An analysis of MO-111 with the highest baseline radium 226 levels (360 pCi/l) was presented showing that the cumulative effects on the soil are more than ten times less than the NRC soil clean-up standard. Yet Best Management Practices should dictate that the operator will not impact the background soil radiological levels. If a monitoring well shows a constituent that by being discharged onto the ground it will adversely affect the soils, then that well should have the purge water transported to the evaporation ponds or deep disposal well. Prior to start up, an alternate method for disposal should be proposed. **(AB)**

LC ISR, LLC (9/10) – LC ISR, LLC agrees to capture and dispose of discharge water from a monitor well if the water will degrade the soil quality to the point that environmental or human harm may occur. Toward that end, LC ISR, LLC has revised Section V(C) of the Groundwater Monitoring Program in Attachment OP-8 to explain how this determination will be made.

84) *LQD (1/09) - Section OP 3.2 Mine Unit Design. The last paragraph of this section states that the operator has made an effort to properly abandon historic drill holes or wells. As noted earlier regarding Section D5.2.4 Historic Uranium Exploration Activities, all historic drill holes must be located and a determination made if they were properly abandoned. If they were not, then they must be re-entered and grouted from the bottom up to the surface. All of this effort must be clearly documented in the permit, on a hole by hole basis.* ***(AB)***

LC ISR, LLC (10/09) - Pursuant to discussions during the June 22, 2009 meeting in Casper between WDEQ and LC ISR, LLC, the letter from Don McKenzie to the Wyoming Mining Association dated February 25, 2009 will serve as the guidance

document with regard to re-abandonment of historic holes. Item 1 of this memo states, "Re-entering and re-plugging old drill holes within a proposed mine unit boundary area is not warranted unless there is evidence of poor plugging practices determined either through record review or pump tests results." In order to satisfy this requirement two separate issues must be satisfactorily addressed: a record review and a pump test.

LC ISR, LLC has submitted to WDEQ-LQD all records in its possession with regard to historic abandonment of holes and wells at the Lost Creek Project. Included within the records is a Notice of Violation issued to Texasgulf on May 20, 1982 for improper hole abandonment and surface capping as well as memos from Texasgulf to WDEQ-LQD describing their corrective actions. The Texasgulf memos describe the depth to water and drill mud in each hole they could locate. Although the specific details of the corrective actions are unknown, it appears that WDEQ-LQD and Texasgulf agreed to re-abandon all holes where the mud depth was greater than about 200 feet below the water surface. A review of these memos reveals that Texasgulf attempted to locate and collect subsurface data on a total of 261 historic holes. This number does not include holes where a surface cap was replaced but no subsurface data is provided in the historical record. Of these 261 holes, 230 (88%) were located. Of the 230 located, a total of 16 were re-plugged with grout because the grout level was greater than about 200 feet below the water surface. The above statistics are based only on those holes for which we have complete and reliable records. Texasgulf also installed new surface caps on a large group of holes. WDEQ-LQD subsequently approved the corrective work and released the bond for the entire project. Based on WDEQ-LQD approval, one could conclude that the record clearly demonstrates the historic holes were abandoned using acceptable plugging practices and further effort is not warranted.

Additional efforts to relocate historic holes will likely meet with limited success. The historic holes in question were mostly drilled between 1968 and 1980. After 29 to 41 years of vegetation growth and additional drilling disturbance, only a portion of the holes are locatable. Today it is rare to find the wooden markers placed so many decades ago. Any attempt to relocate the historic holes will result in considerable surface disturbance will little to no benefit.

Pump tests performed to date, including the 2008 Mine Unit One pump test, reveal that there is minor communication between the overlying and underlying aquifers and the HJ Horizon. The drawdown in the overlying and underlying aquifers is on the order of one magnitude or less than the drawdown in the HJ Horizon The majority of hydrologic communication is likely through the displacement of the Lost Creek Fault and not through improperly abandoned drill holes. LC ISR will employ engineering controls to prevent migration of mining solution through the fault and into a USDW.

The historical record suggests the holes were properly abandoned by the original operator pursuant to regulations that were in place at that time. LC ISR, LLC believes WDEQ-LQD, as the agency with regulatory authority over uranium exploration, should have enforced existing regulations and required the grout column to extend above the water

table. If WDEQ-LQD approved improper hole abandonment, the WDEQ-LQD is now transferring the liability onto a company with no responsibility, and in fact WDEQ-LQD's actions may jeopardize one of the state's uranium resources.

Today's WDEQ-LQD comments suggest improper oversight by WDEQ-LQD in the past. LC ISR, LLC understands WDEQ-LQD's request for the holes to be re-abandoned and hereby proposes the following path forward. This proposal is intended to provide a framework for this situation, which will undoubtedly be encountered at this and other sites as uranium resources are developed in the future. LC ISR will agree to re-abandon and re-surface cap all historic holes within pattern areas that have not already been re-abandoned by a previous operator or by LC ISR, LLC and which may impact LC ISR, LLC's operations in a given mine unit, based on pumping test results for that mine unit. For other historic holes, LC ISR, LLC will agree to re-abandon and re-surface cap all historic holes within pattern areas that have not already been re-abandoned by a previous operator or by LC ISR, LLC; however, WDEQ-LQD must take on the responsibility of locating each of the holes and either perform surface reclamation or advance funds for LC ISR, LLC to conduct surface reclamation. WDEQ-LQD and BLM must agree in writing that LC ISR, LLC takes on no liability, financial or otherwise, for the re-abandonment and associated work. Nor shall LC ISR, LLC have to bond for the work since it is being performed largely for the benefit of the state and BLM.

WDEQ-LQD will have the following responsibilities and absorb the associated costs:

- Locate the holes based on historic survey records before November 30, 2009.
- Either perform surface reclamation at the appropriate season or reimburse LC ISR, LLC to perform the surface reclamation work. Surface reclamation includes leveling of the site and reseeding with an approved mixture of native seed.

LC ISR, LLC will perform the following tasks and absorb the associated costs:

- Provide WDEQ-LQD with a backhoe and one backhoe operator for a total of 40 hours at no charge for the purpose of locating the holes. Any use of the backhoe and operator above 40 hours will be charged at a rate of $75/hour;
- Excavate the surface cap;
- Enter the hole with HDPE tremmie and go as deep as possible without drilling or washing out the hole.
- Tremmie grout into the hole until the hole is filled to surface;
- Return to the hole no sooner than two days later and top the hole off to approximately 17 feet below ground surface;
- Dump two bags of bentonite chips into the hole;
- Dump one bag of cement or concrete into the hole;
- Backfill the final two feet of hole with native vegetation;
- Mark the hole with a piece of HDPE pipe with a metal name plate.

WDEQ-LQD must agree that its inability to locate all holes will not result in the denial of the permit to mine or subsequent mine unit packages.

The commenter states that the re-abandonment effort must be documented in the permit on a hole by hole basis. This request is unreasonable since the work will take place over a number of years as additional mine units are brought into production and the permit will have to be revised accordingly. LC ISR, LLC proposes that the information regarding re-abandonment efforts be documented in the annual reports.

LQD (11/09) - Response not acceptable. Drilling currently taking place in the Battle Springs formation has illustrated the problem with plug gel loss down the hole. The plug gel will fall 100-300 feet, often exposing the water table. If past practices were to inject plug gel to the surface and cap the hole then there is no documentation of the plug gel falling back down the hole. The Tg NOV provides some documentation that historically the holes were left in various stages of abandonment. It can be stated with fair certainty that many of the historic drill holes are open more than a hundred feet below any surface cap, and many of them most likely are in at least the first water table. Ur Energy has made an effort to locate these holes, without much success (only finding 2 out of 20 which were searched). The DEQ will make an independent effort to locate the holes within the first mine unit, with the commitment by Lost Creek to plug them if we find them. (AB)

LC ISR, LLC (2/10) - LC ISR, LLC appreciates the WDEQ-LQD's willingness to assist with this issue. It is important that work on this project begin during the spring of 2010 so the holes can be plugged in a timely manner that does not impact the operations schedule. We look forward to discussing this schedule with you in the coming weeks.

LQD (3/10) - This item is unresolved. (AB)

LC ISR, LLC (6/10) - In the interest of resolving this item for the purposes of the application review, LC ISR, LLC suggests the following language be inserted into the permit as a condition:

> "Prior to injecting mining solutions in a wellfield, LC ISR, LLC will attempt to locate and properly abandon all historic drill holes that may be improperly abandoned within the pattern area. WDEQ-LQD will assist LC ISR, LLC in the process of locating the historic holes. The failure to locate 100% of the holes will not be the sole justification for LQD denying LC ISR, LLC the ability to mine the wellfield in question."

LQD (7/10) - Item unresolved. Location and abandonment of the historic drill holes within the area of the first mine unit has not been addressed in the field beyond a demonstration of Ground Penetrating Radar. LC is proposing a Permit Condition stating that prior to injection of any mining solution, an attempt will be made to locate the historic drill holes. Failure to locate the holes will not be justification for LQD denying LC to move forward with mining.

From the ongoing discussions on this topic the LQD's understanding has been that the holes within the first mine unit would be located and properly abandoned. A new pump test would then be conducted to determine if there was an improvement in the amount of leakage observed in the overlying and underlying aquifers. If there was no improvement then it would indicate that the leakage was not from the improperly abandoned historic drill holes, but from lack of geological controls. A proposal should be submitted which outlines how this effort will be undertaken, the pump test specs, and how the new test will be correlated to the results of the previous pump test. **(AB)**

LC ISR, LLC (9/10) – The failure of the WDEQ-LQD to act in coordinating and executing their committed role (see LQD 11/09 comment) to make an independent effort to locate the historic holes during the summer of 2010 leaves the applicant in a difficult position. LC ISR, LLC cannot make the desired demonstration of the relationship of confinement and the historic holes without WDEQ-LQD's appropriate involvement and cooperation.

In the letter of July 28, 2010, from WDEQ-LQD Administrator D. McKenzie to W. Heili (LC ISR, LLC), McKenzie indicated an interest in pursuing issues under permit conditions as long as they are not statutory or regulatory requirements to obtain a permit. LC ISR, LLC believes this item clearly fits within that framework. The permit condition language proposed in LC ISR, LLC's 06/10 response is revised herein to state:

> "Upon receipt of a permit to mine and prior to injecting mining solutions in Mine Unit 1, LC ISR, LLC, with the assistance of WDEQ-LQD, will attempt to locate and properly abandon all historic drill holes documented to be improperly abandoned within the pattern area. In the event that the majority of the identified holes are located and abandoned such that there is an expectation that a definitive conclusion can be obtained from additional testing, a pump test will be performed to determine the effect of the hole abandonment effort. This pump test will be designed to mimic the initial wellfield pump test (length of test, pump rate, wells monitored, and pump rate).
>
> In future mine units, assuming plugging efforts in Mine Unit 1 resulted in a substantial improvement in confinement, an effort to locate and re-abandon historic drill holes will be made prior to the mine unit pump test."

When considering this permit condition, WDEQ-LQD should analyze the level of surface disturbance associated with locating and plugging historic holes prior to the issuance of a permit. Also, WDEQ-WQD recently implemented restrictions on the discharge of pump-test water from in situ projects. These restrictions make pump testing from many wells impossible unless a water treatment system is in place. Therefore, the pump test described above may not be feasible until the Plant and associated water treatment system is in place.

90) *LQD (1/09) - Section OP3.3 Well Completion: The burst pressure and collapse pressure of the SDR 17 pipe to be used is presented. Please also provide information on the pressures to be experienced with the well depths in the ore zone, i.e. at what depth and/or pressures will the SDR 17 be unsuitable for use.* ***(AB)***

LC ISR, LLC (10/09) - The HJ Production Zone is approximately 425 feet below surface while the static water level for the same formation is approximately 175 feet below surface. A typical casing will be CertainTeed's spline-locking standard dimension ratio (SDR) 17 PVC well casing, which has a nominal 4.5 inch diameter, 0.291 inch minimum wall thickness, and is rated for 160 pounds per square inch (psi) burst pressure and 224 psi collapse pressure.

The maximum external pressure possible is represented by the calculation below. A rare example of this would be if the well were to pump dry with no recharge, especially given the hydrologic properties of the HJ sand unit.

External Pressure = (Depth of Casing – Depth to Water) x Weight of Fluid x 0.052
= (425 ft – 175 ft) x 8.33 lbs/gal x 0.052
= 108.3 psi which is less than the 224 psi collapse pressure

The maximum internal pressure or injection pressure will be governed by the fracture pressure, which is governed by the regional fracture gradient, or 0.7 psi/ft.

Injection Pressure = Depth to Injection Zone x (Fracture Gradient – Water Gradient)
= 425 ft x (0.7 psi/ft – 0.433 psi/ft)
= 113.5 psi which is less than the 160 psi burst pressure

The pressure ratings provided by the manufacturer are at ambient conditions without the benefit of cement supporting the casing or the lower temperatures typically seen subsurface at the Lost Creek Project. Experience at other ISR operations has shown that, using the proper weighting materials during cementing, PVC casing can be used at depths in excess of 1,000 feet below ground surface. In addition, each well must pass a mechanical integrity test prior to operation.

LQD (11/09) - Response not acceptable. The burst pressure and collapse pressure values and calculation for the SDR17 pipe should be presented in the permit document. The reviewer does not necessarily agree with the calculations presented for external pressure. For example, Well LC24M is cased for 478 feet with a static water level of 204 feet. The grout used was Portland Cement and assuming a mixture of 1 sack per six gallons of water gives a unit weight of approximately 10.7 lbs/gal. So (478 feet x 10.7 x 0.052) – (274 x 8.34 x 0.052) = 266 – 119 = 147 psi net collapse pressure. While the estimated collapse pressure is less than the CertainTeed specification of 224 psi, the Factor of Safety (FOS) is estimated at approximately 1.5 which is less than the factory recommended FOS of 2.0. Please address the above. (BRW for AB)

LC ISR, LLC (2/10) - LC ISR, LLC's engineers and well installation personnel understand that many variables can affect a successful well installation. Some of these include static water level, installation water level, grout density, chase fluid density, depth of casing and environmental conditions such as fluid temperatures. LC ISR, LLC also understands that the most critical time for mechanical integrity of the well typically occurs during installation, particularly during grouting. The time of highest risk occurs when either:

- the casing is full of grout and the annulus is full of drilling mud/formation water, (failure mode is burst), or
- the annulus is full of grout and the casing is full of chase fluid (failure mode is collapse).

LC ISR, LLC designs its well installations to minimize failure during these times.

LC ISR, LLC's design personnel are experienced in the design and installation of many PVC cased wells and have a deep understanding of the factors that can cause well failure. The defining criteria for success of the installation is the passing of the mechanical integrity test. Regardless of safety factor, well design or installation practices, the each well must pass this test prior to its use.

The calculation provided as an example by the reviewer assumes that the static water level inside the casing is equal to the static formation water level. However, this is not the case because the water or "chase fluid" in the casing is used to push the cement into the annulus and maintain it there. Therefore, the casing is always full. The calculation should be:

(478 feet x 10.7 x 0.052) – (478 x 8.34 x 0.052) = 266 – 207 = 59 psi net collapse pressure

224/59 = 3.8 Factor of Safety for this application.

Regardless of the calculation, the well must still pass the MIT.

As for inclusion of the casing data in the permit application, LC ISR, LLC believes that this data should not be included as the manufacturer or the pressure ratings may routinely change during the course of the Project. However, the data will be available on site for review during inspection.

LQD (3/10) - Response not acceptable. The reviewer understands the procedure as outlined in LC's response. However, this is not conveyed within the text. The revised text provided concerning the calculation does not match those provided in the recently submitted response. Lastly, the calculation should actually reflect the weight of the cement utilized in sealing the annulus. Please make the appropriate revisions to the text. (BRW for AB)

LC ISR, LLC (6/10) - The text in OP 3.3 has been revised.

LQD (7/10) – Response not acceptable. The submitted revised text for Section OP 3.3 reads exactly the same as previously submitted. Please see the reviewer's response dated March 2010 and make the appropriate revisions to the text as requested. **(BRW)**

LC ISR, LLC (9/10) – The text in Section OP 3.3 was revised.

99) *LQD (1/09) - Section OP 3.6.3.1 Water Balance. (Table OP-6): Are the flow capacity's presented in this Section, Table and in Figures OP-5a through 5f, for the first mine unit or for multiple mine units? Please clarify by indicating how many mine units will be in production and restoration at one time, and how the rates presented are a compilation of that information. A table detailing this information for each mine unit, at each stage of production and restoration, for each year in the life of the mine would be useful.* ***(AB)***

LC ISR, LLC (10/09) - Figure OP-4a illustrates the Lost Creek Project Development, Production and Restoration Schedule. A review of the schedule reveals that normally two mine units are anticipated to be in production and up to three mine units are anticipated to be in various phases of groundwater restoration (GWS, RO, Recirculation and Stability), not including the time required for regulatory approval and surface reclamation.

Section OP 3.6.3.1 states; "The water balance discussion, figures and tables included in this section consider the production and restoration phases to be operating at maximum flow capacity. At maximum flow capacity, the full potential contribution of each unit operation to the water balance can be analyzed." LC ISR, LLC as operator, will have the full discretion to determine the actual operational flow rates that meet the economic objectives of the project. Since portions of mine units are brought into and out of production and restoration as a function of the daily operational control of the facility, a table detailing the contribution of each mine unit to each stage of production and restoration summarized for each year in the life of the mine, would not provide any more useful information than Figure OP-4a already provides.

LQD (11/09) - Response not acceptable. Text in the third full paragraph on page OP-34 states "The design basis for the Lost Creek Project is derived to provide the nominal maximum production plant capacity (6,000 gpm) from each typical mine unit. Therefore, each typical mine unit includes approximately 180 (32 x 180 = 5,760 gpm) production wells...". Figure OP-4A indicates that in year two there will be production in MU-1 and MU-2 with no restoration indicated. Given the description in the text above, it would seem that the plant would essentially be operating at capacity with one unit in production, let alone the additional production from a second wellfield. Therefore, the text does not appear to jive with the schedule. Additionally, though not stated in the text, but only in the response, that "LC ISR, LLC as operator, will have the full discretion to

determine the actual operational flow rates that meet the economic objectives of the project." is not completely acceptable as the LQD has indicated to LC that restoration will not suffer at the hand of production. Please address. (BRW for AB)

LC ISR, LLC (2/10) - The text in Section OP 3.6.4.1 and Figures D6-5a through 5h describe the system which includes both the production circuit (6,000 gpm) and the restoration circuit (600 gpm), i.e., a production flow rate of 6,000 gpm does not preclude a restoration flow rate of 600 gpm (See Response to Comment V5, #97 for discussion of the differences in the flow rates.) The text also includes a discussion of the progressive water balance (i.e., for bringing the first mine unit on line through restoration of the last mine unit), including the relative to production and restoration rates, and ties it to the schedule presented in Figure OP-4a. The text in Section OP 3.6.4.1 has been edited to clarify the progression.

LQD (3/10) – Response not acceptable. Thank you for attempting to provide better clarification of the schedule as it relates to Figure OP-4A and how the operation will proceed from production to restoration. However, there is a statement on page OP-52 that states" Restoration will not typically begin in any mine unit until all production flow has ceased to facilitate proper control of both production and restoration fluids. Because of this, production may occur from more than one mine unit to maintain maximum allowable production flow without restoration occurring simultaneously in those mine units." This statement is extremely convoluted.

I assume during operations that there will be a blending of high grade production streams from new fields with low grade streams from nearly depleted mine units to maximize recovery from the nearly depleted field. This part makes sense, but the last part "without restoration occurring simultaneously in those mine units." is a problem because at some point LC will need to begin restoration, at the same time production from the next well field is occurring. It is understood that to maximize restoration effectiveness that it is necessary to establish a "buffer zone of sorts" to ensure that production fluid is not being pulled in during Ground Water Sweep. Thus, one or more header houses maybe shut in and left idle once the ore is played out of an area and LC will rely on maintaining control of the lixiviant by adjacent operational header houses. Idling all or portions of a well field will, however, be watched with close scrutiny to ensure that fluid control is maintained by adjacent header house patterns within the unit. When LC can no longer demonstrate that fluid control is maintained, LC will be required to initiate restoration. Please provide clarification of the statement cited in the above paragraph. (BRW for AB)

LC ISR, LLC (6/10) - The response has been broken down into its major components, (numbered 99(a), (b), and (c)) to allow for more concise answers.

a. *LQD (3/10) - "...there is a statement on page OP-52 that states" Restoration will not typically begin in any mine unit until all production flow has ceased to facilitate proper control of both production and restoration fluids. Because of this, production*

may occur from more than one mine unit to maintain maximum allowable production flow without restoration occurring simultaneously in those mine units." This statement is extremely convoluted."

LC ISR, LLC (6/10) - The 2nd sentence in Paragraph 10 of Section OP 3.6.3.1, Paragraph 10 has been reworded for clarification, including addition of a cross-reference to Section OP 2.1 (Project Schedule).

b. *LQD (3/10) - "..."without restoration occurring simultaneously in those mine units." is a problem because at some point LC will need to begin restoration, at the same time production from the next well field is occurring. It is understood that to maximize restoration effectiveness that it is necessary to establish a "buffer zone of sorts" to ensure that production fluid is not being pulled in during Ground Water Sweep. Thus, one or more header houses maybe shut in and left idle once the ore is played out of an area and LC will rely on maintaining control of the lixiviant by adjacent operational header houses. Idling all or portions of a well field will, however, be watched with close scrutiny to ensure that fluid control is maintained by adjacent header house patterns within the unit. When LC can no longer demonstrate that fluid control is maintained, LC will be required to initiate restoration. Please provide clarification of the statement cited in the above paragraph.*

LC ISR, LLC (6/10) - Section 3.6 (Mine Control) details the evaluations of fluid balance and water quality that will be used to ensure fluid control is maintained, and Attachment OP-2, which is being updated, details more specific assessments which will be used to evaluate fluid control (as well as mining efficiency).

LQD (7/10) – Response partially acceptable. The response indicates that Attachment OP-2 is in the revision process (not included in the June 2010 submittal) to better detail how fluid control will be evaluated and maintained. The reviewer awaits the submittal of a revised Attachment OP-2 before making a final determination. **(BRW)**

LC ISR, LLC (9/10) – Attachment OP-2 has been revised to include additional information on: the installation, use, and evaluation of observation wells; water level data review and analysis including a description of rose diagrams and the magnitude of change which can trigger an action; pattern balance and the adjustment of flow rates; monitoring well sampling schedule, methods, and review; and bleed percentages and effects. Figure OP-A2-5 was added to show the typical monitor well data review process in flowchart form.

105) *LQD (1/09) - Section OP 3.6.3.3, Cumulative Drawdown: W.S. 35-11-428(a)(iii)(E) requires an assessment of impacts to water resources on adjacent lands and the steps that will be taken to mitigate the impacts. Section OP 3.6.3.3 should include drawdown projections for all aquifers that could potentially be affected by the operation for the life*

of the mine, including drawdown maps to illustrate the horizontal and vertical extent of projected drawdown. ***(MM)***

LC ISR, LLC (10/09) - The parameters necessary to provide an estimate of drawdown during life of the mine include transmissivity, storativity, net extraction rate, and duration of operation. Transmissivity of the HJ Production Zone has been determined from pumping tests, conducted on either side of the Lost Creek Fault. Because of the influence of the fault, the transmissivity determined from this pumping test is viewed as an 'effective" transmissivity.

A value of transmissivity that is not influenced by the fault can be estimated using the principle of superposition and image well theory (Stallman 1952). The principle of superposition simply states that the total effect resulting from pumping multiple wells simultaneously is equal to the sum of the individual effect caused by each of the wells acting separately. The principle of superposition is commonly used to evaluate well interference problems by summing the drawdown determined using the Theis equation for a homogeneous, isotropic, infinite extent aquifer. Image well theory is used to address hydraulic impacts of a bounded (non infinite extent) aquifer for either no flow or recharge boundaries (Domenico and Schwartz 1990). In the application of image well theory for a no flow barrier, an imaginary well is placed directly across the no flow boundary at an equal distance from the boundary as the pumping well. The image well is assigned a pumping rate equal to that of the real pumping well. Then the drawdown can be calculated at any point within the aquifer (on the side with the real well) by summing the impacts from both the real and image well, using a modification of the Theis equation:

$$s = -s_p + s_i = Q/(4\Pi T) \times [W(u)_p + W(u)_t]$$

where:

s is the observed drawdown at any point;
s_p - drawdown resulting from pumping the real well;
s_i - drawdown resulting from pumping the image well;
Q - the pumping rate;
T - aquifer transmissivity;
$W(u)_p$ - well function for the real well;
$W(u)_t$ - well function for the image well;

and:

$(u)_p - r_p^2 S/4Tt$
$(u)_t - r_t^2 S/4Tt$

where:

r_p is the distance from the pumping well to the observation point;
r_i is the distance from the image well to the observation point; and
S - aquifer storativity.

In the case of the Lost Creek Project, image well theory was applied using the drawdown resulting from the LC19M pump test. The pumping well LC19M is located 482 feet from

the fault, based on mapped data. An image well was assumed at a distance of 964 from the pumping well, on the other side of the fault. The drawdown at the end of the pump test at three wells were used to back calculate the transmissivity and storativity of the aquifer. The LC19M pump test was run for a period of 8,252 minutes at an average rate of 42.9 gpm. The wells and respective drawdown (at the end of the test) used to solve the Theis equation for transmissivity and drawdown were LC19M (93.32 ft), HJMP111 (35.56 ft) and HJMP104 (36.44 ft). The distance from LC19M to HJMP-111 is 473 ft and from LC19M to HJMP104 is 637 ft. The distances from the image well to HJMP-111 and HJMP-104 are 1,043 and 847 feet, respectively. A series of calculations were performed varying the transmissivity and storativity to find the best fit to the observed drawdown at the end of the test. Results of the effort indicate that a transmissivity of 144 ft2/d and a storativity of 7e-05 provide a very good fit to the data with residuals (difference between the observed and calculated drawdown) of 0.06 ft at LC19M, -1.04 ft at HJMP-111 and 1.00 ft at HJMP-104. Although this calculation does not account for the partial penetration effects of the pumping and observation wells or the minor leakage from overlying and underlying aquifers (as evidenced by the slight drawdown response in overlying and underlying observation wells during the test), it does provide a reasonable estimate of the aquifer properties within the vicinity of Mine Unit 1 (by removing the effects of the fault on the pump test results). Table OP-9 shows the best-fit drawdown calculations. Figure OP-10a shows the location of the wells used to calculate transmissivity with the image well method.

The transmissivity and storativity values 144 ft2/d and 7E-05, respectively were used to predict drawdown at distances of 2 and 5 miles from the centroid of production after 8 years of production and restoration activities, for two scenarios. One case assumes that the impacts of the Lost Creek Fault are negligible at distances of 2 miles or greater. This case is supported by data from site borings that indicate that the Lost Creek Fault appears to extend less than 1 mile on either side of the centroid. The other case assumes that the fault acts as a no flow boundary. The second case assumes that the fault is of infinite extent (which it is not) and all of the production will occur on the same side of the fault (which it will not because the projected mine units are on both sides of the fault). This case would provide a maximum drawdown estimate. For both cases the average pumping rate is assumed to be 89 gpm for the 8-year mine life.

The predicted drawdown at the end of production/restoration operations at an average pumping rate of 89 gpm for the first scenario (neglecting the impacts of the fault) will be 45 ft at 2 miles from the centroid of production and 28 ft at 5 miles. A projection of drawdown at the end of production and restoration under that scenario is shown in Figure OP-10b. Note that the drawdown is less at 2 miles and 5 miles from the Permit Boundary than from the centroid of production which is near the center of the Permit Area. For the scenario where the fault is assumed to be of infinite extent and acting as a no flow boundary, the aquifer is essentially reduced by half and the drawdown is doubled to 90 ft at 2 miles from the centroid of production and 56 ft at 5 miles. A projection of drawdown at the end of production and restoration under that scenario is shown in Figure OP-10c. Note that if the infinite acting fault scenario is utilized, the drawdown would only occur

on the side of the fault where pumping is occurring. While the fault will have substantial impacts on localized drawdown in the vicinity of the mine units, the effect at great distance will be noticeably reduced. Therefore, the calculated drawdown using the infinite extent fault should be considered as a worst case (maximum) value These two calculations provide a reasonable bounding limit to the drawdown that can be expected as a result of ISR activities at the projected rates. The drawdown at the 2 mile radius from the centroid of production should be between 45 and 90 ft, and the drawdown at the 5 mile radius should be between 28 and 56 ft.

The depth to water for the HJ Horizon in the vicinity of MU1 is generally 170 to 180 feet. The depth to the top of the HJ Horizon in the same area averages 360 feet. Based on these values, there is approximately 180 to 190 feet of hydraulic head above the top of the HJ Horizon at MU1. Assuming that 150 to 200 feet of head are present within 5 miles of the center of the projected mining, the estimated drawdown from production and restoration should not result in dewatering of the HJ Horizon within that same area. A projection of drawdown at the end of production and restoration is shown in Figure OP-10b.

A calculation of the time required for water levels to recover to pre-mining or near pre mining levels following completion of the ISR project was also performed.

The analysis of recovery is based on the principle of superposition which was described previously. For this case it is assumed that after the pump has been shut down (at the centroid of production), the well continues to be pumped at the same discharge as before and that an imaginary recharge equal to the discharge is injected into the well. The recharge and discharge thus cancel each other resulting in a well that is effectively no longer being pumped. The recovery of the well is measured as "residual" drawdown. Applying the Theis equation to this problem the residual drawdown is

$s' = (Q/4\pi T)\{W(u)-W(u')$
where
$u =(r^2S)/(4Tt)$ and $u' =(r^2S')/(4Tt')$
where
s' = residual drawdown in ft
r = distance from well to observation point in ft
T = transmissivity of the aquifer in ft2/d
S' = storativity of the aquifer during recovery, unitless
S = storativity of the aquifer during pumping, unitless
t = time in days since start of pumping in days
t' = time in days since the cessation of pumping in days
Q = rate of recharge = rate of discharge in ft^3/d
The calculated residual drawdown (in feet) using the equation above for various times at 2 miles and 5 miles from the centroid is shown in the table below.

Residual Drawdown After End of ISR Operations

Distance	Time Since End of Operations			
	1 yr	2 yr	4 yr	8 yr
2 miles	20.5 ft	15.1 ft	10.3 ft	6.5 ft
5 miles	18.9 ft	14.4 ft	10.0 ft	6.4 ft

Average pumping rate of 89 gpm (or 17,134 ft3/d).
Distance measured from centroid of production.

LQD (11/09) - Response partially acceptable. Impacts to the HJ aquifer have been projected to extend well beyond five miles from the permit area. Other aquifers that may be affected must also be addressed. Drawdown maps must be provided to show the extent of projected drawdown in each affected aquifer. All known water resources (wells, lakes, wetlands, springs, etc.) within the projected 5 foot drawdown area must be identified on the maps. Monitoring plans must be presented for monitoring of impacts to these water resources. Actions to be taken to mitigate the impacts must be described. (MM)

LC ISR, LLC (2/10) - Please see Response to Comment V5, RP#5.

LQD (3/10) - Response partially acceptable. A drawdown map is required to illustrate the extent of the five foot drawdown and all of the water resources within that area that may be affected. It is requested that this be a USGS topographic map on a scale of 1"=2,000'. Mitigation measures also need to be addressed. (MM)

LC ISR, LLC (6/10) - Please see Response to Comment RP#5. (See also Comment OP#114.)

LQD (7/10) – Response not acceptable. Comment stands as written. **(MM)**

LC ISR, LLC (9/10) – Please see response to Comment RP#5.

112) *LQD (1/10) - Section OP 5.2.1.3 Waste Petroleum Products and Chemicals. It is not clear from this section specifically where petroleum and chemical products, or hazardous and non-hazardous waste streams will be stored. Preferably these containers will be stored in-doors where they are not subjected to the elements and have adequate secondary containment. If they are to be stored outdoors, please indicate whether there will be roofing, locked fencing, and secondary containment.* ***(AB)***

LC ISR, LLC (10/09) - Storage of waste petroleum products is planned within the maintenance shop at the Lost Creek Facility. This shop will have a specific area adjacent to the maintenance area that will be bermed and adequately vented. The area will be indoors and will, therefore, be controlled and not subject to the elements.

Waste chemicals will typically be associated with the laboratory and its operations. All liquid wastes will be captured in the drains and/or sumps within the laboratory and will go straight to plant waste tanks for eventual deep well disposal.

LQD (11/09) - Response not acceptable. The text concerning the storage of waste petroleum products has not been revised as indicated in the response. Additionally, the Table OP-10 is in conflict with the text. Please make the appropriate revisions. (BRW for AB)

LC ISR, LLC (2/10) - Section OP 5.2.1.3 and Table OP-10 have been updated.

LQD (3/10) - Response not acceptable. The text in Section OP 5.2.1.3 is still in conflict with Table OP-10, for example the text states that LC will produce 40 to 80 gallons of waste petroleum products per year whereas the table indicates the volume will be produced on a monthly basis. Please revise to remove conflicts as previously requested. (BRW for AB)

LC ISR, LLC (6/10) - The text in the second paragraph of Section OP 5.2.1.3 has been changed to indicate that 40 to 80 gallons of waste petroleum products are expected to be generated each month, which agrees with Table OP-10.

LQD (7/10) – Item unresolved. The text in Section OP 5.2.1.3 was revised to state that 40-80 gallons per month of waste petroleum products are generated. Table OP-10 does not specify in footnotes 6 or 7 the ultimate disposal locations for the waste petroleum products or the hazardous material generated outside of the laboratory. Please revise these footnotes to designate their disposal options. **(AB)**

LC ISR, LLC (9/10) – Table OP-10 has been revised to describe the disposal locations of waste petroleum products. LC ISR, LLC does not anticipate generating non 11e(2) hazardous material outside the lab beyond conditionally exempt small quantities that can be disposed of or recycled as already described in the table in notes 1 and 2.

114) *LQD (1/09) - Section OP 5.2.1.4 Domestic Liquid Wastes. There is no previous discussion of a water supply well for potable water. Please provide a discussion within the permit of the proposed aquifer and location for the potable water supply.* ***(AB)***

LC ISR, LLC (10/09) - Please see Response to Comment V5, OP#74.

LQD (11/09) - Response not acceptable. Please see the response to Comment OP-74 and if Well LC229W is to be used as the potable water supply well furnish a copy of the UW-6 associated with this well. (BRW for AB)

LC ISR, LLC (2/10) - Please see the response to OP 74. It was LC ISR, LLC's original intent to use Well LC229W to supply potable water. However, LC229W is within ¼

mile of the anticipated aquifer exemption boundary, so a new well further to the north will need to be installed.

LQD (3/10) - This item is unresolved. Detailed information regarding the new potable water supply well, and the drawdown effects anticipated from its usage will need to be added to the permit document. (AB)

LC ISR, LLC (6/10) - Section OP 2.11.2.1 includes the list of water supply wells that LC ISR, LLC anticipates using, and Section OP 3.6.3.4 includes an assessment of the impacts of the drawdown from those wells. LC229W is one of those wells. However, in order to ensure the water supply well is beyond the ¼ mile buffer around the aquifer exemption, LC ISR, LLC plans on drilling a new water supply well a few hundred feet north of the Plant, rather than using LC229W. Because the list of water supply wells is not finalized (e.g., a new FG well is discussed in Section OP 2.11.2.1, but may not be necessary), LC ISR, LLC suggests the following permit condition in the interest of resolving this item for the purposes of the LQD application review:

> "The number, location, construction information, and usage of the water supply wells will be updated as part of the Annual Report. If the drawdown assessment from the water supply wells is anticipated to change substantially, the assessment will also be updated in the Annual Report."

A reassessment of the total consumption of potable water reveals that daily use will be approximately 188 gallons per day or 0.13 gpm. Potable water usage is predicted to be as follows:

Showers:	1/day x 10 minutes each x 2.5 gpm = 25 gallons/day
Handwashing:	Weekdays 3 washes/day x 5 days x 90 people x 1 gpm x 0.5 minutes = 675 gallons/week Weekends 3 washes/day x 2 days x 2 people x 2 shifts x 1 gpm x 0.5 minutes = 12 gallons/week 675 gallons/week + 12 gallons/week = 687 gallons/week = 98 gallons/day
Drinking:	Weekdays 90 people x 5 days x 0.3 gallons = 135 gallons/week Weekends 2 people x 2 shifts x 2 days x 0.3 gallons = 2.4 gallons/week Total of 137 gallons/week = 20 gallons/day
Dishes:	1 gpm x 30 minutes/day = 30 gallons/day
Janitorial:	1 gpm x 15 minutes/day = 15 gallons/day

Grand Total of 188 gallons/day (0.15 gallons per minute)

To reflect the revised calculation, the text in Section OP 2.11.2.1 under the bullet "Potable Water" has been revised to 200 gallons per day from 250 gallons per day. However, the drawdown assessment in Section 3.6.3.4 was left at the more conservative 250 gallons per day. (See also Comments OP #105 and RP #5).

LQD (7/10) – Item unresolved. At this point the Division is not prepared to drop comments for a permit condition. The recalculation of the water usage seems low. Shower usage assumes only one person per day is taking a shower. Also, there is no allocation of water for toilet usage or laboratory. Hydrologic Consequences to aquifers needs to be defined as part of the permit application. Please provide a reassessment of the water supply well usage, and predicted drawdown to the aquifer. **(AB)**

LC ISR, LLC (9/10) - The conservative estimate of seven showers per week is based on the experience from the Crow Butte ISR facility in Nebraska, where, on average, only five showers per week were taken. Typically, the only person to take a shower will be the employee performing yellowcake packaging operations.

Section OP 2.11.2.1 addresses the non-potable water that will be used for toilets and the Plant (which includes the laboratory). LC ISR, LLC continues to look for ways to minimize water consumption at the facility but believes the estimates presented are realistic.

118) *LQD (1/09) - The operations plan should include a section detailing procedures for exploration and delineation drilling, including: topsoil protection measures; drill hole abandonment procedures, including provision for backfilling to the surface with bentonite chips; and surface reclamation procedures.* ***(MM)***

LC ISR, LLC (10/09) - The following procedures are expected to be used during normal drilling operations:

Exploration Drilling: will typically occur prior to installation of fences or roads to an area. This type of drilling will occur at various depths and may or may not conform to a grid. Density of drilling is highly dependent upon the results of previous work. Drill locations should be modified, where possible, to reduce the need for drilling in major drainage ways and/or major modifications to terrain. If successful, exploration drilling will be followed by Delineation drilling at, typically, a higher density.

The steps in exploration drilling are normally as follows:

1. Surveying – initial target locations are surveyed in with stakes placed. For exploration drilling, very few locations are known initially.

2. Access Planning – the access routes for the initial holes are planned and the backhoe operator and drill contractor informed of the routes. If necessary, access may be delineated with markers or posts.
3. Drill Pits – will be installed by the backhoe operator.
   a. Install erosion protection as necessary;
   b. Excavate drill pit, segregating topsoil and subsoil;
   c. Clear/level drill pad as necessary.
4. Fence Drill Pit
5. Drill Exploration Hole
6. Geophysical Log
7. Abandonment – use drill rig or LCI equipment to plug the hole
   a. Initial – typically, grout or cement is pumped into the hole from the bottom up. Depending on hole conditions, bentonite chips may be used to assist in the plugging process. A temporary cover is placed over the hole after plugging is complete.
   b. Top-off – after the plugging material is allowed to settle, the hole will be revisited and the grout or cement will be topped off to approximately 17 feet below the ground surface. Approximately 10 feet of bentonite chips will be placed on top of the grout or cement column.
   c. Surface plug – A plug capable of supporting approximately 5 feet of cement or concrete will be placed on top of the plug. The remaining upper two feet of the hole will be backfilled with native soil.
8. Backfill Pit – the drill pit will be backfilled with subsoil so as not to allow the displacement of drilling fluid from the pit. The temporary fence will be permanently removed once the pit is backfilled. After the pit is backfilled and the fence removed, the topsoil will be evenly applied over the excavated area.
9. Seeding – surface preparation and reseeding will occur at the next available time period appropriate for planting.

Delineation Drilling: may occur prior to installation of fences or roads to an area or may occur in areas with significant infrastructure. This type of drilling will occur at various depths and may or may not conform to a grid. Density of drilling is reasonable dependent upon the results of previous work. Drill locations may be modified, where possible, to reduce the need for drilling in major drainage ways and/or major modifications to terrain. Once completed, delineation drilling will be followed by monitor well and production well installation.

The steps in delineation drilling are normally as follows:

1. Surveying – initial target locations are surveyed in with stakes placed. Drilling may be expanded depending on results.
2. Access Planning – the access routes for the holes are planned and the backhoe operator and drill contractor informed of the routes. If necessary, access may be delineated with markers or posts. Existing access routes will be used wherever possible.

3. Drill Pits – will be installed by the backhoe operator.
   a. Install erosion protection as necessary;
   b. Excavate drill pit, segregating topsoil and subsoil;
   c. Clear/level drill pad as necessary.
4. Fence Drill Pit as necessary. If drilling is within existing wellfield fencing, then temporary fencing will not be required.
5. Drill Delineation Hole
6. Geophysical Log
7. Abandonment – utilize drill rig or LCI equipment to plug the hole
   a. Initial – typically, grout or cement is pumped into the hole from the bottom up. Depending on hole conditions, bentonite chips may be used to assist in the plugging process. A temporary cover is placed over the hole after plugging is complete.
   b. Topoff – after the plugging material is allowed to settle, the hole will be revisited and the grout or cement will be topped off to approximately 17 feet below the ground surface. Approximately 10 feet of bentonite chips will be placed on top of the grout or cement column.
   c. Surface plug – A plug capable of supporting approximately 5 feet of cement or concrete will be placed on top of the plug. The remaining upper 2 feet of the hole will be backfilled with native soil.
8. Backfill Pit – the drill pit will be backfilled with subsoil so as not to allow the displacement of drilling fluid from the pit. The temporary fence will be permanently removed once the pit is backfilled. After the pit is backfilled and the fence removed, the topsoil will be evenly applied over the excavated area.
9. Seeding – surface preparation and reseeding will occur at the next available time period appropriate for planting.

LQD (11/09) - Response partially acceptable. The discussion provided in LC's comment response should be incorporated into Section OP 2.12 of the permit. (MM)

LC ISR, LLC (2/10) - The information has been incorporated into Section OP 2.12 as requested.

LQD (3/10) - Response partially acceptable. Please add a description of surface preparation and seeding. The broadcast seeding and hand-raking procedure currently in use on the site does not appear to be achieving reclamation success. Please include some sort of mechanical scarification or disking to level the sites and prepare a suitable seedbed. (MM)

LC ISR, LLC (6/10) - The basis for the reviewer's statement that "The broadcast seeding and hand-raking procedure currently in use on the site does not appear to be achieving reclamation success" is unclear. LC ISR, LLC had not been informed by LQD that the seeding methods used under the DN were not achieving reclamation success until receiving this round of comments. In fact, during the most recent field inspection

(February 24, 2010) the LQD Project Manager told the reviewer that re-vegetation at Lost Creek had been successful (paraphrased).

Experience has shown that the use of a seed drill in a small area can cause unwarranted damage to surrounding sage brush due to the turning radius of the equipment and the low clearance. Therefore, broadcast seeding and raking has become the method of choice when reclaiming small areas such as drill pits. Hand broadcasting and raking is more time intensive but has been shown to be successful.

Section OP 2.12 is not intended to discuss re-vegetation methods in detail since its focus is on drilling. However, RP 4.5 provides a detailed discussion on re-vegetation including contouring, top soil placement, scarification, and seeding methods. A cross-reference to that section has been added at the end of Sections OP 2.12.1 and OP 2.12.2.

LQD (7/10) – Response not acceptable. Revegetation on drill sites at the Lost Creek site has not been particularly successful to date. This appears to be due to inadequate topsoil salvage from the entire drill site and inadequate revegetation practices. Specific procedures need to be described in the permit to assure more successful reclamation of drill sites. LC's response references section RP 4.5 of the reclamation plan. This section of the reclamation plan does not specifically address drill sites. Please add further detail specific to drill sites, including plans for: 1.) topsoil salvage from all areas that will be substantially affected (by repeated traffic or by burial with overburden), 2.) disking or scarification to prepare a seedbed, and 3.) drill seeding, or if broadcast seeding is used, light harrowing to cover the seed. **(MM)**

LC ISR, LLC (9/10) – Pursuant to recent discussions and site visits with WDEQ-LQD staff, LC ISR, LLC has inserted language in Section OP 2.5.1 and added Figure OP-6c (Drill Pit Drawing).

119) *LQD (1/09) - The operations plan should include a section detailing procedures and a schedule for locating, investigating and properly abandoning all historical drill holes on the permit area.* ***(MM)***

LC ISR, LLC (10/09) - Please see Response to Comment V5, #84.

LQD (11/09) - Response not acceptable. The issue of how to address old abandoned drill holes is one that will obviously require continuing evaluation and discussion. Questions relating to who is responsible for the old holes are irrelevant at this point. We are not blaming LC for the existence or the condition of the holes. We would not be asking LC to plug the holes, except for the fact that LC is proposing an ISL operation on a site that resembles Swiss cheese. ISL operators are responsible for controlling their production fluids and for restoring the groundwater affected by their operations. We believe that the old improperly abandoned drill holes will seriously impair these efforts and thus affect LC's ability to conduct a successful operation. LQD cannot ignore this issue. We

acknowledge that locating old abandoned drill holes is problematic and that efforts involving extensive surface disturbance are not desirable. LQD will continue to evaluate information (e.g. pump tests) as it becomes available. It is hoped that we can jointly arrive at a reasonable approach to address the problem. (MM)

LC ISR, LLC (2/10) - Please see Response to Comment V5, #84.

LQD (3/10) - This remains an open item. (MM)

LC ISR, LLC (6/10) - Please see Response to Comment OP #84.

LQD (7/10) – This remains an open item. (MM)

LC ISR, LLC (9/10) - Please see the revised Response to Comment OP #84.

JULY 2010 - NEW LQD COMMENTS ON THE MAIN PERMIT DOCUMENT

The June 7, 2010 Inspection conducted at the 334DN site revealed three main areas of concern at the Lost Creek site; specifically, proper topsoil protection/handling at drill sites and high-traffic areas, proper and consistent well head protection and construction specifications, and standardized protocol for the removal, handling and disposal of petroleum contaminated soil (PCS).

In the aftermath of the June 7, 2010 Inspection, which resulted in the issuance of a Notice of Violation (NOV), Docket Number 4697-10, LQD staff have identified a need for the Lost Creek project to provide greater specificity regarding LC's approach to addressing the three aforementioned topics. The most logical vehicle for LC to provide the specificity needed is via the Main Permit Document. To that end, LQD has the following five new comments (NC 45 – NC 49) on the Operations Plan.

NC 46) *Section OP 3.3, "Well Completion", as well as Figures OP 8a, 8b, and 8c must include a discussion and depiction of standard specifications for the various types of well heads. The discussion/designs must include 1) minimum height of the well head above the ground surface, 2) a concrete apron on monitor wells, 3) secure covers to prevent the introduction of foreign materials into the wells, 4) locking caps. This last commitment is imperative for when the site is vacated and unsecured, as it was on several occasions during the 2010 sage grouse restriction time period (March 1 through July 15). An exception can be made that wells don't have to remain locked if they are within the immediate view of mine personnel and when those personnel are on site. An additional section must be added to Section OP 3.3 addressing the surface completion of wells in drainages. Two monitor ring wells (M-106 and M-111) are located in ephemeral drainages. These wells must be equipped with extra protection from flooding (in the event of a flash flood). An oversized surface casing such as a culvert can be installed around the well head for this type of protection. However, the wells must also be secured in/by a concrete apron.* ***(MLB, MM)***

LC ISR, LLC (9/10) - Per WDEQ-LQD Administrator D. McKenzie's letter dated July 28, 2010, "the five new review comments in the referenced LQD review, specifically NC46, NC47, NC48, NC49 and NC50, are not required to be addressed in this application."

NC 47) *Section OP 2.5.1, "Short term Topsoil Protection", and Section OP 2.12, "Exploration and Delineation Drilling" must include greater detail on topsoil salvage and handling procedures for drill sites to prevent covering native soils and vegetation with overburden. Currently, Section OP 2.5.1 addresses this topic but the bullet list is lacking a commitment to strip topsoil from the entire work area (that is, the 33' x 33'*

area) prior to drilling. The current commitment only mentions the stripping of topsoil from the mud pit's footprint. This practice has resulted in overburden from the mud pit being spread across the drill site atop native vegetation and soils, which is unacceptable. To remedy this problem, a commitment to strip topsoil from the footprint of the overburden pile as well as the area where overburden will be spread (which is routinely greater than the footprint of the mud pit) must be included.

Additionally, Section OP 2.12.1 should include a reference to the topsoil handling protocol outlined in Section OP 2.5.1. Currently the text in Section OP 2.12.1, in the second paragraph, it reads "While digging mud-pits, constructing drill pads, or any other excavation, topsoil will be preserved using the techniques described in the Permit to Mine Application." The words "Permit to Mine Application" must be changed to read "Section OP 2.5.1 of this Permit".

Lastly, the statement in Section OP 2.12.1 that reads "Significant disturbance will be limited to the digging of a mud pit for each drill hole" must be removed. Reality (June 7, 2010 Inspection Report) has shown that the significant disturbance associated with drilling extends far beyond the mud pit. ***(MLB, MM)***

LC ISR, LLC (9/10) - Please see Response to Comment NC-46.

NC 48) *In the interest of minimizing disturbances in drainages at the Lost Creek site, Sections OP 2.12.1, OP 2.5.1, and (perhaps) OP 3.3 should include a commitment to avoid the installation of wells in drainages.* ***(MLB)***

LC ISR, LLC (9/10) - Please see Response to Comment NC-46.

NC 49) *The handling and disposal of petroleum contaminated soils (PCS) must be addressed in Section OP 2.9, "Prevention and Remediation of Accidental Releases". If LC intends to dispose of PCS rather than treat it on site via a landfarm, this must be stated. Included in this discussion must be a commitment to provide documentation of PCS disposal to LQD via the Annual Report. For excavations, a section must be added to describe the sampling and success criteria (concentration that constitute "clean" soil) and a commitment to report that information to LQD in the Annual Report.* ***(MLB)***

LC ISR, LLC (9/10) - Please see Response to Comment NC-46.

NC 50) *In order to properly address the need to minimize travel corridors, text must be changed in Sections OP 2.12.1 and 2.12.2 to state that access routes will be delineated with markers or posts. Also, in Section OP 2.12.1 at the end of the third paragraph, the last sentence in that paragraph reads "These roads will be reclaimed using the methods described in the Permit to Mine Application...". The words "Permit to Mine Application" must be changed to reference the appropriate portion of the reclamation plan, likely Section RP 4.5.* ***(MLB, MM)***

LC ISR, LLC (9/10) - Please see Response to Comment NC-46.

FEBRUARY 2010 - LQD COMMENTS, ON THE MINE UNIT 1 APPLICATION, RELEVANT TO THE MAIN PERMIT DOCUMENT

MU1-4) *LQD (2/10) - The following comment was part of the permit application review, and the response from LC indicated that it would be addressed through the Mine Unit Package submittal. Figure OP-2a Site Layout: A much more detailed Mine Plan map will need to be included in the permit. It should indicate all roads, fencing, topsoil pile locations, stormwater diversion structures, chemical storage areas, lay down yards, easements, utilities, pipelines, monitor well locations, air and weather monitoring stations, etc. There should be one comprehensive map that indicates where any surface disturbance or feature is planned. (AB) Figure MU1 1-3 Surface Facilities provides details for the Mine Unit, but greater detail is required as listed below:*

A larger scale map (e.g. 1" = 100')
All pipelines, powerline, roads, fencelines, staging areas, culverts and topsoil stockpiles (some of these are already included)
The proposed layout of the wellfield production and monitoring wells (The Division is interested in how the proposed wellfield layout will address the fault zone)
The wellfield layout should indicate which sand (UHJ, MHJ, or LHJ) is being mined or monitored based on screened interval)
The temporary vs. long term disturbances associated with the wellfield should be distinguished (well pad, header houses, pipelines, utilities)
The primary, secondary, and 2-track roads should be mapped out. (The Division is interested in how the proposed layout will minimize surface disturbances and travel ways) ***(AB)***

LC ISR, LLC (3/10) - As outlined below, LC ISR, LLC believes that the information requested in this comment has been provided to WDEQ-LQD in: the main permit document; the original MU1 application; or the updates to MU1 per these responses. As outlined below, the rest of the information has been provided in as much detail as possible prior to installation of the production and injection wells. Therefore the requested map has not been included with this submittal.

Figure MU1 1-3 provided in the MU1 application shows the locations of the following items:

- The main wellfield trunkline (pipeline);
- Powerlines;
- The fence surrounding the wellfield;
- The main access road, roads located within the wellfield and existing two track roads inside the monitor well ring;
- Staging area;

- Culverts; and
- Topsoil stockpile locations.

There will not be a chemical storage area, weather station, or air monitoring station within MU1.

Figures MU1 5-1 through MU1 5-4, which replace Figures MU1 5-1 and MU1 5-2, provide additional information on the proposed layout of the pattern areas and monitor wells, along with information on which sands are being mined and how the perimeter monitor wells are screened to monitor the those sands. Additionally, a discussion of the proposed pattern layout, which addresses monitoring across the Lost Creek Fault through the use of overlying and underlying monitor wells, has been added to Section 5.2.1 of the MU1 Application.

The information that has not and cannot be provided prior to the actual installation of the production and injection wells is the layout of travel ways within the pattern areas. The travel ways used for the construction and operation of the mine unit will be developed in accordance with the guidance provided in Section OP 2.6 (Roads) of the main permit document. This type of detailed information has never been presented in a mine unit package, before the wells are installed, simply because it is not possible to determine this amount of detail until the work begins. At that time, the engineers and geologists, actually walk the pattern area and stake well locations based on the most up-to-date surface and subsurface information. Even as the wells are installed, the information obtained from the early wells may influence the locations of the later wells. For this reason, LC ISR, LLC presented a generic wellfield layout on Figure OP-6b of the main permit document.

A discussion of topsoil management, which includes long-term and short-term topsoil protection, is provided in Section OP 2.5 (Topsoil Management) of the main permit document. Also, a discussion of vegetation protection during wellfield construction is provided in Section OP 2.7 (Vegetation Protection and Weed Control) of the main permit document. The amount of topsoil disturbance for the facilities shown on Figure MU1 1-3 is provided in Table MU1 3-1 of the Mine Unit 1 Application and is allocated by short-term and long-term stockpiles. Also provided in Table MU1 3-2 of the Mine Unit 1 Application is the amount of vegetation disturbance for the facilities shown on Figure MU1 1-3.

LC ISR, LLC will not construct a sedimentation pond or other permanent structures as sediment control measures for MU1. LL ISR, LLC will use alternate sediment control measures in accordance with WDEQ-LQD Guideline #15. Since the area surrounding the mine site is relatively flat-lying, LC ISR, LLC will use sediment control features such as silt fences and hay bales appropriately placed for erosion control. The locations of these sediment control units will be determined during construction.

LQD (4/10) - Response not acceptable. Due to potential changes in the as-built lay out of the well field during construction, the operator is reluctant to provide the level of detail requested. Much of the layout indicating soil and vegetation disturbance is outlined in Figure OP -6b. This schematic does not provide a true picture of the disturbed area within a typical pattern area. Please revise the schematic to show the total disturbance associated with each drill site, not just the mud pit. In addition, the trench layout is shown as a line on the drawing yet the actual width of disturbance associated with a 3' wide trench is more likely 20' wide. (given a 3:1 angle of repose for the topsoil and subsoil piles, as opposed to vertical). The actual footprint of these disturbances should be indicated on a revised Figure OP-6b and the square footages and percentages of disturbance re-calculated.

The attached site map (enclosure) of Mine Unit One is representative of the disturbance prior to any header houses, roads or pipelines and is indicative of how significant the surface impacts will be. Although long and short term disturbances are broken out separately on Figure OP-6b, the reality is that even the short term disturbances will have long term impacts due to the time it takes to reach reclamation success.

The 1"=100' map indicating the proposed lay out of the well field and the disturbances associated within the wellfield is still requested. In addition to the proposed wellfield layout, the existing disturbances caused by the exploration holes will also need to be indicated on the map. This map will need to also include the fencing around the large staging area, and the 2-track around the monitor well ring. In addition, the current staging area on the eastern part of the mine unit already appears to have approximately an acre or more of disturbance, far greater an area than that depicted on Figure MU1 1-3. The justification for this was presented in the March 11, 2010 clarification of comment letter. The as-built version of this map will then need to be included in the Annual Report each year. (AB)

LC ISR, LLC (6/10) - The original intent of Figure OP-6b was to show how operations will be designed in a generic sense. In fact, the actual wellfield layout will not be as symmetrical as that shown in the figure. Given the size of the equipment used, current state of knowledge and the density of drilling, it is impossible to define at this point in time where all disturbance will be other than to say that disturbance from construction and operations will be limited generally to the pattern area and utility routes.

Pursuant to guidance provided by LQD during several meetings and correspondence, LC ISR, LLC commits to maintaining the level of total disturbance from construction and operations to less than 50% of the area within each respective mine unit monitor ring. For example, the area within the monitor ring boundary of Mine Unit 1 is 212.8 acres while the entire proposed pattern area, including isolated areas where no wells are planned, covers 45.6 acres. Therefore, if 100 percent of the proposed wellfield pattern area is disturbed (including isolated areas where no wells are planned), the disturbed area will only equate to 21% of the area within the monitor well ring. It is worth pointing out that if LC ISR, LLC applied conventional open pit mining techniques, the area of the

Mine Unit 1 pit would be on the order of 200 acres plus a few hundred acres of overburden piles and tailings. It is unclear why LQD continues to require such fine detail for this ISR permit to mine when LC ISR, LLC has already made significant commitments to minimize disturbance.

LC ISR, LLC recognizes there are two types of disturbance associated with mine unit construction and operation. Those disturbances that are transient (temporary, minor) in nature and those disturbances that are long-term and repetitive in nature. Examples of transient disturbance include: drill pits; pipe lines; two-track roads; off road vehicle traffic, power-line installation; and installation of fences, Examples of long-term disturbance include: primary and secondary roads; header houses; and lay-down areas. Any time excavation or long-term disturbances are planned, topsoil will be properly segregated and stored until reclamation (Sections OP 2.5 and RP 4.5). Interim vegetation will be established if native vegetation is damaged during construction or operational activities (Section OP 2.7). Regardless of the nature of the disturbance, transient or long-term, all disturbance will be reclaimed during decommissioning of the area.

LC ISR, LLC believes that the long-term removal of topsoil in areas with transient disturbance would create significant problems with interim stabilization of subsoil, which in turn would result in challenges with airborne particulate and sediment loading of drainages. LC ISR, LLC understands LQD's concern with topsoil compaction but the sandy nature of the topsoil at Lost Creek will minimize compaction. LC ISR, LLC believes the most protective method for soil management, related to transient disturbances, is to leave the topsoil and root systems in place. This is consistent with current practices at existing ISR facilities in Wyoming as well as direction from a previous WDEQ Director (Dennis Hemmer letter to PRI, September 14, 1998).

In light of the above discussion, as well as clarification letters from LQD, LC ISR, LLC does not propose to amend Figure MU1 1-3 at this time as originally requested in the February 2010 comments from LQD. The response to item 5 should also be reviewed in response to this item. LC ISR, LLC would like to hold additional conversations with LQD with regard to revising Figure OP-6b and inclusion of a 1"=100' map.

LQD (7/10) – This item is unresolved pending further discussion. (AB)

LC ISR, LLC (9/10) – A new figure (Figure OP-6c) has been added to provide a more detailed presentation of the topsoil disturbance within the wellfield. Figure OP-6b shows the installation of lateral pipelines with the aid of a backhoe; however, LC ISR, LLC reserves the right to use a trenching device to install lateral lines from the wellheads to the header house. The use of a trencher will result in significantly less disturbance than that shown in Figure OP-6b.

Table OP-2 and Plate OP-1 describe in great detail the location of topsoil and vegetation disturbance as required. It is not possible at this time to provide any more detail than that already provided.

The information requested regarding the location of exploration disturbance and the location of the Mine Unit 1 monitor well ring road are new information requests beyond the completeness period and therefore should be retracted to comply with Wyoming Statute 35-11-406(e). Portions of the disturbance did not exist at the time the application was reviewed and determined to be complete. The current level of exploration disturbance occurred under WDEQ-LQD approval and review of DN334. LC ISR, LLC commits to providing a revised site map with each annual report that shows all existing disturbance in great detail.

MU1-6) LQD (2/10) - *Neither the mine permit application nor this first mine unit package provide a thorough assessment of the projected impact of the operation on regional water resources or plans to mitigate such impacts. Please reference comment no. OP-105 from the 11/20/09 review (W.S. §35-11-428(a)(ii)(B) and W.S. §35-11-428(a)(iii)(E)). Additionally, WDEQ/LQD Non Coal R&R's Chapter 11 Sec 4(a)(x)(F) requires the following to be provided in the Mine Unit Package: Expected changes in pressure, native groundwater displacement, direction of movement of injection fluid and a drawdown projection, including a map, which describes the extent of groundwater drawdown in the ore zone aquifer for the life of the first wellfield, through restoration. And the MU 1 package must address the ROI in overlying and underlying aquifers. Several comments in this review have addressed portions of these requirements. However, LQD expects the entire suite of requirements in Chapter 11, Sec 4(a)(x)(F) and W.S. §35-11-428(a)(ii)(B) and W.S. §35-11-428(a)(iii)(E)to be addressed in the MU1 Package.18* ***(MM, BRW)***

LC ISR, LLC (3/10) - Per the discussion during the February 25, 2010 meeting between WDEQ-LQD and LC ISR, LLC, LC ISR, LLC believes the Response to Comment V5, RP#5 and the associated changes to Section OP 3.6.3.3, submitted in February 2010, address this comment as well. LQD will review that information in relation to this comment.

LQD (4/10) – *Response partially acceptable. The reviewers will await acceptable responses to Master Permit Comments OP-111 and RP-5. (BRW)*

LC ISR, LLC (6/10) – Please refer to Responses to Comments OP #111 and RP #5.

LQD (7/10) – Response not acceptable. Please see Comment RP-5. **(BRW)**

LC ISR, LLC (9/10) – Please see the response to Comment RP #5.

MU1-11) LQD (2/10) - *Section OP 3.2.2.2 in the main permit discusses the use of observation wells in situations where multiple ore horizons will be produced. No observation wells are described in this mine unit package, even though there are several locations where multiple ore horizons are being developed. Please address.* ***(MM)***

LC ISR, LLC (3/10) - LC ISR, LLC will incorporate existing wells HJMU-101 and HJMU-110 into the MU1 monitor well system as observation wells. These wells will be used as observation wells by taking water level measurements at a frequency as discussed in Attachment OP-8 of the main permit document. The data will be reported to the WDEQ-LQD. The locations of these wells are shown on Figure MU1 4-1, and initial water levels are shown on Table MU1 4-3. A discussion of the use of these wells has been included in Section 5.2.1 of the MU1 Application (see Response to Comment MU1 #23).

LQD (4/10) - Response not acceptable. Lost Creek makes brief reference to the use of observation wells and permanent piezometers in section 1.2.3 in Attachment OP-2, Summary of Engineering Controls. However, aside from the two pre-existing wells mentioned in the above response, there are no definite plans provided for any such wells to be installed in mine unit #1. LQD has repeatedly expressed concerns regarding issues of confinement and control of production fluids. It is incumbent on Lost Creek to demonstrate how engineering controls will be used to prevent the movement of production fluids into unauthorized zones. Specific commitments for the installation and use of observation wells and permanent piezometers would be helpful in this demonstration. This is particularly true in areas where there are stacked ore zones and the monitor well ring wells are not monitoring all of the appropriate zones. See comment no. 33 for further discussion. (MM)

LC ISR, LLC (6/10) - LC ISR, LLC is expanding the information in Attachment OP-2, including description of the technically justifiable method for when and where to use observation monitor wells when there is juxtaposition of the production zone and an overlying or underlying aquifer. The results of this effort were not finalized at the time this response was submitted but will be provided as soon as possible. (See also Comments MU1-20b and 20e, MU1-24, and MU1-33.)

LQD (7/10) – This remains an open item pending the submittal of revised Attachment OP-2. (MM)

LC ISR, LLC (9/10) – The updated Attachment OP-2 is included with this submittal. Please see Response to Comment OP-99 for a summary of the changes to the attachment.

MU1-20) *LQD (2/10) - Please describe how water level monitoring data will be collected and evaluated in the various operational situations. For example:*

b) *Section OP 3.6.3 in the main permit document states: "The water level changes, including both the drawdown and mounding from production and injection, respectively, will be evaluated to minimize interference among the mine units and to determine cumulative drawdown." How will the data be evaluated?* ***(MM, BRW)***

LC ISR, LLC (3/10) - Water level data will be evaluated using a "rose" diagram as discussed in Section 1.2.3 of Attachment OP-2 to evaluate interference among mine units.

LQD (4/10) - Response not acceptable – LC indicates that water level data will be evaluated using a Rose Diagram. However, the text provided does not give an indication as to the frequency at which the evaluation will be performed and what magnitude of change triggers a reassessment of and associated readjustment of injection and production rates. Please also see Comment #33. (BRW)

LC ISR, LLC (6/10) – Section OP 3.6.4.2 Excursion Detection states that:

"Excursion detection will consist of sampling the monitor wells at least twice per month, and no less than ten days apart, and analyzing the samples for the UCL parameters." and "Water levels will be measured at the same frequency as the monitor well sampling."

The frequency of evaluation will be consistent with the frequency of sampling and water level data collection. In other words, it will occur at least twice per month. The magnitude of change which will trigger an action is somewhat subjective. A change in water level will be relative to operational activities such as the start up or shut down of a header house or a pump test in an adjacent mine unit. Basic to the review is the baseline water level data and, more importantly, the trending of the water levels. Irrespective of operational activities, the reviewer will look for significant changes in water level (approximately 10 feet or more) that continue for more than one sampling cycle.

The "Rose Diagram" provides a quick, visual method to accentuate these changes over time and aids the reviewer in identifying anomalous regional trends. Changes will trigger a review of operational activities within the area of interest and a possible modification of operating flow rates and pattern balance.

LC ISR, LLC is expanding the information in Attachment OP-2, and the above description will be incorporated into the updated version. The results of this effort were not finalized at the time this response was submitted but will be provided as soon as possible. (See also Comments MU1-11, MU1-20e, MU1-24, and MU1-33).

LQD (7/10) – Response partially acceptable. The reviewer understands that monitoring wells will be sampled and water levels procured on a bi-weekly basis. However, the text does not indicate that an analysis (e.g., Rose Diagrams, etc.), beyond a single well evaluation of level and quality will occur. It is possible that full analysis of the results may be inferred from the text, but nothing more. The

reviewer awaits the submittal of a revised Attachment OP-2 before making a final determination. **(BRW)**

LC ISR, LLC (9/10) – The updated Attachment OP-2 is included with this submittal. Please see Response to Comment OP-99 for a summary of the changes to the attachment.

Chemical analysis for upper control limit (UCL) constituents (chloride, conductivity and total alkalinity) occurs in conjunction with water level measurement. As stated in Attachment OP-2, regulatory compliance occurs on the chemical constituent level. The water level data are an operational tool used to indicate pattern imbalance, fluid migration or mechanical integrity issues. Various analysis tools may be used to evaluate the water level data. These include single point data historical comparisons, rose diagrams, regional trending, etc. The most appropriate method(s) will be used in conjunction with the constituent analysis to minimize the chance of excursions and to maintain pattern balance.

e) *Section 5.1.3 (page MU1-25) states: "Sudden increase in water levels in overlying and underlying aquifers may be an indication of casing failure in a production, injection or monitor well." Are there other possible explanations, such as improperly plugged drill holes? Please describe the likely scenarios and how these will be addressed if increases in water levels are detected.*[5,13,21] ***(MM, BRW)***

LC ISR, LLC (3/10) - LC ISR, LLC does not believe that a sudden increase in water levels in overlying and underlying monitor wells would generally be caused by an improperly plugged drill hole. It is more likely that steady increases in water levels would occur due to an improperly plugged borehole. Therefore, LC ISR, LLC believes that the only credible scenario that would result in a sudden increase in water levels is a casing failure in a production, injection or monitor well. Increased water levels in overlying and underlying monitor wells, regardless of perceived cause or how suddenly it occurred, would result in an investigation to determine the cause. Please see Section 1.2.3 of Attachment OP-2 for a response to changes in water levels in overlying and underlying monitor wells.

LQD (4/10) - Response not acceptable – LC has provided several courses of action that maybe implemented to reverse water level changes that indicate that the potential for excursion exists. All of the procedures presented appear to be valid approaches to rectify the problem. The reviewers realize that there are a host of potential causes to water level rise and there is some "trial and error" associated with rectification, but it would seem that a more systematic approach to the solution would make the most sense. In other words, a particular condition is the most common cause of problems with water level rise, so this becomes the starting point for the effort. Please take the solutions presented in Section 1.2.3 of

Attachment OP-2 and develop a systematic approach for the remediation of changes in water levels. Please also see Comment #20b. (BRW, MM)

LC ISR, LLC (6/10) - The attached flowsheet details the typical process involved in evaluating water level changes in the monitor well ring. This will become part of Attachment OP-2 when it is resubmitted. (See also Comments MU1-11, MU1-20b, MU1-24, and MU1-33).

LQD (7/10) – Response partially acceptable. The reviewer awaits the submittal of a revised Attachment OP-2 before making a final determination. Please note, the reviewer has looked at the attached flow chart that is to be incorporated into the revised Attachment OP-2. As the reviewer believes was stated in meetings and other correspondence, the WDEQ/LQD has a problem with using the term "significant change". It is understood that there is variability in the wellfield and 0.75' feet of change in a given well may be substantial and require attention while 3.5' of change in another be attributed to background noise and not a major cause for concern. Thus, there is no enforceability with this terminology, which is not acceptable, and conversely it is understood that utilization of a single prescribed value, such as 4.0' feet is not realistic. Perhaps a better way to look at the subject is in terms of baseline water surface elevation because once baseline elevation is exceeded then there is the potential for production fluid to migrate. Please, consider the above in the rewrite of Attachment OP-2. **(BRW)**

LC ISR, LLC (9/10) – The updated Attachment OP-2 is included with this submittal. Please see Response to Comment OP-99 for a summary of the changes to the attachment.

The inspectable or enforceable components associated with monitor well sampling are not the water levels, but are the chemical constituents detailed in Section 5.1.3 of the MU1 Application.

As stated in Attachment OP-2, the water level data are a tool that may indicate pattern imbalance, fluid migration or mechanical integrity issues. Use of these data allows adjustments to operational activities and flow rates to reduce the possibility of an excursion.

MU1-22) *LQD (2/10) - Section 5.1.4: This section explains that the monitoring well ring distance was chosen to be 500' in the fall of 2008 because it was considered industry standard. Subsequent to the construction of the monitor well ring, the November and December 2008 pump tests were conducted. The results of the pump tests showed a minimum ROI after two days of pumping of approximately 2,600 feet (North Pump Test). The conclusion was essentially that any ROI greater than 500 feet would render the 500' monitor well ring viable. However, Guideline 4 asks that the location of the monitoring wells be based on gradient considerations, dispersivity of recovery fluids, the initial excursion recovery measures employed by the operator, the normal mining operational*

flare, and the recoverability with the allowable regulatory time frame. Monitor well locations should be based on a groundwater flow model or other technically justified methods. Please provide a scientific, site specific justification for the monitor well spacing. ***(MLB, AB)***

LC ISR, LLC (3/10) - As discussed in Response to Comment MU1 #9, installation of the monitor well ring, including well spacing, was discussed with LQD staff during a meeting on June 25, 2008. The approval to install the monitor wells was received and bond posted prior to installation (see Update 3 of DN334 which was approved on May 14, 2008 in a letter from Don McKenzie). Approval of the plan was included with the approval of the Revision to Update 4 for Drilling Notification No. 334DN which was received on October 23, 2008. Therefore, based on this approval, the perimeter monitor wells were installed. At that time, two regional pump tests had been conducted; therefore, information on aquifer characteristics and anticipated well responses was available.

The MU1 pump tests confirm that the well spacing is appropriate in that all of the wells responded to pumping, as discussed in Response to Comment MU1 #16. (In some cases, the response was greater than required for other ISR operations.) Based on the discussion in Section 5.1.4 of the Mine Unit 1 Application concerning the radius of influence and the lack of the influence on groundwater flow due to paleochannels within the HJ Horizon LC ISR, LLC believes that the spacing of the monitor wells is appropriate for MU1.

LQD (4/10) - Response not acceptable. The LQD refers LC personnel to LQD's clarification letter dated March 11, 2010 with regard to the pertinence and applicability of LQD's approval of revisions to DN 334 as a mechanism for approval of monitor well ring wells. LC is directed to the original question which, restated, is as follows: Please provide a scientific, site specific justification for the monitor well spacing. The justification should include Guideline 4, Section III C, 5(b), requirements listed above in the original comment. (AB and MLB)

LC ISR, LLC (6/10) – Pursuant to the results of the May 6, 2010 meeting with the LQD Lander Field Office, LC ISR, LLC is currently assembling a model to support the placement of the monitor wells. The results of the model were not finalized at the time this response was submitted but will be provided as soon as possible.

LQD (7/10) – Item unresolved. Rationale was presented to the LQD during a July 6, 2010 meeting in Lander. A series of Figures showing the location of the wells relative to each of the ore zones in the four sands within the HJ horizon. These figures explain the geometry of the well spacing and are still under review. Beyond this demonstration, there will need to be a presentation of the scientific basis for the 500 feet based on hydrologic conditions, and not just because it is the 'industry standard'. As stated in the original comment, "*the location of the monitoring wells must be based on gradient considerations, dispersivity of recovery fluids, the initial excursion recovery measures*

employed by the operator, the normal mining operational flare (the lateral and vertical extend of affected area under normal operating conditions), and the recoverability with the allowable regulatory time frame. Monitor well locations should be based on a groundwater flow model or other technically justified methods. Please provide a scientific, site specific justification for the monitor well spacing."

During a July 20th meeting between DEQ and EPA to discuss the approach for an aquifer exemption, the EPA continued to emphasize that there must be a scientific basis for the aquifer exemption boundary. It was conveyed that the monitor well ring location has a scientific basis, yet that information still needs to be presented for this application. Once presented those hydrologic parameters may then be utilized for establishing the aquifer exemption boundary.

Beyond the Monitoring Well Ring spacing of 490-500 feet, the LQD has ongoing concerns regarding the screened intervals of the wells. As conveyed during recent discussions, the LQD ideally would like each of the four sands monitored individually. This is based on the way the HJ horizon has been presented as having four discrete sand horizons, splitting rather than lumping the HJ aquifer. Screening across discrete multiple sands creates the potential for cross contamination; dilution of a plume limiting its detection; the inability to determine the source of the plume; and the misrepresentation of each horizon in the sample depending on the pump location down the well. The LQD and WQD are still discussing this issue internally. **(AB)**

LC ISR, LLC (9/10) – This response will be forthcoming in the Mine Unit 1 responses based on communications with WDEQ.

MU1-24) *LQD (2/10) - Section 5.3 The role of historic drill holes needs to be addressed in far greater detail than is currently provided. The late 2008 pump test results show that the upper KM (UKM) and the lower FG (LFG) sands are hydraulically connected to the HJ horizon. The drawdown observed in the UKM and LFG monitoring wells during the north and south pump tests was noted in Attachment MU1 2-1 as being an order of magnitude less than what was observed in the observation wells completed in the HJ horizon (ore zone) monitoring wells. The implication was that an order of magnitude less (in the vertical versus the horizontal) is somehow not a concern. It would seem that, during a pump test, one should expect the drawdown observed in an overlying or underlying unit to be substantially lower than the drawdown observed within the formation being pumped. Therefore, simply dismissing the significance of the observed drawdown as an "order of magnitude" less is not acceptable.*

The reality at the LC site is that the overlying and underlying aquifers are in communication with the HJ. This is a considerable concern because it implies that protection of the overlying and underlying aquifers is untenable. It is unclear to this reviewer whether the cause of communication between the HJ and its overlying and underlying aquifers is due to:

1) cross fault communication,
2) void space in historic drill holes functioning as vertical conduits,
3) gaps in the Sagebrush or Lost Creek Shales, or
4) a combination of all three above factors.

Given the above doubts about the possibility of protecting the overlying and underlying aquifers during the proposed solution mining at the LC project, LC must take greater steps to address the above listed three concerns in the Mine Unit Package. The most glaring concern (of the three listed above) is the role of historic drill holes functioning as vertical conduits.

The attached table (Table 1) provides a comparison of overlying and underlying wells (that had one foot or greater drawdown during the pump tests) with their proximity to 1) the fault and 2) historic drill holes. Table 1 indicates that there are at least 30 instances in which historic drill holes have the potential to be affecting the drawdown observed (I.e. where the historic drill hole may be functioning as a conduit for vertical communication between the HJ horizon and the LFG and UKM horizons).

Moreover, Table 1 indicates two instances, involving monitoring well MO-106, where 1 foot of drawdown was observed but the fault is a significant distance away (480') from the well. There are two historic drill holes that are 50 feet (TG8-18) and 160 feet (TG15-18) from the MO-106. Both historic drill holes (TG8-18 and TG15-18) are open holes in the same depth where MO-106 is screened. No discussion of the potential for TG8-18 and TG15-18 functioning as conduits for vertical communication was provided in Attachment MU1 2-1. It is expected that the role of historic drill holes be more thoroughly addressed in the context of the drawdown observed during the late 2008 pump tests.[11] ***(MLB, BRW)***

LC ISR, LLC (3/10) - There are select locations where responses greater than one foot of drawdown have been observed at overlying or underlying monitor wells during the north and south hydrologic tests. LC ISR, LLC is continuing to investigate each of those locations to determine if the cause of hydraulic communication is likely to be a historic borehole or local thinning of a confining unit. To date, there is no direct evidence that an abandoned borehole has created an artificial pathway at the Lost Creek site. Two wells installed by LC ISR, LLC that were determined to have been damaged may have resulted in temporarily establishing hydraulic communication between the Production Zone and overlying or underlying units (e.g. Well MU-108). Those wells have been abandoned. LC ISR, LLC has also committed to attempt to locate and abandon all historic boreholes within MU1 (as well as the entire Permit Area). Many historic boreholes have already been abandoned.

Regardless of the cause of the hydraulic communication, LC ISR, LLC will conduct adequate monitoring during ISR operations to ensure that a vertical excursion into the overlying or underlying aquifers is promptly detected and that appropriate corrective

actions are applied to prevent loss of fluids and impacts to overlying and underlying aquifers. Should an excursion be detected, LC ISR, LLC will engage in recovery and restoration operations, as required to return water quality in the affected aquifer to pre-mining conditions.

The 6th bullet under the Executive Summary of Attachment MU1 2-1 was revised to read:

"Responses in the overlying and underlying aquifers were minor and an order of magnitude lower than responses observed in the HJ Horizon. Additional evaluation as to the cause of the responses is being conducted. LC ISR is pursuing the proper plugging and abandonment of historic wells to mitigate the potential for communication through improperly abandoned wells."

The following statement was also added as the 4th bullet in Section 8.0 of Attachment MU1 2-1:

"LC ISR is conducting a program of locating, plugging and abandonment of historic wells within MU1 to mitigate the potential for hydraulic communication through improperly abandoned wells."

LQD (4/10) – Response not acceptable - In the near future, if not already done, LC will be submitting an application for an aquifer exemption for the proposed production zone, the HJ horizon, within the permit area boundary. The exemption would allow for the temporary degradation of water quality within the production zone. Aquifers outside the exemption boundaries must be protected from diminution of water quality; more succinctly the measures LC will employ to prevent excursions from occurring in fulfillment of the requirements described in the LQD NonCoal R&R's, Chapter 11, Section 4 (a)(xx) must be described.

As expressed during meetings and through comments, containment can be achieved geologically and/or operationally. The intent of this comment was to clarify that complete geological containment does not appear possible, based upon the geological and hydrogeological investigations performed to date. At the time of the initial review, specific to achieving operational containment, the only information/statements provided by LC were (paraphrased) "through the use of engineering controls similar to those that have been used successfully by other ISR operations." In the reviewers' minds, this statement does not fulfill the requirements of the above cited regulation, which brings us to the present.

Thank you for providing a commitment to perform an additional evaluation of the potential causes for communication between the production and the over and under lying aquifers and initiating a program to locate and properly/completely abandon historic drill holes. As discussed in the reviewer's response to Comment #32, this effort to locate

and properly/completely abandon historic drill holes should assist in reducing the degree of communication between the production and over and under lying aquifers.

Below are the 3 outstanding issues (labeled a – c) pertaining to this comment and comment #32 which has been combined with this comment. The bold faced print is the action/response expected for each issue (a – c).

a) Please refer to Mine Unit One Comments at the end of this response document.

b) Please refer to Mine Unit One Comments at the end of this response document.

c) There are still concerns with the role of the fault as well as potential thinning of the shale layer that acts as an aquitard; I.e. geologic conditions that cannot be mitigated must be dealt with from an operational standpoint. The engineering controls discussion in Attachment OP-2 does not provide the needed level of technical confidence that production fluids will be controlled, given the fault, questionable confining layers, and presence of historic drill holes (ones that are not located during LC's field inventory and abandonment effort).

The use of groundwater monitoring to detect and react to an excursion is not considered an engineering control to prevent an excursion. Rather the idea is to utilize the instantaneous flow and pressure data being collected and sent to a central control room to establish and maintain a balanced well field in real time. In addition, the water level data collected from interior monitoring and monitor ring wells must be used to make adjustments to production and injection flow rates as changes in water level should be detected in advance of changes in quality. Attachment OP-2 will need to provide a more in depth discussion regarding the control of fluids within the production zone. Please also see Comment #33. (BRW and MLB)

LC ISR, LLC (6/10) – LC ISR, LLC is expanding the information in Attachment OP-2. The results of this effort were not finalized at the time this response was submitted but will be provided as soon as possible. (See also Comments MU1-11, MU1-20b and 20e, and MU1-33.)

LQD (7/10) – Response partially acceptable. The reviewers await the submittal of a revised Attachment OP-2 before making a final determination. Please also see the response to Mine Unit 1 - Comment # 20e. **(BRW, MLB)**

LC ISR, LLC (9/10) – Attachment OP-2 has been revised. Please see Response to Comment OP-99 for a summary of the changes to the attachment.

MU1-27) *LQD (2/10) - Figure MU1 1-2 Location of MU1 within Permit Areas. The footprint of Mine Unit 1 does not coincide with the footprint of Mine Unit 1 in the Operations Plan (Figure OP-2a) or Plate OP-1 Site Layout. It appears to now be part of*

what was originally described as Mine Units 1, 2, and 4. Figure OP-2a and Plate OP-1 (and any other effected Figure) will need to be updated accordingly. ***(MM)***

LC ISR, LLC (3/10) - Pursuant to the discussions held during the February 25, 2010 meeting, a summary of the Project Development has been provided in the Adjudication volume. This summary explains how the project has evolved from discovery through permitting and how knowledge has changed through that process. The summary also describes how the areal extent of MU1 has moved from conceptual in the original Permit Application to a refined area in the MU1 Data Package. Both Plate OP-1 and Figure OP-2a have been revised to show how the refined MU1 area overlays the conceptual mine unit area.

LQD (4/10) – Response partially acceptable. The project overview explains the evolution of the project and the reasons why the mine unit boundaries have changed. As agreed in the 2/25/10 meeting, LQD will not require that all maps in the permit be updated to reflect the revised mine unit boundary, however Chapter 11, section 4.(a)(ii) and section 5.(a)(i) clearly require mining and reclamation schedules, including maps that show the mining and reclamation sequence for the proposed wellfields. Accordingly, Plates OP-1 and Figs. OP-2a and RP-2 will all need to be revised to show the future mine units and their mining and reclamation sequence. (MM)

LC ISR, LLC (6/10) - LC ISR, LLC provided the information necessary to comply with the LQD NonCoal Rules in Chapter 11 Section 5(a)(i) in the original permit application. However, over the 2½ year review period subsequent to the original submission of the Permit to Mine Application, LC ISR, LLC has completed additional drilling and refined the conceptual boundary of the first mine unit. The revised boundary of the first mine unit has been included on Figure OP-2a and on Plate OP-1 per the request of LQD during the February 26, 2010 meeting.

In order to be consistent with past practice and to enable the permitting process to move forward, LC ISR, LLC proposes that future revisions to the mine unit boundaries be updated each year as part of the Annual Report. LC ISR, LLC does not wish its current and relevant application document to become mired in a protracted process of ongoing updates with newly acquired data. The well documented LQD requests for data obtained post-submittal have led to lengthy and unwarranted delays in this permitting process. (See also Comments D5 #13 and OP #11.)

LQD (7/10) – Item is unresolved. Comment stands as written. Chapter 11 Sections 4(a)(ii) and 5(a)(i) clearly require maps showing the proposed mine units and the sequence of mining and restoration. **(MM)**

LC ISR, LLC (9/10) – Pursuant to a conversation with WDEQ-LQD staff on August 25, 2010, the number of mine units has been reduced from six to three. The area planned for mineral recovery, however, has not changed. Changing the number of mine units has in turn required revisions to Plate OP-1, Figure OP-2a, Figure OP-4a, Figure RP-1, Figure

RP-2 and numerous portions of text. A discussion of the reasoning behind this change has also been added to the adjudication file under the Permit Development tab. LC ISR, LLC is also including with this submittal numerous stickers for other plates and figures that direct the reader to Plate OP-1 to see the most up-to-date mine unit plan. This will allow changes to be made to the mine unit area in the future without having to revise every plate and figure in the document.

MU1-33) *LQD (2/10) - Attachment MU1 2-1, Section 8.0, Summary and Conclusions, Bullet 3: In the third bullet in the list in this section, it is concluded that despite the hydraulic connectivity revealed during the North and South Pump tests conducted in late 2008, that engineering practices have been used at other ISR operations with similar subsurface conditions to prevent lixiviant from entering overlying and underlying aquifers.*

Merely stating that "engineering practices" will be employed to protect the overlying and underlying aquifer from lixiviant is not sufficient to demonstrate that the overlying and underlying zones will be protected. W.S. §35-11-406(m)(v) states that a permit shall not be denied except for...(one or more of)...the following reason(s):

If the proposed mining operation will cause pollution of any waters in violation of the laws of this state or of the federal government;

To achieve the end of demonstrating that the overlying and underlying aquifers at the Lost Creek project will be protected from pollution in the form of lixiviant during ISR mining operations, LC ISR must provide a detailed groundwater model showing exactly how lixiviant will be controlled by engineering practices. This discussion must be very specific and should include volumes anticipated to be lost to the upper and lower aquifers (based on the pump tests) and pumping rate calculations projected through the life of the operation including unexpected down time from pumping. That is, this discussion must include more than merely a commitment to maintain a "bleed" on the operation. ***(MLB)***

LC ISR, LLC (3/10) - Per the discussion during the February 25, 2010 meeting between WDEQ-LQD and LC ISR, LLC, Attachment OP-2 (Summary of Engineering Controls) has been added to the main permit document. The focus is to identify: the specific practices (e.g., water level measurements); the operational limits (e.g., whether the rate of change in a parameter is of concern or an upper or lower limit); and the responses.

LQD (4/10) - Response not acceptable. The addition of Attachment OP-2 (Summary of Engineering Controls) does not adequately addresses concerns regarding control of production fluids. Chapter 11, section 10(a)(iii) and 11(d) require that the applicant demonstrate that mining fluids can be controlled and that movement into unauthorized zones (excursions) will be prevented. Simply monitoring to detect excursions is not adequate to control or prevent the movement of fluids out of the ore zone. Lost Creek has the burden of showing how the operation will be conducted to prevent excursions. It appears that Lost Creek is relying on the monitoring wells outside of the production zone

as their primary source of operational data for managing the wellfield. Chapter 11 section 14.(a)(iii)(A) requires semi-monthly monitoring of the fluid levels in the production zone, yet there is no discussion of this in Attachment OP-2. Given the marginal ore zone confinement at this site, it is appropriate for LC to directly monitor the water levels in the production zone. There are 13 existing MP wells in the production zone that would serve this purpose. It is requested that these wells be included in the monitoring program.

Attachment OP-2, Summary of Engineering Controls, does not provide sufficient detail as to how the wellfield operations will be managed to prevent excursions. Figures OP-A2-1 and OP-A2-2 show examples of "mounding" conditions in a monitor ring well. An approximate 6 foot rise in water levels is shown in a time plot chart and in a monitor ring "rose" chart. Such examples are helpful but much more discussion is needed. There is no discussion of how and when such charts would be prepared and evaluated. The monitor wells are only sampled on a twice-monthly basis. There is no discussion of what would be considered significant water level changes (hopefully something less than 6 feet) that would trigger operational adjustments. There is no discussion of what operational measures would be taken as a result of these examples.

The "rose" charts would be more useful if the charts were presented on a somewhat larger scaled map of the wellfield rather than a circle as shown on Fig. OP-A2-2. This would also allow for data for the interior wells to be plotted, giving a more complete picture of the water level status in and around the wellfield.

The use of observation wells and permanent piezometers has been mentioned but no specific plans are provided for their use in mine unit #1. Much more specificity is required to demonstrate how Lost Creek will control their wellfields, aside from maintaining a bleed. (MM, MLB)

LC ISR, LLC (6/10) - LC ISR, LLC is expanding the information in Attachment OP-2. The results of this effort were not finalized at the time this response was submitted but will be provided as soon as possible. (See also Comments MU1-11, MU1-20b and 20e, and MU1-24).

LQD (7/10) – This item is unresolved. LQD awaits the submittal of the revised Attachment OP-2 in order to adequately review LC's response to this comment. **(MLB, MM)**

LC ISR, LLC (9/10) – The updated Attachment OP-2 is included in this submittal. Please see Response to Comment OP-99 for a summary of the changes to the attachment.

APRIL 2010 - NEW LQD COMMENT, ON THE MINE UNIT 1 APPLICATION, RELEVANT TO THE MAIN PERMIT DOCUMENT

MU1-NC-1) *LQD (4/10) - Figure OP-A2-3, Schematic of Header House Instrumentation, does not show any control valves on any of the individual wells. The only control valve that is shown is on the injection header. Is this correct? Section OP 3.6.1 in the main permit says that individual well flows will be monitored and adjusted. Please clarify the schematic.* ***(MM)***

LC ISR, LLC (6/10) - The purpose of Figure OP-A2-3 is to detail the instrumentation only. It does not detail or show the other manual control systems within the header houses and pattern areas. In addition to the instrumentation provided in Figure OP-A2-3, the following manual equipment is planned:

Production Meter Run Equipment:
- Check valve
- Block valve
- Control valve
- Pressure Gauge
- Sample Port

Injection Meter Run Equipment:
- Block valve
- Control valve
- Pressure Gauge

Section OP 3.6.1 states that:
"The production and injection wells within each header house will be monitored individually or by production or injection headers, which are groups of production or injection wells piped together, depending on the monitoring parameter. The instrumentation will allow: monitoring of the header house solution balance; monitoring manifold pressures; and shutdown of flows in the event of a piping failure. Other instrumentation in the header house will include automatic oxygen shut-off and leak detection."
"All production and injection headers will have pressure gauges; and the pressures will be recorded daily."

In addition, 3.6.1.1 provides the following:
3) Control and Shutdown
b) Production Systems: The main valve will be capable of being shut based on operating conditions, i.e. sump overflow, ruptured flowline, etc. Simple systems included in the

piping include check valves to insure· that pipeline production fluid cannot enter shutdown sections of pipe.
c) Injection Systems: Control of this system begins with the control valve where the injection fluid enters the header house. This valve will maintain the appropriate pressure and now for the local operating conditions as well as allow for complete shutdown of injection. Data from the main flow line and the individual injection wells will be transmitted to the Plant for review.

The header houses are designed to provide continuous flow data with remote shut down of production pumps and of the injection header through the main injection controlled valve.

LQD (7/10) – Item unresolved. Attachment OP-2 is entitled: "Summary of Engineering Controls". The intent of this section of the permit is to clearly describe how Lost Creek will control their fluids. It would be helpful if Figure OP-A2-3 could be revised to show all of the various control systems, including manual controls. This figure is an important part of the overall picture of engineering controls. It really would behoove Lost Creek to enhance this figure to help in this demonstration. If Lost Creek is worried about being held to specific details, then perhaps a note could be added to the figure stating that minor changes may be made during installation. **(MM)**

LC ISR, LLC (9/10) – Figure OP-A2-3 has been enhanced to show all the header house system, and the figure will be incorporated into Attachment OP-2 (Please see Response to Comment OP-99 for a summary of the changes to the attachment.). **NOTE THAT FIGURE OP-A2-3 IS CONFIDENTIAL AND, THEREFORE, SUBMITTED SEPARATELY.**

RECLAMATION PLAN

JANUARY 2009 - LQD COMMENTS ON THE MAIN PERMIT DOCUMENT

5) *LQD (1/09) - Please provide a hydrologic impact assessment (surface and ground water) of the final anticipated conditions. This should include recovery times ground water, potential changes in water chemistry, etc.* ***(BRW)***

LC ISR, LLC (10/09) -

Surface Water

As discussed in Appendix D6, Section D6.1.1, all of the surface water features at the site are ephemeral and relatively small. The only anticipated temporary impacts to the surface water system during operations may occur along roads, where it may be necessary to route drainages through culverts under the roads (Section OP 2.6) or route runoff around facilities (Operations Plan Attachment OP-4). These features should not affect flow rates or water quality because: of the low relief across the site and the limited surface water flows; only the drainage pattern in the immediate vicinity of the roads and structures may need to be altered (if at all); the culverts will be appropriately sized; and any disturbances associated with installation of the structures will be reclaimed immediately after installation (Section OP 2.7). The Stormwater Pollution Prevention Plan also has provisions for evaluating construction impacts and unanticipated impacts such as spills. Provisions for spill detection and response are also addressed in Section OP 2.9.

Once reclamation of the site is completed, no permanent impacts to the surface water system are anticipated. As discussed in Sections RP 3.0 and 4.0 of the Reclamation Plan, all of the surface facilities are scheduled for removal and reclamation. The landowner (BLM) could request that a road (and associated culverts) be left in place, which may mean a permanent change to the drainage pattern. However, by that time, any potential problems with the function of the culvert(s) should have been detected and repaired. As noted above, any spill-related impacts will be addressed at the time of the spill.

Groundwater

Please see OP 3.1 and Response to Comment V5, OP#105.

LQD (11/09) - Response not acceptable. While the reviewer admits there will generally be no measureable impacts to the surface water drainage system as described in the text above. However, the reviewer could not find the summary discussion provided as a response within the application text. The permanent postmine impoundment at the

Sweetwater Mill, whose source of supply is the Battle Springs aquifer, is not that far away from the proposed operation. There is no mention as to what impacts, if any, the project drawdown may have on this facility.

Regarding ground water, LC has provided some information in response to Comment OP #105. The majority of the response provided information could not be found in the application text. As requested, please provide maps that illustrate projected areal extent of five or more feet of drawdown. Please provide an estimated recovery time and include the methodology used to make the calculation. While the reviewer understands that wells within one-half mile of the projected disturbance will be plugged and abandoned, there are several wells, some of which are assumed to serve as stock water supply, that are outside one-half mile radius, but easily within two miles of the permit area boundary. No assessment has been provided regarding the potential impacts to these wells, nor a commitment to replace if the well is impacted. Please make the appropriate revisions to the application text and also see the response to Comment OP #105. (BRW)

LC ISR, LLC (2/10) -

Surface Water -
Section OP 2.11 was renamed and the discussion from the above response on the limited operational impacts to surface water has been incorporated into Section OP 2.11.1. The discussion from the above response on the limited reclamation impacts to surface water was incorporated into Section RP 4.5.2.

Ground Water
The discussion in Section OP 3.6.3.3 was updated in response to the above comment.

Ground water recovery rates are discussed in a new Section RP 4.6.

With respect to the BLM wells, please see Comment V2, D6#30, which was resolved as of December 2009 (letter of December 21, 2009 from A. Boyle (WDEQ-LQD) to J. Cash (LC ISR, LLC). As part of that resolution, monitoring of the wells was added to Attachment OP-8 and a replacement commitment was added to the last paragraph of Section D6.3. A cross-reference to that commitment has been added in Section 2.11.2.2.

LQD (3/10) – *Response not acceptable. Thank you for adding a section to address Cumulative Hydrologic Impacts to mining. There are some incorrect references on page OP-57; the references should be Section D6.3 and Plate D6-6A rather than Section OP 6.3 and Plate OP-6A. Two approaches are presented for analyzing drawdown within the production zone (HJ Snad): (1) Darcy Strip, and (2) Theis Analysis and both approaches have their limitations. The reviewer performed independent calculations using the Theis approach and produced estimates similar to those presented in the text.*

The reviewer understands that the aquifer should be dewatered by the proposed operation, rather that there should only be a decline in head. Therefore, in theory, no impact should occur to surrounding wells. Because the formation in which the wells in the surrounding area is unknown, not to mention pump elevation and capability, there could be an impact to well production. Figure OP-10B is not adequate to represent areal extent of potential impacts as the location of the surrounding water resources is not illustrated. Please provide a map similar to Plate D6-1B that illustrates areal extent of drawdown as it relates to adjacent water resources.

The reviewer admits the areal extent of the estimated / measured five-foot drawdown associated with mining activity will be limited. A much greater impact will be associated with the water supply needs for various operations at the mine. The predictions provided use the estimated transmissivity and storativity values for HJ sand as a means of predicting impact. The reviewer questions why this was done when transmissivity estimates for the FG sand (e.g., approximately 300 gpd/ft) and KM sand (e.g., approximately 550 gpd/ft) are available. Based on actual data, the estimates for areal extent of drawdown are less than predicted. Please revise the text and estimates in Section 3.6.3.4 to reflect, to the degree possible, the available aquifer test analysis results. (BRW)

LC ISR, LLC (6/10) - The response has been broken down into its major components, (numbered (a), (b), and (c)) to allow for more concise answers. (See also Comments OP#105 and OP #114.).

b. LQD (3/10) - 2nd paragraph - As discussed in Section D6.3 (Groundwater Use), the majority of the wells within three miles of the Lost Creek Permit Area are associated with the Kennecott Sweetwater Mine. The four supply wells of concern with respect to potential impacts are the 'BLM wells', but two of these wells are shallower than the HJ Horizon and were not in working order when last checked. Another BLM well, that was recently repaired, was converted from a very deep drill hole, and the fourth well is completed just above the HJ Horizon. With respect to mitigation measures, as discussed in Section OP 2.11.2.2, LC ISR, LLC has committed to sampling of these wells and has committed to water level measurements, if the wellhead design allows access. In addition, LC ISR, LLC has committed to working with BLM to ensure these water supplies are not interrupted due to the Lost Creek Project Activities. Therefore, it is not clear what benefit would be gained from a different map.

LQD (7/10) – Response is combined with the response to item c below.

c. LQD (3/10) - 3rd paragraph - The transmissivity used for the drawdown assessment for the water supply wells was the most conservative of the available values, and it was easier to run all the calculations with the same number. As noted in the above response, LC ISR, LLC has committed to sampling the water supply wells of concern outside the permit boundary and working with BLM to

ensure the water supplies from those wells are not interrupted. Therefore, it is not clear what benefit would be gained from running the calculations with less conservative numbers.

LQD (7/10) – Response not acceptable. A telephone conversation was held (between LQD and Petrotek personnel) regarding this comment. LC's response to this comment is contrary to what transpired during that telephone conversation. Some time ago the reviewer agreed not to require LC to go through an extended modeling exercise using a two-dimensional ground water model such as Visual Modflow. Rather, LC could take a much simpler approach to prediction of ground water impacts using Big-Well Theory (Theis analysis). The reviewer recognized and conceded that predictions would be conservative because there is no accounting for recharge.

The map provided, Figure OP-10b, is not acceptable as it represents nothing more than a plane floating in space. In other words, there is no attachment to the Public Land Survey System or if the grid provided actually represents a known and accepted coordinate system. There is no identification of other water resources in the area that maybe potentially impacted.

Specific to comments made regarding sands other than production zone and the potential impacts of the water supply wells; again the response is not acceptable. Sometime ago, the reviewer agreed not to push for performing multi-well test on those aquifers above and below the production horizon, the purpose of which was to completely characterize each of these aquifers. Estimates of transmissivity values for both the FG and KM horizons are available from earlier single well pump tests completed by Hydro Engineering, yet were not even mentioned in the text. LC's response was "it was easier to run all the calculations with the same number". This is an unconvincing line of reasoning for not performing a relatively simple calculation. While the reviewer acknowledges that the results produced by the generic calculations are more conservative, some mention should be made concerning actual data. Please see the original comment (LQD 3/10) and make the appropriate revisions/updates to the text and mapping. **(BRW, MLB)**

LC ISR, LLC (9/10) – Figure OP-10b has now become Plate OP-4 and has been revised to include surface topography, surface water features and identification of water wells within the area of interest. The Sweetwater Pit is also indicated on the plate. Wells are identified by numbers that are cross referenced to Table D6-12b.

The estimates of drawdown from pumping of water supply wells during ISR operations at the Permit Area have been recalculated using transmissivity estimates provided in the Permit Application for the FG and KM Horizons. In addition, Section OP 3.6.3.4 has been revised.

25) *LQD (1/09) - Section RP 5.0 Financial Assurance. Paragraph one. Please add the cost of groundwater monitoring and analysis to the list of costs.* ***(AB)***

LC ISR, LLC (10/09) - The costs associated with groundwater monitoring and analysis are dispersed within the existing bond estimate and are not just incorporated as the 0.5% allotted for on-site monitoring under the Miscellaneous Costs Associated with Third Party Contractors in the Bond Summary (Page 1 in Table RP-4). For example, in Worksheet 1 (Groundwater Restoration), there are entries in Item IV (Stability Monitoring) specifically for the samples collected during that phase and in Item V (Labor), there are costs for a Sampler and for a Chemist. The surety will be reviewed annually and adjusted to reflect changes in cost and in the Project.

LQD (11/09) - Response not acceptable. Aside from the monitoring during the stability period mentioned in the comment response, there does not appear to be any sampling and analysis cost included during the active restoration phase of the operation. (MM)

LC ISR, LLC (2/10) - Worksheet 1 of the bond calculation includes the following line items:

Groundwater Sweep			
Analysis ($/KGals)	$0.060	On site laboratory analysis	Unit Rate
Reverse Osmosis			
Sampling & Analysis ($/KGals)	$0.060	Estimate	Unit Rate

LQD (3/10) - Response not acceptable. Please provide an itemized cost estimate for all groundwater analytical costs associated with the site reclamation. Including an accounting of the various types and number of wells that will be sampled, their respective sampling frequency, number of sampling events and analytical parameters. (MM)

LC ISR, LLC (6/10) - A detailed list of the sampling costs for each phase of restoration was performed at the WDEQ's request. That list has been incorporated into the Surety Estimate in Table RP-5.

LQD (7/10) – This item is unresolved. Section RP 5.0 still needs to be revised to address the requirements and costs associated with groundwater monitoring of the site from the potential timeframe of forfeiture at full production, to full site restoration. **(AB)**

Additionally, Table RP-5 (page 1 of 11) details the analytical costs associated with site reclamation, however the listing does not appear to be complete. Some discussion of time frames is needed to explain the discrepancies between this table and the reclamation timeline shown in Figure RP-4. The list of wells does not appear to be complete; for example, regional wells and public wells are not included. Sampling during the recirculation and stability phases is not included. Please expand on this table to cover all groundwater sampling and analysis for the entire reclamation period. Also, please clarify where these costs appear in Table RP-4. **(MM)**

LC ISR, LLC (9/10) – The response has been separated into 25a and 25b:

a) Wyoming Statute 35-11-417 paragraph (c)(i) requires:

"For an initial bond the amount equal to the estimated cost of reclaiming the affected land disturbed and restoring ... any groundwater disturbed by in situ mining during the first year of operation under each permit."

Therefore, the bond shown in the Reclamation Plan details the maximum amount of construction and operational activities that would occur during the 12 months immediately after receipt of the Permit to Mine. The first year includes construction of the Plant and all associated infrastructure as well as installation and operation of the first six header houses in Mine Unit 1.

Section 5.0 of the Reclamation Plan has been revised. Please also see the response provided for MU1-25(b).

b) Please refer to the response to Comment MU1-25(b) and the revised Table RP-5 and Figure RP-4. As for the regional wells, Attachment OP-8, Section IV, C details the requirements for sampling of regional wells during restoration. No samples are required, only water levels. Table RP-5 also details the samples, and their associated costs, required during Recirculation and Stabilization. The lone public well to be sampled during restoration requires quarterly analysis of Ra-226 and U_{nat}. Table RP-5 has been revised for these costs under the item: "**Disposal Stream to Deep Well(s) and Local Water Supply Well**".

The costs from Table RP-5 appear in unitized form in each associated category in Table RP-4, Worksheet 1. For instance, under "Groundwater Sweep", the line shown below is equivalent to Table RP-5.

Analysis (Cost per Kilogallon)	$0.745	From Table RP-5	Unit Rate

The same is true for the categories of "Reverse Osmosis", "Recirculation" and "Stabilization Monitoring".

26) *LQD (1/09) - Table RP-4 Reclamation / Restoration Bond Estimate. Groundwater sampling and analysis could be conducted for many years, and should not be handled as an overhead cost of 0.5%, but as a separate line item in the bond estimate. Please indicate the initial number of monitoring wells that will be in place at the initial start-up of the mine and calculate their cost for sampling and analysis based on real costs.* ***(AB)***

LC ISR, LLC (10/09) - Please see response to previous comment.

LQD (11/09) - Response not acceptable. See comment no. 25 above. (MM)

LC ISR, LLC (2/10) - Please see response to previous comment.

LQD (3/10) - Response not acceptable. See comment no. 25 above. (MM)

LC ISR, LLC (6/10) - Please see response to previous comment.

LQD (7/10) – This item is unresolved. Groundwater monitoring and analysis has reportedly been added to Table RP-5, the Reclamation Cost Estimate. This Table only assumes the monitoring well ring wells, deep disposal well, storage pond, and four storage pond wells will be monitored for 0.3 years, or four months. There is no continued monitoring of overlying, underlying or production aquifer wells. Groundwater monitoring will be required from the time the bond would be forfeited to the time that the site has ended stability monitoring and is approved for full restoration. Please add the additional wells, reasonable maintenance of the wells and pumps, MIT Testing, the labor cost associated with sampling and maintenance of the wells. The time required to release the site from full operations mode to the end of stability monitoring should be outlined. Also, refer to response in RP-25. **(AB, MM)**

LC ISR, LLC (9/10) - Please see the response to RP-25 for clarification of sampling costs and the revisions to Tables RP-4 and RP-5. Also please refer to the revised Figure RP-4. Table RP-4 also allows for additional expenditures for maintenance of all systems, including pumps and wells, on a per 1,000 gallon basis for each of the categories (Groundwater Sweep, Reverse Osmosis, Recirculation, and Stabilization and Sampling). Table RP-4 details the Labor required to complete all required activities through completion of reclamation (also shown in Figure RP-4).

Table RP-5 accounts for 55 monitor wells and 13 MP (production zone) wells. The Mine Unit 1 monitoring wells are broken down as follows:

- External Ring Wells (M): 28 wells completed in the production horizon
- Production Zone Wells (MP): 13 wells completed within the pattern area in the production horizon.
- Overlying Zone Wells (MO): 14 wells completed within the pattern area in the overlying horizon.
- Underlying Zone Wells (MU): 13 wells completed within the pattern area in the underlying horizon.
- Total Number of Mine Unit 1 Monitor Wells: 68 wells (55 wells plus 13 MP wells)

FEBRUARY 2010 - LQD COMMENTS, ON THE MINE UNIT 1 APPLICATION, RELEVANT TO THE MAIN PERMIT DOCUMENT

MU1-25) *LQD (2/10) - Section 6.1.1: Please provide an updated pore volume calculation specific to Mine Unit #1, including an evaluation of all of the inputs and assumptions used in the calculation, based on currently available information. Particular attention should be focused on the thickness and spatial distribution of the ore horizons and calculation of an appropriate flare factor. The MU1 PV calculation in section 6.1.1 assumes an average ore zone thickness of 12 feet. This does not appear to be an appropriate value given that the average screened interval in the 13 ore zone monitor wells (MP wells, which will be utilized as injection and production wells) is 17 feet. It is also noted that section OP 1.2 in the mine permit document (bottom of page OP-3) states that the MHJ mineralized zone is about 30 ft. thick. Data should be provided to define the ore zone thickness in mine unit #1. Additionally, it should be noted that the mine-unit-specific water balance and mining/restoration schedule may be affected by a change in pore volume.*[22,28] ***(MM)***

LC ISR, LLC (3/10) - The surety estimate submitted to WDEQ-LQD in February 2010 (Table RP-4) totaled $7,532,329 and included the most current estimate of the number of MU1 patterns and size of that pattern area at that time. It was also based on complete installation of MU1 within the first year. Table RP-4 of the main permit document and Section OP 6.1.1 have been updated to reflect the most recent information. As outlined below under the discussion of 'Area', the number of patterns has changed, and the approach to determining the size of the pattern area has also been changed to better account for stacked ore zones. In addition, it has been determined that only half of MU1 could be installed within the first year.

Area: is the area of the patterns projected to the ground surface. It is used in the pore volume calculations, but because of the presence of 'stacked' ore, it must be adjusted in those calculations to account for pattern overlap. The surety estimate was originally based on 180 patterns at 9,000 sq. ft. per pattern or 1,620,000 sq. ft. total. However, the pattern overlap within the HJ Sand was not taken into account in this approach. The updated estimate includes 241 patterns, and the actual surface area is 1,611,720 sq. ft. However, to account for pattern overlap in the pore volume calculations, it is has been assumed that the area is larger, i.e., the area of each pattern is taken into account in the pore volume calculation, even if it is stacked with another pattern. With this approach, the total MU1 total area has been revised to 2,115,594 sq. ft.. The surety estimate and schedule will be modified on an annual basis, and the estimated areal extent will be updated as necessary.

Thickness: is estimated to be 12 feet based on preliminary estimates for pattern completions. The average completion thickness for the MP monitor wells in MU1 is 17 feet. The MP monitor wells completions are considered 'gross' completions and are designed to capture all the ore in the immediate production horizon. The MP monitor wells also tend to be in the thickest part of the ore to insure water quality samples indicative of the ore zone. Therefore, these monitor well completion intervals are expected to be thicker than many of the actual production and injection well completions because many of the production and injection wells are located on the 'fringes' of the ore where the ore thickness is less. Because of the range of ore thicknesses, LC ISR, LLC maintains that the original estimate of 12 feet 'average' completion thickness is valid. Further, the surety estimate will be modified on an annual basis and the estimated ore thickness will be replaced with actual ore thickness as the production and injection wells are installed.

'Stacked Ore' in MU1: The HJ Sand is the production zone of interest in MU1. Production is planned from four horizons (UHJ, MHJ1, MHJ2 and LHJ) within the Sand. Production patterns will be completed with separate wells in each of these horizons and produced simultaneously regardless of whether they overlie each other or not. The surety estimate accounts for horizontal flare equal to 20% of each pattern's area and vertical flare equal to 20% of each pattern's thickness. This is regardless of continuity with other patterns either vertically or horizontally. Therefore, every pattern is fully accounted for in the surety estimate.

LQD (4/10) – Response partially acceptable. With these responses the stacked ore zones have been properly accounted for (i.e. the area of each ore zone has been summed, instead of simply looking at a vertical projection). This has increased the mine unit pore volume by 31%. Please incorporate the above discussion into section 6.1.1. Also, as noted in the original comment, please address what impact this may have on the water balance and the mine/reclamation schedule.

A revised bond estimate (Table RP-4) was provided, apparently to account for the revised mine unit development schedule and revised pore volume calculation. Review of the bond calculation will be deferred to the main permit document since there are a number of outstanding comments related to the bond calculation contained in LQD's review dated 3/26/10. (MM)

LC ISR, LLC (6/10) - The response has been separated into MU1-25a and MU1-25b:

MU1-25a) - The requested information has been incorporated into Section 6.1.1 of the Mine Unit 1 application. All of the responses specific to MU1 and the related changes to the MU1 application will be submitted in the near future.

LQD (7/10) – This remains unresolved pending the receipt of revision to the MU1 package. (MM)

LC ISR, LLC (9/10) - Responses specific to the Mine Unit 1 application will be provided by LC ISR, LLC in the near future.

MU1-25b) - The Project Development, Production and Restoration Schedule (Figure OP-4a) allows for the 31% increase in the MU1 pore volume in Figure OP-4a by advancing groundwater sweep at a higher rate in the first two months before reverse osmosis begins. MU1 allows 12 months for groundwater sweep and 18 months for reverse osmosis. The other conceptual mine units (MU2 and MU3) allow for 12.5 months for groundwater sweep and 14 months for reverse osmosis. The current estimated number of patterns in MU1 is 241 at an average of 8778 square feet per pattern. The other conceptual mine units have 180 patterns at 9000 square feet each.

PORE VOLUME CALCULATIONS:

PV = Area x Thickness x Horizontal Flare x Vertical Flare x Porosity x Conversion Factor

MU1 PV = (2,115,594 ft^2)(12 ft)(1.2)(1.2)(0.25)(7.48 gal/ft^3) = 68,362,458 gallons

Conceptual MU PV = (1,620,000 ft^2)(12 ft)(1.2)(1.2)(0.25)(7.48 gal/ft^3) = 52,348,032 gallons

The calculations below show that if MU1 groundwater sweep is performed at a rate of 120 gpm for the two months before reverse osmosis starts and at 30 gpm for the remaining 10 months, the total 0.3 pore volumes of sweep can be completed in 12 months.

MINE UNIT 1 RESTORATION:

Required MU1 Groundwater Sweep (MU1 GWS) =
0.3 PV = 0.3 x 68,362,458 gallons = 20,508,737 gallons

Calculating the GWS at 120 gpm for two months and 30 gpm for 10 months yields:

MU1 GWS = (2 mo)(43,800 min/mo)(120 gal/min) +
(10 mo)(43,800 min/mo)(30 gal/min)
MU1 GWS = 23,652,000 gallons which exceeds the total required GWS.

Required MU1 Reverse Osmosis (MU1 RO) =
6.0 PV = 6.0 x 68,362,458 gallons = 410,174,748 gallons

Calculating the RO at 570 gpm for 18 months yields:

MU1 RO = (18 months)(43,800 minutes/month)(570 gallons/minute)
MU1 RO = 449,388,000 gallons which exceeds the total required RO.

CONCEPTUAL MINE UNIT (MU2 and MU3) RESTORATION:

Required Conceptual MU Groundwater Sweep (MUC GWS) =
0.3 PV = 0.3 x 52,348,032 gallons = 15,704,410 gallons

Calculating the MUC GWS at 30 gpm:

MUC GWS = (12.5 months)(43,800 minutes/month)(30 gallons/minute)
MUC GWS = 16,425,000 gallons which exceeds the total required MUC GWS.

Required MU1 Reverse Osmosis (MU1 RO) =
6.0 PV = 6.0 x 52,348,032 gallons = 314,088,192 gallons

Calculating the RO at 570 gpm for 14 months yields:

MUC RO = (14 months)(43,800 minutes/month)(570 gallons/minute)
MUC RO = 349,524,000 gallons which exceeds the total required MUC RO.

LQD (7/10) – Response not adequate. There are discrepancies in the reclamation timeline between Tables RP-4 and RP-5 and Figure RP-4. Please rectify these discrepancies. **(MM)**

LC ISR, LLC (9/10) - **Groundwater Sweep Discrepancies from Mark Moxley's e-mail, dated July 30, 2010:** Table RP-4 (page 4 of 37) lists 6.1 months. Table RP-5 (page 1 of 11) lists 0.3 years. Figure RP-4 lists 8 months.

Figure RP-4 shows 2 months of groundwater sweep. Each header house requires the following time at 120 gpm for 0.3 pore volumes:

MU1 Pattern Area = 1,057,797 ft^2 (from Table RP-4, page 2 of 37)
MU1 Completion Thickness = 12 ft (from Table RP-4, page 2 of 37)
MU1 Header Houses in First Year = 6
PV GWS = 0.3
Horizontal Flare = 1.2
Vertical Flare = 1.2
Porosity = 0.26
Header House Area = 1,057,797 ft^2/6 Header Houses = 176,300 ft^2
Time for GWS for 1 HH = Volume / Rate
1 HH Time = (0.3 PV)(176,300 ft^2)(12 ft)(7.48 gal/ft^3)(0.26)(1.2)(1.2)(min/120 gal)(day/1440 min)
1 HH Time = 10.3 days or 0.34 months at 120 gpm
Mine Unit Time in First Year = (HH time)(6 header houses) = (10.3 days)(6 HH)

Mine Unit GWS Time = 61.7 days or 2.0 months at 120 gpm

Figure RP-4 details the maximum amount of construction and operational activities that would occur during the calendar year immediately after receipt of the Permit to Mine. This is the amount of time required for bonding in Wyoming Statute 35-11-417, paragraph (c)(i). The first year includes construction of the Plant and all associated infrastructure as well as installation and operation of the first 6 header houses in Mine Unit 1. The time allowed for groundwater sweep in Figure RP-4 is 0.34 months per header house (as shown in the calculation above) or 2 months at the anticipated flow rate of 120 gpm. Table RP-4, Worksheet 1, details the cost of groundwater sweep on a per gallon basis only (a volume based calculation) but includes time based components for building power, labor, etc.

Table RP-5, Groundwater Sweep section, was inaccurate based on Figure RP-4 and the calculations. The Length of Time in years was previously shown as 0.3 years but has been revised to 0.17 years (2 months) as this is a time based function and is relative to the anticipated flow rate of 120 gpm.

Reverse Osmosis Discrepancies from Mark Moxley's e-mail, dated July 30, 2010: Table RP-4 (page 7 of 37) lists 6.4 months. Table RP-5 (page 1 of 11) lists 0.5 years. Figure RP-4 lists 12 months.

Figure RP-4 shows 6 months of reverse osmosis. Each header house requires the following time at 760 gpm for 6.0 pore volumes:

MU1 Pattern Area = 1,057,797 ft^2 (from Table RP-4, page 2 of 37)
MU1 Completion Thickness = 12 ft (from Table RP-4, page 2 of 37)
MU1 Header Houses = 12
PV RO = 6.0
Horizontal Flare = 1.2
Vertical Flare = 1.2
Porosity = 0.26
Header House Area = 1,057,797 ft^2/6 Header Houses = 176,300 ft^2
Time for RO for 1 HH = Volume / Rate
1 HH Time = (6.0 PV)(176,300 ft^2)(12 ft)(7.48 gal/ft^3)(0.26)(1.2)(1.2)(min/760 gal)(day/1440 min)
1 HH RO Time = 32.5 days
Mine Unit RO Time = (HH time)(6 header houses) = (32.5 days)(6 HH)
Mine Unit RO Time = 194.9 days or 6.4 months

The time allowed in Figure RP-4 is 1 month per header house. This allows for modifying flows, maintenance, etc. However, each header house requires only 16.2 days of actual pumping time (as shown in the calculation above). Table RP-4, Worksheet 1, details the cost of reverse osmosis on a per gallon basis only (a

volume based calculation). The cumulative time is provided as a general indicator but the physical time is anticipated to be as shown in Figure RP-4.

Table RP-5, Reverse Osmosis section, details the additional amount of time, beyond groundwater sweep, that is required for sampling. Figure RP-4 shows 6 months of reverse osmosis after groundwater sweep is complete. The Length of Time in years is 0.5 years or 6 months.

Figure RP-4 details the maximum amount of construction and operational activities that would occur during the calendar year immediately after receipt of the Permit to Mine. This is the amount of time required for bonding in Wyoming Statute 35-11-417, paragraph (c)(i). The first year includes construction of the Plant and all associated infrastructure as well as installation and operation of the first 6 header houses in Mine Unit 1. The time allowed for reverse osmosis in Figure RP-4 is 1 month per header house (as shown in the calculation above) or 6 months at the anticipated flowrate of 760 gpm. Table RP-4, Worksheet 1, details the cost of reverse osmosis on a per gallon basis only (a volume based calculation) but includes time based components for building power, labor, etc.

Table RP-5, Reverse Osmosis section, was inaccurate based on Figure RP-4 and the calculations. The Length of Time in years was previously shown as 0.5 years but has been revised to 0.53 years (6.4 months) as this is a time based function and is relative to the anticipated flow rate of 760 gpm.

INDEX SHEET FOR MINE PERMIT AMENDMENTS OR REVISIONS

Date: 9/28/10
TFN: 4 6/268

MINE COMPANY NAME: **Lost Creek ISR, LLC** MINE NAME: **Lost Creek ISR Project** PERMIT NO.: **N/A**

Statement: I, **John W. Cash**, an authorized representative of **Lost Creek ISR, LLC** declare that only the items listed on this and all consecutively numbered Index Sheets are intended as revisions to the current permit document. In the event that other changes inadvertently occurred due to this revision, those unintentional alterations will not be considered approved. Please initial and date. JWC 9/28/10

NOTES: 1) Include all revision or change elements and a brief description of or reason for each revision element.
2) List all revision or change elements in sequence by volume number; number index sheets sequentially as needed.

VOLUME NUMBER	PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED	PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED	DESCRIPTION OF CHANGE
1 of 5 Adj File	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
	Pages 3 to 4 of Permit Development	Pages 3 to 5 of Permit Development	Updated to explain change of mine units
2 of 5 Apps D1-D5	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
	Page D5-i	Page D5-i	Updated with new table
	Pages D5-7 through D5-9	Pages D5-6a through D5-9	Updated with new information about leach amenability
	--	Table D5-2	Inserted new table
	Table D5-2	Table D5-3	Revised table number
	Plates D5-1a through g	Plates D5-1a through g	Updated in response to LQD comments
	Plate AD5-2a of Attachment D5-2	Plate AD5-2a of Attachment D5-2	Please apply sticker to the bottom left of the title box.
	Plate AD5-2b of Attachment D5-2	Plate AD5-2b of Attachment D5-2	Please apply sticker to the bottom left of the title box.
	Plate AD5-2c of Attachment D5-2	Plate AD5-2c of Attachment D5-2	Please apply sticker to the bottom left of the title box.
3a of 5 App D6 through Attach D6-2b	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
	Page D6-iii	Page D6-iii	Updated with new table
	Pages D6-23 & 24, D6-29 through D6-32	Pages D6-23 & 24, D6-29 through D6-32a	Updated with new information and in response to LQD comments
	Figures D6-27a and b	Figures D6-27a and b	Updated with new information and in response to LQD comments
	Figures D6-28a and b	Figures D6-28a and b	Updated with new information and in response to LQD comments
	Table D6-6	Table D6-6	Updated with new information and in response to LQD comments
	Table D6-13	Table D6-12c	Revised table number

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3a of 5 App D6 through Attach D6-2b	--	Table D6-13	Inserted new table
	Table D6-15a	Table D6-15a	Updated with new information and in response to LQD comments
	Table D6-16	Table D6-16	Updated with new information and in response to LQD comments
3b of 5	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
4 of 5 Apps D7-D11; App D References; & App D E&W Roads	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
	Figure D7-2	Figure D7-2	Added "NOTE: See Plate OP-1 for the up-to-date mine unit layout" in the title box
	Plate D7-1	Plate D7-1	Please apply sticker to the bottom left of the title box.
	Figure D8-1	Figure D8-1	Added "NOTE: See Plate OP-1 for the up-to-date mine unit layout" in the title box
	Plate D8-1	Plate D8-1	Please apply sticker to the bottom left of the title box.
	Figure D9-6	Figure D9-6	Added "NOTE: See Plate OP-1 for the up-to-date mine unit layout" in the title box
	Page D11-i	Page D11-i	Updated with new attachment
	Page D11-3	Page D11-3	Updated with Army Corps of Engineers' juridictional determination
	Figure D11-1	Figure D11-1	Added "NOTE: See Plate OP-1 for the up-to-date mine unit layout" in the title box
	--	Attachment D11-1	Inserted new attachment with Army Corps of Engineers' juridictional determination

INDEX SHEET FOR MINE PERMIT AMENDMENTS OR REVISIONS

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TFN: 4 6/268

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Statement: I, John W. Cash, an authorized representative of Lost Creek ISR, LLC declare that only the items listed on this and all consecutively numbered Index Sheets are intended as revisions to the current permit document. In the event that other changes inadvertently occurred due to this revision, those unintentional alterations will not be considered approved. Please initial and date. JWC 9/28/10

NOTES: 1) Include all revision or change elements and a brief description of or reason for each revision element.
2) List all revision or change elements in sequence by volume number; number index sheets sequentially as needed.

VOLUME NUMBER	PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED	PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED	DESCRIPTION OF CHANGE
5 of 5 Ops Plan & Rec Plan	Pages viii, xviii through xx, xxii, xxv, & xxvii	Pages viii, xviii through xx, xxii, xxv, & xxvii	Updated Detailed Table of Contents.
	Pages OP-i through OP-iv	Pages OP-i through OP-iv	Updated Operations Plan Table of Contents
	Pages OP-3, 5&6, 12, 14 through 19, 25, 32&33, 37 through 39, 51 through 53, 58, 60&61, 77&78	Pages OP-3, 5&6, 12, 14 through 19, 25, 32&33, 37 through 39, 51 through 53, 58, 60&61, 77&78	Updated with new information and in response to LQD comments
	Figure OP-2a	Figure OP-2a	Updated in response to LQD comments
	Figure OP-4a	Figure OP-4a	Updated in response to LQD comments
	Figure OP-6a	Figure OP-6a	Added "See Plate OP-1 for the up-to-date mine unit layout" to the bottom left of the title box
	--	Figure OP-6c	Inserted new figure in response to LQD comments
	Figure OP-10a	Figure OP-10	Revised figure number
	Figure OP-10b	--	Figure has been replaced with Plate OP-4
	Table OP-2	Table OP-2	Updated with new information
	Table OP-3	Placeholder	Table removed per conversation with Melissa Bautz on September 9, 2010
	Table OP-10	Table OP-10	Updated in response to LQD comments
	Plate OP-1	Plate OP-1	Updated in response to LQD comments
	--	Plate OP-4	Plate OP-4 replaces Figure OP-10b
	Attachment OP-2	Attachment OP-2	Updated in response to LQD comments and reformatted. Existing figures not replaced.
	Figure OP-A2-3 of Attachment OP-2	Public Placeholder Page for Figure OP-A2-3 of Attachment OP-2	Created since Figure OP-A2-3 is confidential and, therefore, submitted separately
	--	CONFIDENTIAL Figure OP-A2-3 of Attachment OP-2	Updated in response to LQD comments. Since Figure OP-A2-3 is confidential and, therefore, submitted separately, please remove existing Figure OP-A2-3.

INDEX SHEET FOR MINE PERMIT AMENDMENTS OR REVISIONS

Date: 9/28/10
TFN: 4 6/268

MINE COMPANY NAME: **Lost Creek ISR, LLC** MINE NAME: **Lost Creek ISR Project** PERMIT NO.: **N/A**

Statement: I, **John W. Cash**, an authorized representative of **Lost Creek ISR, LLC** declare that only the items listed on this and all consecutively numbered Index Sheets are intended as revisions to the current permit document. In the event that other changes inadvertently occurred due to this revision, those unintentional alterations will not be considered approved. Please initial and date. JWC 9/28/10

NOTES: 1) Include all revision or change elements and a brief description of or reason for each revision element.
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VOLUME NUMBER	PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED	PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED	DESCRIPTION OF CHANGE
5 of 5 Ops Plan & Rec Plan	--	Figure OP-A2-5 of Attachment OP-2	Inserted new figure to attachment
	Page ii of Attachment OP-6	Page ii of Attachment OP-6	Updated with new addendum
	Pages 1, 2, 4, 9, and 16 of Attachment OP-6	Pages 1, 2, 4, 9, and 16 of Attachment OP-6	Updated with new information and in response to LQD comments
	Figure OP-A6-2 of Attachment OP-6	Figure OP-A6-2 of Attachment OP-6	Added "NOTE: See Plate OP-1 for the up-to-date mine unit layout" in the title box
	Table OP-A6-1 of Attachment OP-6	Table OP-A6-1 of Attachment OP-6	Revised reference to mine units and updated with new information
	Table OP-A6-3 of Attachment OP-6	Placeholder	Table removed per conversation with Melissa Bautz on September 9, 2010
	Addendum OP-A6-A of Attachment OP-6	Addendum OP-A6-A of Attachment OP-6	Replace cover at beginning of Addendum and insert additional correspondence (3 pages) to end of Addendum to update in response to LQD comments
	--	Addendum OP-A6-B of Attachment OP-6	Inserted new addendum to attachment
	Figure 0802.103 Rev1 of Attachment OP-7	Figure 0802.103 Rev 2 of Attachment OP-7	Updated in response to LQD comments
	Pages i, 8 through 10 of Attachment OP-8	Pages i, 8 through 10 of Attachment OP-8	Updated in response to LQD comments
	Pages RP-24 & 26	Pages RP-24 & 26	Updated in response to LQD comments
	Figure RP-1	Figure RP-1	Updated in response to LQD comments
	Figure RP-2	Figure RP-2	Updated in response to LQD comments
	Figure RP-3	Figure RP-3	Updated in response to LQD comments
	Figure RP-4	Figure RP-4	Updated in response to LQD comments
	Table RP-4	Table RP-4	Updated in response to LQD comments
	Table RP-5	Table RP-5	Updated in response to LQD comments

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan

FIGURES (continued)

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan (continued)

MINE UNIT VOLUMES - Separate Submittals

TABLES

TABLES (continued)

TABLES (continued)

PLATES (continued)

ATTACHMENTS (continued)

MINE PERMIT VOLUME 4 of 5: Appendix D - Main Permit Area (D7 to D11) and Appendix D - East and West Roads

Appendix D - East and West Roads

No Attachments

and BLM Notice # WYW-166224. Although wells were installed by Texas Gulf, and pump testing and water quality sampling occurred, this information was not considered sufficient for project design and development. Therefore, additional drilling and pump testing was started. One of the main subsurface features at the Lost Creek site is a subsurface fault. Multi-day pump testing was conducted on both sides of the fault to determine overall aquifer characteristics and the influence of the fault on ground water movement.]

Mining and Reclamation

Once sufficient information is available and resources are determined to be viable for production, an application for a permit to mine is prepared. The initial stage in the permitting process is to collect even more data to support the permit document which will ultimately be used by regulators to determine if mining can be performed without undue degradation of the environment. After collection and compilation of the baseline data, the permit application is submitted to the respective agencies for consideration. Even at this stage, drilling continues to further define the resource and locate additional mineralization. In fact, drilling will continue throughout the project as the focus changes from regional information (on the scale of thousands of feet) to well pattern installation (on the scale of tens to hundreds of feet).

In Wyoming, the uranium resources of interest for ISR occur usually occur in long, narrow, sinuous deposits called 'roll fronts'. These roll fronts are within sandstones interlayer with shales, and there may be economic quantities of ore in a single sandstone layer or multiple layers. Because of the geometry of the ore deposits, the permit defines the general shape of the ore body(ies) of interest, the layer(s) in which the ore body(ies) is (are) located and the overlying and underlying shales and sandstones. [*For the Lost Creek Project, the ore body is in the HJ Horizon. Although mineralization occurs in almost all of the sandstone in the Permit Area, only mining of the HJ is considered economic at present.*]

When the permit is initially submitted, the focus shifts from regional to more localized information.. At this time, a series of mine units (or wellfields) is defined within the Permit Area. Because the permit documents represent the state of knowledge at the time they are submitted, additional documentation (Mine Unit Package) is submitted for each mine unit as the specifics become known and the operator wants to begin production from that mine unit. [*LC ISR, LLC submitted the permit to WDEQ-LQD in December 2007, and the locations of six mine units were identified. Plate OP-1 and Figure OP-2a originally showed a conceptual location of Mine Unit 1 as well as subsequent Mine Units 2 through 6. However, additional information has been collected during the permit review, resulting in the outline of Mine Unit 1 being revised. Consequently, the areas of the remaining mine units were consolidated, thereby changing the total count of mine*

units from six to three. The OP and RP have been revised to show the consolidation of the mine units; however, some portions of the application, such as the wildlife section, still refer to six mine units. The area of planned production has not changed, only the names and number of mine units. The conceptual and actual locations of Mine Unit 1 are shown as an overlay in Plate OP-1 and Figure OP-2a. The details of the Mine Unit 1 layout are shown on the figures and plates in the mine unit package.]

After the requisite permits are acquired, the mining process may begin. During the installation of the production and injection wells, the geologists will gain even more information and may make minor adjustments to the area to be mined. Even during mining, more will be learned about the ore body's geology and hydrologic characteristics. The operation of the mine will test the hypothesis forwarded by the scientists involved from exploration through permitting. Therefore, the permit includes information on monitoring and responses that may be taken based on the monitoring information. In addition, if the monitoring information indicates conditions substantially different from what was anticipated, then a permit revision may also be necessary. *[The Lost Creek permit application includes the required provisions for excursion monitoring and also outlines the engineering controls that will be used to ensure equipment is operating within specified parameters.]*

For ISR, reclamation involves both ground water restoration and reclamation of surface impacts. Even during this process, additional knowledge may be gained about subsurface conditions. For example, use of bioremediation during ground water restoration is a relatively new technology and is apparently amenable for some constituents but not others. [*The possibility of bioremediation has been considered for the Lost Creek Project; however, the decision to use this technology will depend on the state of knowledge about both the technology and the subsurface conditions after groundwater restoration by more conventional methods.*] Therefore, the process of monitoring and permit revision continues. Once restoration is completed and the wells are abandoned, surface reclamation, including a minimum of 2 years for vegetation re-establishment, is necessary. Even after restoration and reclamation are approved, and the reclamation bond is released, there is a requirement of a deed notice to indicate the project location, primarily because of the potential for future drilling to encounter the plugged wells.

The permitting process goes through many iterations with numerous agencies. In the future, the approved permit will be revised as required to ensure it contains the current state of knowledge. Revisions will be made through annual reports, bond calculations, mine unit data packages and minor or significant permit revision requests as required. [*Table ADJ-1 shows the Lost Creek permitting requirements that must be completed prior to mining. WDEQ-LQD has requested that copies of four of these permits be included in the WDEQ-LQD permit to mine application. These are the WDEQ-AQD Permit*

(Attachment ADJ-1); UIC Class 1 Well Permit (Attachment ADJ-2); Storm Water Pollution Prevention Plan (Attachment ADJ-3); and Septic System Permits (Attachment ADJ-4).]

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan

FIGURES (continued)

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan (continued)

MINE UNIT VOLUMES - Separate Submittals

TABLES

TABLES (continued)

MINE PERMIT VOLUME 3a of 5: Appendix D- Main Permit Area (D6)

MINE PERMIT VOLUME 3b of 5: Appendix D - Main Permit Area (D6)

No Tables - See List of Attachments

TABLES (continued)

PLATES (continued)

MINE PERMIT VOLUME 2 of 5: Appendix D - Main Permit Area (D1 to D5) (continued)

D5 Geology
Plate D5-2c Sagebrush Shale Isopach Map
Plate D5-2d UKM Sand Isopach Map
Plate D5-3 General Location Map - Geology

MINE PERMIT VOLUME 3a of 5: Appendix D - Main Permit Area (D6)

D6 Hydrology
Plate D6-1a Groundwater Permits within One-Half Mile of the Permit Area
Plate D6-1b Groundwater Permits within Three Miles of the Permit Area

MINE PERMIT VOLUME 3b of 5: Appendix D - Main Permit Area (D6)

No Plates - See List of Attachments

MINE PERMIT VOLUME 4 of 5: Appendix D - Main Permit Area (D7 to D9) and Appendix D - East and West Roads

D7 Soils
Plate D7-1 Soil Survey Mapping Units
D8 Vegetation
Plate D8-1 Vegetation
D9 Wildlife – No plates
D10 Background Radiological Characteristics - No Plates
D1 Wetlands - No Plates

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan

OP Operations Plan
Plate OP-1 Site Layout
Plate OP-2 Plant and Shop Detail
Plate OP-3 Topsoil Stripping Depths
Plate OP-4 Simulated Drawdown at Consumptive Capacity of 89 gpm after 8 Years
RP Groundwater Quality Restoration and Surface Reclamation
No Plates

MINE UNIT VOLUMES - Separate Submittals

ATTACHMENTS (continued)

MINE PERMIT VOLUME 4 of 5: Appendix D - Main Permit Area (D7 to D11) and Appendix D - East and West Roads

Appendix D - East and West Roads

No Attachments

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uranium, besides occurring with pyrite, also occurs as a coating around sand grains and as filling of voids between grains. It also occurs as minute particles within larger clay particles.

The most recent study of the lithology and mineralogy was conducted by Hazen Research under the guidance of Dr. Nick Ferris, Ur-E geologist (Ferris, 2007, company report). He concluded that the rocks, represented by a core sample from a depth of 506 to 507 feet of Hole Number LC-64C, are composed of medium- to coarse-grained sand with interstitial clay and silt. Uranium occurrences are very fine-grained and micron-sized, and are mainly dispersed throughout some of the interstitial clays, and occur similarly in some of the interstitial pyrite as well. Because of the size of uranium mineral particles, it was not certain whether the uranium mineral was coffinite or uraninite. The sample tested, comes from the Upper KM Sand unit and may or may not be representative of the majority of the mineralization in the overlying HJ Horizon within the Permit Area.

Known mineralized intervals are found at depths ranging from near surface down to 1,150 feet below the surface in the Permit Area. It is possible that deeper mineralization may exist as well. The main mineralization horizons trend in an east-northeast direction for at least three miles, and are up to 2,000 feet wide. The thickness of individual mineralized beds at the Permit Area ranges from five to 28 feet and averages about 16 feet. The mineralization grade ranges from 0.03 percent to more than 0.20 percent equivalent uranium oxide (eU_3O_8). Four main mineralized horizons, from depths of 300 to 700 feet, have been identified. The richest mineralized zone occurs in the middle part of the HJ Horizon (MHJ Sand) and it is about 30 feet thick, 400 to 450 feet deep, and is believed to contain more than 50 percent of the total resource under the Permit Area.

Leach amenability studies, using the bottle roll method, were performed on core samples collected from the Permit Area in 2007. The analytical results of the bottle roll tests indicate leach efficiencies of 84 percent to 93 percent where bicarbonate was added to the leach solution (a standard in situ recovery practice). The testing demonstrated leach amenability to varying levels of bicarbonate and oxidant addition and accomplished the goal of defining the chemical factors for leaching the ore body and determining the maximum economic leach efficiencies.

The bottle roll tests were conducted using standard industry practice and rigorous modern laboratory controls. The tests were performed on seven uniform splits of a composite core recovered from hole LC66C. Oxidation of uranium in core that has been exposed to the atmosphere can increase the leachability of the uranium, yielding results which are not representative of the in situ deposit. Therefore, the drill core was vacuum sealed in airtight plastic sleeves immediately after recovery to protect the uranium bearing minerals from exposure to the air.

Upon completion of the coring program, the sealed core was characterized by geologists and transferred to the laboratory. A single core composite of eight feet of core was selected for leach amenability, bicarbonate and oxidant studies. The selected core composite was chosen to represent a typical production zone for the Project. The composite splits were then subjected to "bottle roll" amenability testing in which each individual sample was placed in a plastic container with a hydrogen peroxide lixiviant in a measured volume estimated to be five pore volumes of the tested interval, and then rolled mechanically for 16 hours. The lixiviant was extracted and tested for uranium content in the solution and new lixiviant was added and the process was repeated. Each sample was subjected to five additional periods of leaching, to represent the total volume of fluid that would leach uranium from the host over the life of an in situ recovery operation. These six roll sets, each being leached with five pore volumes of lixiviant, replicates a total of 30 pore volumes of lixiviant passing through the deposit, thus closely simulating an actual in situ leach operation. Once the six sets of rotation were completed, the core was analyzed to determine the amount of uranium remaining, in order to establish the efficiency of the leaching system. This allows a determination of the potential in situ leachability of the uranium-bearing sandstone and the potential rate of recovery.

A total of seven tests were conducted. The first test, LC-2001-01, showed low recovery without a bicarbonate addition, which demonstrated the requirement for bicarbonate addition to the lixiviant and the effectiveness of the sample preparation for the test. The other six samples (LC-2001-02 through -07) successfully demonstrated the ore's wide range of amenability to varying chemical conditions. The results of these tests demonstrate that uranium is easily mobilized for production and that the chemical conditions utilized in the tests will be equally effective under both low and high oxidant injection rates. The results of this testing are summarized in **Table D5-2**.

D5.2.4 Exploration and Production Activities

D5.2.4.1 Uranium

Historic and current uranium explorations exist in several areas of the Basin; however, uranium mining has been limited. The closest production was at the Kennecott Uranium Project, located about five miles south-southwest of the center of the Project, with about two miles separating the permit boundaries. (NRC License No. SUA-1350; WDEQ-LQD Permit No. 481). The project includes the Sweetwater Mill, a conventional mill which is currently on stand-by, a mill tailings disposal area, and reclaimed surface mining areas.

There has been no uranium production within the Permit Area. Historic exploration activities in the Permit Area can be summarized as follows:

- Pre-1976: Numerous companies held the property; uranium mineralization was discovered by Climax Uranium and Conoco.
- 1976: Texasgulf optioned property from Valley Development Inc.

- 1977 through 1979: Texasgulf optioned property from Valley Development Inc., delineated the main trend of the mineralization, obtained a 50-percent interest in the Conoco claims on the trend to the east, and exercised its option with Valley Development Inc.
- 1986: Power Nuclear Corporation acquired the properties.
- 2000: Power Nuclear Corporation sold its Lost Creek properties to New Frontiers Uranium, LLC.
- 2005: New Frontiers Uranium, LLC transferred its Wyoming properties and data including its Lost Creek property to NFU.
- 2005: Ur-Energy USA Inc. purchased NFU from New Frontiers Uranium, LLC on terms.
- 2007: Ur-Energy USA Inc. completes the acquisition of NFU from New Frontiers Uranium, LLC, and maintains NFU as a wholly owned subsidiary.
- 2007: Ur-Energy USA Inc. forms Lost Creek ISR, LLC (LC ISR, LLC) to develop the Lost Creek property into an ISR facility and transfers the Lost Creek property from NFU to LC ISR, LLC.

At least 560 uranium exploration holes had been drilled in Permit Area prior to 2000. The plates and table in **Attachment D5-2** present the locations and total depths of all the known historic drill holes drilled in the Permit Area. The information that LC ISR LLC has pertaining to historic drill hole abandonment and re-plugging is provided in **Table D5-3**, including total depths of holes.

There have been continuing efforts over the years to ensure that drill holes are properly abandoned. In the early 1980s, the Conoco/Texasgulf Joint Venture worked to correct a WDEQ LQD violation resulting from incorrect surface capping and hole abandonment. Copies of the memos to WDEQ LQD explaining the work are included as **Attachment D5-3**. WDEQ-LQD subsequently approved the hole abandonment and released the bond.

In 2006, LC ISR, LLC re-located and re-abandoned twelve historic holes (**Table D5-3**). A drill rig was placed on each hole, and the hole was reamed/washed to 650 fbs A mixture of BH Thermal Grout, exceeding WDEQ-LQD Rules and Regulations Chapter 8 requirements, was pumped into the hole as the drill stem was retrieved. No effort was made to determine the depth of historic drill mud but the rig did have to ream/wash out mud from each hole. The upper 25 feet of each hole was plugged with cement. An attempt to relocate three additional holes was unsuccessful. LC ISR, LLC supplied this information to WDEQ-LQD in a letter dated January 15, 2007 (**Attachment D5-3**). In 2008, geologists discovered four historic holes with failed surface caps (Holes TT31, TT80, TT96, and TT141). Drill rigs were put on each of the four holes so they could be re-plugged. In each case, the drill stem was lowered between 180 and 220 fbs before hitting significant resistance. The holes were washed out and re-plugged to surface using

grout. Each hole was also re-capped. **Table D5-3** contains information pertaining to the re-abandonment of these four holes.

Some pumping tests have shown very minor communication between the overlying and underlying aquifers and the HJ horizon (**Section 6.2.2.3**). There are several possible reasons for this communication, one of which is leakage through an improperly abandoned drill hole(s). However, the consistent nature of the response, regardless of distance from the pumping well, suggests that leakage through an improperly abandoned hole(s) is not the most likely cause of communication. Other more likely causes are: pumping from other wells in the area; regional communication between aquifers; background trends; or leakage through the juxtaposed aquifers across the Lost Creek Fault.

If additional, improperly abandoned drill holes are found in the future, LC ISR, LLC will plug the holes as described above. In particular, before operations begin in a mine unit, a field inspection will be performed to locate any historic holes with surface capping issues. If the inspection identifies any capping problems, the hole will be re-entered with a drill rig or tremie pipe and re-plugged with grout. A new cement surface cap will also be installed. Aquifer testing of the mine unit prior to operation will also help identify any improperly abandoned holes that could interfere with mine unit operation.

D5.2.4.2 Other Minerals

Historic and current oil and gas exploration drilling are also in the region. There are no current oil and gas activities within the Basin that are completed in the same horizons as those discussed for ISR production in this application. The nearest significant gas fields are approximately ten miles to the southwest; therefore, no interference is anticipated between oil and gas production activities and ISR activities. There is no exploration of coal bed methane or other mineral resources within the Permit Area and the nearby region.

D5.3 Seismology

The discussion of the seismology of the Permit Area and surrounding areas includes: an analysis of historic seismicity; an analysis of the Uniform Building Code (UBC); a deterministic analysis of nearby faults; an analysis of the maximum credible "floating earthquake;" and a discussion of the existing short- and long-term probabilistic seismic hazard analysis. The materials presented here are mainly based on the seismologic characterization of Sweetwater, Carbon, Fremont, and Natrona Counties by James C.

Table D5-2 Leach Amenability

Sample ID	Solution Base	Bicarbonate (g/L)	H_2O_2 (g/L)	Uranium Recovery (percent)
LC-2001-01	Ground Water	Natural Bicarb	0.25	20.0
LC-2001-02	Ground Water	1.0	0.25	84.1
LC-2001-03	Ground Water	1.5	0.25	86.4
LC-2001-04	Ground Water	2.0	0.25	93.3
LC-2001-05	Ground Water	2.0	0.50	87.1
LC-2001-06	Synthetic	2.0	0.25	92.6
LC-2001-07	Synthetic	2.0	0.50	88.1

Hole ID: LC-66C
Core Composition Depth Interval: 412 to 420.4 feet
Pre-Test Feed Grade: 0.0513% $_cU$

Table D5-3 Abandonment Information for Historic Exploration Holes (Page1 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
1-13	595656.1	2201396.15	13	25	93	6970	1000	1971	Conoco										
1D-17	596927.03	2214157.19	17	25	92	6965	502	1982	TG	Concrete									
1D-18	596222.05	2210916.18	18	25	92	6943	590	1982	TG	Concrete									
1D-20	595224.02	2213368.16	20	25	92	6933	530	1982	TG	Concrete									
1M-17	596928.02	2214133.19	17	25	92	6964	467	1982	TG	Concrete									
1M-18	596220.05	2210943.16	18	25	92	6943	450	1982	TG	Concrete									
1M-19	595179.06	2210943.16	19	25	92	6922	450	1982	TG	Concrete									
1M-20	595225.03	2213343.16	20	25	92	6933	440	1982	TG	Concrete									
1S-17	596929.03	2214105.21	17	25	92	6964	200	1982	TG	Concrete									
1S-18	596218.05	2210968.16	18	25	92	6943	357	1982	TG	Concrete									
1S-20	595226.02	2213318.18	20	25	92	6932	300	1982	TG	Concrete									
2M-19	595205.05	2210943.16	19	25	92	6923	680	1982	TG	Concrete									
3M-19	595229.07	2210942.16	19	25	92	6924	461	1982	TG	Concrete									
4-1	595685.1	2203263.13	13	25	93	6964	800												
13-1	597151.11	2202677.14	13	25	93	7003	800												
13-2	597126.11	2203274.14	13	25	93	7002	800												
13-3	597154.09	2203861.15	13	25	93	7002	800												
13-4	597110.09	2204605.15	13	25	93	6993	800												
19-1	594384.04	2206739.15	19	25	92	6925	800												
24-1	594952.1	2204119.14	24	25	93	6966	800												
24-2	594958.1	2204565.15	24	25	93	6949	800												
24-3	594950.1	2204989.16	24	25	93	6945	800												
24-4	594172.07	2202752.13	24	25	93	6941	800												
24-5	594173.09	2203324.12	24	25	93	6952	802												
24-6	594157.08	2203881.15	24	25	93	6943	800												
24-7	594389.06	2205338.13	24	25	93	6929	805												
24-8	594394.05	2206079.16	24	25	93	6929	802												
24-9	594961.09	2204468.16	24	25	93	6952	640												
24-10	594957.09	2204661.14	24	25	93	6947	671												
59-1	598920.08	2208938.19	18	25	92	6969	300												
72-1	595290.07	2209052.15	19	25	92	6930	800												
77-1	593497.05	2209014.15	19	25	92	6918	790												
81-1	595513.1	2204371.14	24	25	93	6969	800												
81-2	594196.09	2204301.13	24	25	93	6936	795												
82-1	593038.07	2204412.11	24	25	93	6916	731												
82-2	593032.09	2204357.12	24	25	93	6916	795												
82-3	593243.08	2204408.13	24	25	93	6918	1214												
83-1	594198.09	2204502.15	24	25	93	6932	800												
83-2	594320.09	2204551.13	24	25	93	6934	600												
83-3	595286.1	2204563.15	24	25	93	6961	650												

Table D5-3 Abandonment Information for Historic Exploration Holes (Page2 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
83-4	595521.1	2204570.13	24	25	93	6968	1200												
83-5	594510.08	2204496.14	24	25	93	6940	800												
84-1	593998.07	2204508.16	24	25	93	6929	800												
86-1	595611.08	2204417.15	13	25	93	6970	703												
86-2	595612.09	2204466.16	13	25	93	6970	800												
86-3	595613.08	2204371.14	13	25	93	6968	800												
86-4	597087.09	2204169.15	13	25	93	6997	800												
86-5	595719.1	2204365.16	13	25	93	6971	960												
88-1	595729.1	2204769.15	13	25	93	6967	600												
88-2	595725.1	2204565.15	13	25	93	6969	800												
131-1	595892.05	2205988.14	13	25	93	6960	800												
131-2	595620.1	2204668.15	13	25	93	6970	760												
131-3	595619.08	2204758.13	13	25	93	6968	600												
131-4	595730.09	2204769.15	13	25	93	6969	1200												
131-5	595524.09	2204770.15	24	25	93	6965	800												
135-1	594204.1	2204701.14	24	25	93	6932	1200												
139-1	593471.06	2205237.14	24	25	93	6920	780												
139-2	593493.05	2205525.13	24	25	93	6920	1200												
139-3	593493.05	2205777.14	24	24	93	6916	800												
140-1	593492.06	2206063.13	19	25	92	6910	760												
140-2	593491.05	2207525.15	19	25	92	6915	800												
140-3	593485.04	2207223.14	19	25	92	6914	1200												
557	598507.06	2211827.2	17	25	92	6985	650												
558	595807.03	2211804.17	18	25	92	6944	650												
844	591721	2212210.16	20	25	92	6864	560	1969											
A23	596854.02	2213320.18	17	25	92	6955	700	1970	Conoco										
A66	597490.06	2210635.19	18	25	92	6945	360	1970	Conoco										
A67	599898.06	2210516.19	18	25	92	7010	740	1970	Conoco										
A176	598445.08	2210978.18	18	25	92	6975	500	1970	Conoco										
A177	598464.04	2212691.2	17	25	92	6980	500	1970	Conoco										
A178	596051.03	2213327.16	17	25	92	6950	500	1970	Conoco										
A179	596451.02	2213324.16	17	25	92	6960	500	1970	Conoco										
A180	598481.99	2217895.21	16	25	92	6995	620	1970	Conoco										
A181	596250.04	2213328.16	17	25	92	6955	520	1970	Conoco										
A185	595260.01	2213348.16	20	25	92	6939	500/600	1970/1	Conoco										
A186	598324.03	2217169.21	16	25	92	6995	620	1970	Conoco										
A187	594860.03	2213350.17	20	25	92	6935	500	1970	Conoco										
A188	595061.04	2213350.17	20	25	92	6935	500	1970	Conoco										
A189	598408.03	2216378.2	17	25	92	6995	620	1970	Conoco										
A190	595445.01	2213345.16	20	25	92	6935	500	1970	Conoco										

Table D5-3 Abandonment Information for Historic Exploration Holes (Page3 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
A191	598352.02	2215596.21	17	25	92	6985	690	1970	Conoco										
A196	598399.04	2214795.19	17	25	92	6980	640	1970	Conoco										
A228	598495.05	2213839.18	17	25	92	6983	700	1970	Conoco										
A399	598369.05	2215159.18	17	25	92	6990	520	1970	Conoco										
A400	598506.04	2212209.19	17	25	92	6980	580	1970	Conoco										
A426	598471.07	2211382.19	18	25	92	6980	600	1970	Conoco										
A442	598409.05	2213041.17	17	25	92	6985	600	1970	Conoco										
A443	598364.03	2214974.21	17	25	92	6990	520	1970	Conoco										
CG2-1	600404	2218314.22	16	25	92	7034	660	0											
D19	599857.04	2216739.21	17	25	92	7015	600	0											
D20	598325.08	2209390.16	18	25	92	6975	616	0											
D21	597485.04	2214405.19	17	25	92	6960	700	0											
D22	596360.06	2210438.15	18	25	92	6942	640	0											
D23	593865.04	2210460.15	19	25	92	6910	560	0											
D49	595115.01	2212805.16	20	25	92	6920	660	1970											
D50	595060.05	2210459.15	19	25	92	6921	600	0											
D51	592887.06	2210468.16	19	25	92	6895	780	0											
D52	593851.03	2211615.17	19	25	92	6905	540	0											
D53	599885.03	2213098.22	17	25	92	7010	600	0											
D54	599885.03	2215547.2	17	25	92	7010	600	0											
D55	597485.04	2215579.21	17	25	92	6980	780	0											
D75	597485.04	2213182.16	17	25	92	6960	600	1977											
D76	595083.02	2215205.18	20	25	92	6950	600	1977											
D96	595113.01	2214010.16	20	25	92	6935	540	1970											
D131	595100.02	2214398.18	20	25	92	6942	520	1977											
D132	596555.07	2210458.15	18	25	92	6940	640	1977											
D144	596455.05	2210449.16	18	25	92	6943	540	0											
D149	595117.01	2213688.18	20	25	92	6935	540	1970											
D150	595105.04	2214195.16	20	25	92	6937	540	1970											
D156	595125.02	2213586.18	20	25	92	6935	540	1970											
OH1	598115.02	2218381.22	16	25	92	6991	323	1968											
P1-16	595944.98	2217700.17	16	25	92	6945	680	1988	PNC	PlugGel									
P1-17	596669.02	2213891.17	17	25	92	6961	500	1987	PNC	PlugGel									
P1-18	595993.02	2211572.17	18	25	92	6939	560	1987	PNC	PlugGel							Couldn't locate		
P1-19	594450.06	2206714.15	19	25	92	6934	560	1987	PNC	PlugGel									
P1-20	595263.03	2212905.18	20	25	92	6927	560	1987	PNC	PlugGel									
P1-24	593705.05	2205770.13	24	25	93	6917	600	1987	PNC	PlugGel									
P2-16	596359.99	2217708.18	16	25	92	6942	600	1988	PNC	PlugGel									
P2-17	596435.04	2213125.17	17	25	92	6949	660	1988	PNC	PlugGel									
P2-18	595955.02	2211702.18	18	25	92	6949	500	1990	PNC	PlugGel							Couldn't locate		

Table D5-3 Abandonment Information for Historic Exploration Holes (Page4 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
P2-19	593945.04	2206898.14	19	25	92	6920	720	1988	PNC	PlugGel									
P2-20	595325.01	2213920.18	20	25	92	6935	560	1987	PNC	PlugGel									
P2-24	593578.1	2204250.12	24	25	93	6925	560	1987	PNC	PlugGel									
P3-17	595903.01	2214910.2	17	25	92	6946	640	1988	PNC	PlugGel									
P3-18	596042.04	2211702.18	18	25	92	6944	500	1990	PNC	PlugGel									
P3-19	595757.06	2210925.16	19	25	92	6931	500	1992	PNC	PlugGel									
P3-20	595415.02	2212912.19	20	25	92	6934	520	1990	PNC	PlugGel									
P3-24	593083.08	2202706.13	24	25	93	6920	730	1988	PNC	PlugGel									
P4-17	596705.02	2214320.19	17	25	92	6964	633	1988	PNC	PlugGel									
P4-18	596141.03	2211693.16	18	25	92	6942	500	1990	PNC	PlugGel									
P4-19	595632.04	2210922.16	19	25	92	6929	500	1992	PNC	PlugGel									
P4-20	595465.03	2212912.19	20	25	92	6934	520	1990	PNC	PlugGel									
P5-17	596255.03	2212964.18	17	25	92	6945	650	1988	PNC	PlugGel									
P5-18	596192.03	2211689.16	18	25	92	6940	500	1990	PNC	PlugGel									
P5-19	595456.07	2210913.17	19	25	92	6933	500	1992	PNC	PlugGel									
P5-20	595565.04	2212915.19	20	25	92	6936	520	1990	PNC	PlugGel									
P6-17	596009.03	2212119.18	17	25	92	6946	500	1990	PNC	PlugGel									
P6-18	595856.06	2210922.16	18	25	92	6935	500	1992	PNC	PlugGel									
P6-19	595359.04	2210916.18	19	25	92	6933	500	1992	PNC	PlugGel									
P6-20	595615.01	2212916.19	20	25	92	6937	520	1990	PNC	PlugGel									
P7-17	596059.04	2212118.18	17	25	92	6948	500	1990	PNC	PlugGel									
P7-19	595801.06	2211125.15	19	25	92	6933	500	1992	PNC	PlugGel									
P7-20	595652.03	2212925.18	20	25	92	6935	520	1990	PNC	PlugGel									
P8-17	596208.04	2212115.17	17	25	92	6953	500	1990	PNC	PlugGel									
P8-19	595602.05	2211118.17	19	25	92	6936	500	1992	PNC	PlugGel									
P9-17	596005.03	2211912.15	17	25	92	6947	500	1990	PNC	PlugGel									
P10-17	596207.02	2211923.17	17	25	92	6950	500	1990	PNC	PlugGel									
RD34	598491.02	2219625.2	16	25	92	6972	840	0											
RD125	595904.98	2219820.18	21	25	92	6955	480	1968											
RD131	599905.02	2219820.21	16	25	92	7005	850	1968											
RD188	596037.02	2215568.17	17	25	92	6950	800	1968											
RD189	597429.98	2217545.19	16	25	92	6975	800	1968											
RD210	596401.99	2221870.21	16	25	92	6980	600	1968											
RD301	596485.01	2218820.2	16	25	92	6945	600	1968											
RD343	594646.02	2214392.18	20	25	92	6947	650	1968											
RD345	596004.04	2214099.17	17	25	92	6950	650	1968											
RD392	595876.99	2218386.18	16	25	92	6940	600	1968											
RD393	596515	2221500.22	16	25	92	6963	200	1968											
RD404	598240	2218465.2	16	25	92	6985	550	1968											
RD412	598755.03	2214360.19	17	25	92	6997	700	1968											

Table D5-3 Abandonment Information for Historic Exploration Holes (Page5 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
RD436	595141.03	2211158.17	19	25	92	6925	670	1968											
RD445	598456.01	2221499.22	16	25	92	6987	600	1968											
RD446	599729.04	2217176.19	16	25	92	7015	800	1968											
RE6	585415.01	2207290.12	30	25	92	6800	800												
TE1	593316.09	2204335.12	24	25	93	6920	720	1976	TG		None	Dry			Yes				
TE2	593169.09	2204479.15	24	25	93	6918	700	1976	TG		Octoplug	188	191		Yes				
TE3	594956.1	2204613.13	24	25	93	6946	680	1976	TG		? Too Deep				Yes				
TE4	595053.1	2204676.13	24	25	93	6950	680	1976	TG		Octoplug	205	401	ShurGel & QuickGel	Yes				
TE5	594853.1	2204660.14	24	25	93	6945	680	1976	TG		Sagebrush	Dry			Yes				
TE6	595558.08	2204518.14	24	25	93	6969	700	1976	TG		Octoplug	Dry			Yes				
TE7	595409.08	2204391.14	24	25	93	6943	700	1976	TG		Octoplug	Dry			Yes				
TE8	595511.1	2204170.12	24	25	93	6967	720	1976	TG		Octoplug	Dry			Yes				
TE9	594133.09	2202533.15	24	25	93	6939	820	1976	TG		Octoplug	210	276		Yes				
TE10	594052.08	2202729.13	24	25	93	6940	820	1977	TG		Octoplug	210	221		Yes				
TE11	594240.09	2203252.14	24	25	93	6948	720	1977	TG		Octoplug	Dry			Yes				
TE12	594097.1	2203400.14	24	25	93	6949	720	1977	TG		Octoplug	215	227		Yes				
TE17	595168.1	2204405.16	24	25	93	6961	1200	1977	TG		? Too Deep				Yes				
TE18	593478.08	2204245.14	24	25	93	6923	775	1977	TG		None	Dry			Yes				
TE19	593073.08	2204571.13	24	25	93	6917	700	1977	TG		Octoplug	Dry			Yes				
TE20	593051.09	2204215.13	24	25	93	6917	800	1977	TG		Octoplug	Dry			Yes				
TE21	593969.09	2202348.15	24	25	93	6936	1200	1977	TG		Octoplug	207	238		Yes				
TE22	594260.08	2203457.14	24	25	93	6949	800	1977	TG		Octoplug	215	235		Yes				
TE23	593929.1	2203500.14	24	25	93	6945	800	1977	TG		Octoplug	210	228		Yes				
TE26	595582.1	2203010.15	24	25	93	6963	600	1977	TG		Octoplug	221	225		Yes				
TE27	595359.07	2203343.12	24	25	93	6961	600	1977	TG			*Not Located*							
TE28	595146.09	2203764.13	24	25	93	6963	640	1977	TG		Octoplug	224	444	ShurGel & QuickGel	Yes				
TE29	594657.08	2204119.14	24	25	93	6952	620	1977	TG		None	Dry			Yes				
TE30	595096.08	2204232.12	24	25	93	6962	620	1977	TG		Octoplug	Dry			Yes				
TE31	595563.1	2203635.15	24	25	93	6962	620	1977	TG			*Not Located*							
TE32	595969.1	2203437.16	13	25	93	6972	700	1977	TG			*Not Located*							
TE33	596029.08	2203969.13	13	25	93	6977	800	1977	TG		? Down Hole				Yes				
TE34	595508.04	2205700.15	24	25	93	6964	620	1977	TG		Octoplug	223	228		Yes				
TE35	595544.11	2202972.15	24	25	93	6963	620	1977	TG		Octoplug	223	235		Yes				
TE36	595398.09	2203423.12	24	25	93	6962	620	1977	TG		Octoplug	Dry			Yes				
TE37	595327.08	2203351.13	24	25	93	6957	620	1977	TG		Octoplug	219	277		Yes				
TE38	595462.07	2203643.14	24	25	93	6961	380	1977	TG										
TE39	595123.09	2204273.15	24	25	93	6962	620	1977	TG		None	216	220		Yes				
TE40	595054.08	2204202.14	24	25	93	6961	620	1977	TG			*Not Located*							

Table D5-3 Abandonment Information for Historic Exploration Holes (Page6 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TE41	595721.1	2202859.14	31	25	93	6970	620	1977	TG			*Not Located*							
TE42	595433.1	2203177.15	24	25	93	6957	620	1977	TG		Permaplug	219	228		Yes				
TE43	595201.08	2203537.16	24	25	93	6956	620	1977	TG		Permaplug	218	226		Yes				
TE44	595234.09	2204071.13	24	25	93	6963	620	1977	TG		? Down Hole								
TE45	594991.08	2204357.15	24	25	93	6954	620	1977	TG		Octoplug	211	221		Yes				
TE46	594499.09	2204304.13	24	25	93	6943	1200	1977	TG		None	Dry			Yes				
TE47	594209.09	2204194.13	24	25	93	6940	760	1977	TG		Octoplug	204	248		Yes				
TE48	594349.1	2203883.15	24	25	93	6947	600	1977	TG		None	212	225		Yes				
TE49	594361.08	2203138.12	24	25	93	6938	600	1977	TG			*Not Located*							
TE50	594311.1	2202895.13	24	25	93	6940	800	1977	TG		Octoplug	209	234		Yes				
TE51	594282.09	2202540.13	24	25	93	6941	700	1977	TG		Octoplug	Blockage at about 100 ft.			Yes				
TE52	594068.09	2201824.14	24	25	93	6936	1200	1977	TG		Octoplug	209	247		Yes				
TE53	593827.08	2201824.14	24	25	93	6935	800	1977	TG		Octoplug	210	238		Yes				
TE56	593541.08	2202141.12	24	25	93	6930	700	1977	TG		None	203	230		Yes				
TE57	593908.1	2202619.12	24	25	93	6938	1200	1977	TG		Octoplug	210	235		Yes				
TE58	593183.07	2202195.11	24	25	93	6921	1200	1977	TG			*Not Located*							
TE59	593222.08	2202557.12	24	25	93	6927	700	1977	TG			*Not Located*							
TE60	593526.09	2203012.15	24	25	93	6923	700	1977	TG			*Not Located*							
TE61	593722.08	2203363.12	24	25	93	6941	1200	1977	TG		Octoplug	209	225		Yes				
TE62	593126.07	2202936.13	24	25	93	6917	700	1977	TG			*Not Located*							
TE63	593804.08	2203657.13	24	25	93	6936	700	1977	TG		Octoplug	Dry			Yes				
TE64	593698.09	2203836.14	24	25	93	6931	680	1977	TG		None	195	224		Yes				
TE65	593638.08	2203697.13	24	25	93	6931	1203	1977	TG		Octoplug	Dry			Yes				
TE66	593619.08	2204003.15	24	25	93	6927	700	1977	TG		Octoplug	Dry			Yes				
TE67	593312.08	2204125.14	24	25	93	6921	719	1977	TG		Octoplug	191	389	ShurGel & QuickGel	Yes				
TE68	593833.09	2204381.13	24	25	93	6928	1202	1977	TG			*Not Located*							
TE69	593486.09	2204515.14	24	25	93	6922	793	1977	TG		Octoplug	191	209		Yes	2006	650	Grout	25' Cement
TE70	593246.07	2204209.12	24	25	93	6919	1202	1977	TG		Octoplug	189	252		Yes				
TE71	593393.07	2204517.14	24	25	93	6923	700	1977	TG		Octoplug	Dry			Yes	2006	650	Grout	25' Cement
TE72	593494.1	2204411.11	24	25	93	6924	700	1977	TG		Octoplug	192	211		Yes	2006	650	Grout	25' Cement
TE73	593604.09	2204522.15	24	25	93	6926	700	1977	TG		Octoplug	Dry			Yes	2006	650	Grout	25' Cement
TE74	595632.08	2202770.16	24	25	93	6969	600	1977	TG		Octoplug	227	249		Yes				
TE75	595532.1	2202655.12	24	25	93	6968	600	1977	TG		Octoplug	229	270		Yes				
TE77	593783.08	2201859.13	24	25	93	6934	640	1977	TG		None	Dry			Yes				
TE79	594306.08	2201716.13	23	25	93	6939	700	1977	TG		None	214	308		Yes				
TE80	594169.09	2201859.13	24	25	93	6937	680	1977	TG		Octoplug	Dry			Yes				
TE81	595311.1	2202715.11	24	25	93	6958	700	1977	TG		Octoplug	?	250		Yes				
TE83	593457.08	2201861.13	23	25	93	6928	640	1977	TG		Octoplug	207	326		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page7 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TE84	594536.1	2202965.14	24	25	93	6944	600	1977	TG		Octoplug	212	241		Yes				
TE87	595530.09	2202265.15	23	25	93	6969	700	1977	TG		Octoplug	233	238		Yes				
TE88	594716.08	2202856.11	23	25	93	6948	700	1977	TG		Octoplug	216	219		Yes				
TE89	593597.1	2204508.16	24	25	93	6927	660	1977	TG		Octoplug	194	230		Yes	2006	650	Grout	25' Cement
TE90	593905.08	2202120.12	24	25	93	6936	700	1978	TG		Permaplug	209	243		Yes				
TE91	593304.08	2203117.15	24	25	93	6916	700	1978	TG		? Too Deep				Yes				
TE92	593305.1	2202719.12	24	25	93	6927	700	1978	TG		Permaplug	204	252		Yes				
TE93	593507.09	2202516.12	24	25	93	6933	600	1978	TG		Permaplug	205	225		Yes				
TE94	593704.1	2202120.12	24	25	93	6931	700	1978	TG		Permaplug	205	227		Yes				
TE96	593505.09	2203320.12	24	25	93	6928	700	1978	TG		Permaplug	203	207		Yes				
TE97	593505.09	2203120.13	24	25	93	6925	700	1978	TG		? Down Hole								
TE101	593305.1	2202920.11	24	25	93	6919	720	1978	TG		Permaplug	195	199		Yes				
TG1-17	595905.01	2211920.16	17	25	92	6944	500	1978	TG		Permaplug	160	238		Yes				
TG1-18	595705.05	2210720.16	18	25	92	6929	600	1978	TG		Permaplug	151	156		Yes				
TG1-19	593105	2210720.14	19	25	92	6908	600	1978	TG		Permaplug	145	223		Yes				
TG1-20	595505.03	2211920.16	20	25	92	6936	500	1978	TG										
TG1A-19(60deg)	595427.03	2211712.16	19	25	92	6940	200	1980	TG										
TG1A-19(75deg)	595427.03	2211712.16	19	25	92	6940	380	1980	TG		? Angle Hole				Yes				
TG1A-20(60deg)	595607.04	2212520.16	20	25	92	6933	200	1980	TG		? Angle Hole				Yes				
TG1A-20(75deg)	595605.04	2212520.16	20	25	92	6933	380	1980	TG										
TG2-18	595905.05	2210720.16	18	25	92	6933	600	1978	TG		Permaplug	156	242		Yes				
TG2-19	593505.02	2210720.14	19	25	92	6912	600	1978	TG		Permaplug	143	144		Yes				
TG2-20	595705.02	2211920.16	20	25	92	6940	500	1978	TG										
TG3-17	596105.04	2213720.19	17	25	92	6945	600	1978	TG		Permaplug	155	160		Yes				
TG3-18	596105.07	2210720.16	18	25	92	6939	600	1978	TG		? Too Deep				Yes				
TG3-19	593905.04	2210720.14	19	25	92	6912	600	1978	TG		Permaplug	129	139		Yes				
TG3-20	595705.02	2212320.17	20	25	92	6937	500	1978	TG										
TG4-18	596305.07	2210720.16	18	25	92	6940	600	1978	TG		Permaplug	164	176		Yes				
TG4-19	594305.06	2210720.14	19	25	92	6923	600	1978	TG		Permaplug	138	>450	ShurGel & QuickGel	Yes				
TG4-20	595505.03	2212320.17	20	25	92	6934	600	1978	TG										
TG5-17	595905.01	2212320.17	17	25	92	6939	500	1978	TG		Permaplug	151	368	ShurGel & QuickGel	Yes				
TG5-18	596505.06	2210720.16	18	25	92	6944	660	1978	TG		Permaplug	159	168		Yes				
TG5-19	594705.05	2210720.16	19	25	92	6934	600	1978	TG		Permaplug	145	215		Yes				
TG5-20	595705.02	2212720.15	20	25	92	6934	600	1978	TG										

Table D5-3 Abandonment Information for Historic Exploration Holes (Page8 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TG6-17	596105.04	2211920.16	17	25	92	6950	600	1978	TG		Permaplug	166	395	ShurGel & QuickGel	Yes				
TG6-18	596705.05	2210720.16	18	25	92	6947	660	1978	TG		Permaplug	166	306		Yes				
TG6-19	595105.07	2210720.16	19	25	92	6927	600	1978	TG		? Too Deep				Yes				
TG6-20	595505.03	2212720.15	20	25	92	6931	600	1978	TG										
TG7-17	596105.04	2212320.17	17	25	92	6945	540	1978	TG		Permaplug	157	239		Yes				
TG7-18	596905.08	2210720.16	18	25	92	6949	660	1978	TG		Permaplug	167	224		Yes				
TG7-19	595305.06	2210720.16	19	25	92	6929	600	1978	TG		? Down Hole				Yes				
TG7-20	595105.04	2213120.16	20	25	92	6932	520	1978	TG										
TG8-17	596305.03	2212320.17	17	25	92	6953	560	1978	TG		? Down Hole								
TG8-18	595914.04	2211508.17	18	25	92	6944	600	1978	TG		Permaplug	157	341		Yes				
TG8-19	595505.06	2210720.16	19	25	92	6926	600	1978	TG		Yes				Yes				
TG8-20	595505.03	2213120.16	20	25	92	6934	600	1978	TG										
TG9-17	595828.03	2212707.16	17	25	92	6936	560	1978	TG		Permaplug	151	163		Yes				
TG9-18	595905.05	2211120.17	18	25	92	6935	600	1978	TG			*Not Located*							
TG9-19	595505.06	2211120.17	19	25	92	6935	600	1978	TG		Permaplug	158	>450	ShurGel & QuickGel	Yes				
TG9-20	595305.03	2213120.16	20	25	92	6932	600	1978	TG										
TG10-17	596105.04	2212720.15	17	25	92	6941	600	1978	TG		Permaplug	153	313		Yes				
TG10-18	596305.07	2211120.17	18	25	92	6946	600	1978	TG		Permaplug	166	298		Yes				
TG10-19	595305.03	2211120.17	19	25	92	6932	500	1978	TG		Permaplug	154	283		Yes				
TG10-20	595305.03	2212720.15	20	25	92	6930	600	1978	TG										
TG11-17	596305.03	2212720.18	17	25	92	6949	600	1978	TG		Permaplug	159	186		Yes				
TG11-18	596711.06	2211120.17	18	25	92	6951	660	1978	TG			*Not Located*							
TG11-19	595705.05	2211120.17	19	25	92	6932	500	1978	TG		Permaplug	Dry			Yes				
TG11-20	595305.03	2212320.17	20	25	92	6931	600	1978	TG										
TG12-17	595826.03	2213108.17	17	25	92	6939	560	1978	TG		Permaplug	152	154		Yes				
TG12-18	597105.07	2211120.17	18	25	92	6959	660	1978	TG		Permaplug	173	206		Yes				
TG12-19	595705.02	2211520.18	19	25	92	6942	500	1978	TG		Permaplug	160	331		Yes				
TG12-20	595705.02	2213320.18	20	25	92	6938	600	1978	TG										
TG13-17	596105.04	2213120.16	17	25	92	6949	600	1978	TG		Permaplug	158	288		Yes				
TG13-18	595905.05	2211220.17	18	25	92	6936	500	1979	TG		Permaplug	154	379	ShurGel & QuickGel	Yes				
TG13-19	595305.03	2211520.18	19	25	92	6932	540	1978	TG		? Down Hole				Yes				
TG13-20	595705.02	2213720.19	20	25	92	6942	600	1978	TG										
TG14-18	597105.04	2211520.18	18	25	92	6949	600	1978	TG			*Not Located*							
TG14-19	595505.03	2211520.18	19	25	92	6941	500	1978	TG		Permaplug	159	175		Yes				
TG14-20	595505.03	2213720.19	20	25	92	6941	540	1978	TG										
TG15-17	596505.03	2213720.19	17	25	92	6961	600	1978	TG		Permaplug	167	341		Yes				
TG15-18	596116.03	2211511.17	18	25	92	6943	500	1978	TG		Permaplug	156	238		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page9 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TG15-19	595305.06	2210920.18	19	25	92	6930	580	1980	TG		? Too Deep				Yes				
TG15-20	595305.03	2213720.19	20	25	92	6938	540	1978	TG										
TG16-17	596505.03	2214120.17	17	25	92	6961	600	1978	TG		Permaplug	167	241		Yes				
TG16-19	595505.06	2210920.18	19	25	92	6930	580	1980	TG			*Not Located*							
TG16-20	595305.03	2214120.17	20	25	92	6938	600	1978	TG										
TG17-17	596105.04	2214520.18	17	25	92	6949	600	1978	TG		Permaplug	160	205		Yes				
TG17-19	595705.05	2210920.18	19	25	92	6929	580	1980	TG		? Too Deep				Yes				
TG17-20	595505.03	2214120.17	20	25	92	6940	540	1978	TG										
TG18-17	596505.03	2214520.18	17	25	92	6961	600	1978	TG		Permaplug	167	190		Yes				
TG18-19	595305.03	2211320.16	19	25	92	6931	580	1980	TG		Yes				Yes				
TG18-20	595705.02	2214120.17	20	25	92	6943	600	1978	TG										
TG19-17	596105.04	2214920.19	17	25	92	6948	600	1978	TG		Permaplug	156	203		Yes				
TG19-19	595505.03	2211320.16	19	25	92	6940	580	1980	TG		? Too Deep				Yes				
TG19-20	595715.03	2214516.18	20	25	92	6948	600	1978	TG										
TG20-17	596505.03	2214920.19	17	25	92	6956	600	1978	TG		Permaplug	161	294		Yes				
TG20-18	595905.05	2210920.18	18	25	92	6935	580	1980	TG		? Too Deep				Yes				
TG20-19	595705.02	2211320.16	19	25	92	6935	580	1980	TG		? Too Deep				Yes				
TG20-20	595505.03	2214520.18	20	25	92	6941	540	1978	TG										
TG21-17	596305.03	2214120.17	17	25	92	6954	600	1978	TG		Permaplug	163	357	ShurGel & QuickGel	Yes				
TG21-18	595905.01	2211320.19	18	25	92	6933	580	1980	TG		? Too Deep				Yes				
TG21-19	595505.03	2211720.17	19	25	92	6936	580	1980	TG		? Down Hole				Yes				
TG21-20	595305.03	2214520.18	20	25	92	6949	516	1978	TG										
TG22-17	596705.02	2214120.2	17	25	92	6966	600	1978	TG		Permaplug	171	248		Yes				
TG22-18	596105.04	2211320.19	18	25	92	6938	580	1980	TG		? Down Hole				Yes				
TG22-19	595705.02	2211720.17	19	25	92	6942	580	1980	TG		? Too Deep				Yes				
TG22-20	595305.03	2214920.16	20	25	92	6947	540	1978	TG										
TG23-17	595905.01	2215320.17	17	25	92	6948	600	1978	TG		Permaplug	155	186		Yes				
TG23-18	595905.01	2211720.17	18	25	92	6942	580	1980	TG		None	Dry			Yes		Couldn't locate		
TG23-19	595705.05	2210520.15	19	25	92	6936	580	1980	TG		? Too Deep				Yes				
TG23-20	595505.03	2214920.16	20	25	92	6944	540	1978	TG										
TG24-17	596105.04	2215320.17	20	25	92	6944	600	1978	TG		Permaplug	157	201		Yes				
TG24-18	596119.02	2211707.18	18	25	92	6948	580	1980	TG		? Too Deep				Yes				
TG24-19	595505.06	2210520.15	19	25	92	6931	580	1980	TG										
TG24-20	595705.02	2214920.19	17	25	92	6951	600	1978	TG										
TG25-17	595905.01	2215720.21	17	25	92	6954	600	1978	TG		Permaplug	159	221		Yes				
TG25-18	596305.03	2211720.17	18	25	92	6942	580	1980	TG		? Too Deep				Yes				
TG25-19	595305.06	2210520.15	19	25	92	6931	580	1980	TG		? Too Deep				Yes				
TG25-20	595705.02	2215320.17	20	25	92	6949	600	1978	TG										
TG26-17	596105.04	2215720.21	17	25	92	6953	600	1978	TG		Permaplug	158	166		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page10 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TG26-20	595505.03	2215320.17	20	25	92	6950	540	1978	TG										
TG27-17	596505.03	2215720.21	17	25	92	6960	600	1978	TG		Permaplug	163	271		Yes				
TG27-18	596005.03	2211699.17	18	25	92	6951	580	1980	TG		None	Dry			Yes				
TG27-20	595305.03	2215320.17	20	25	92	6951	540	1978	TG										
TG28-17	596505.03	2215320.17	17	25	92	6956	600	1978	TG		Permaplug	162	225		Yes				
TG28-20	595305.03	2215720.21	20	25	92	6956	540	1978	TG										
TG29-17	596305.03	2213720.19	17	25	92	6946	600	1978	TG		Permaplug	161	238		Yes				
TG29-20	595505.03	2215720.21	20	25	92	6953	540	1978	TG										
TG30-17	596705.02	2214520.18	17	25	92	6964	600	1978	TG		Permaplug	168	243		Yes				
TG30-20	595705.02	2215720.21	20	25	92	6952	600	1978	TG										
TG31-20	595705.02	2216120.19	20	25	92	6957	600	1978	TG										
TG32-17	595905.01	2216120.19	17	25	92	6956	600	1978	TG		Permaplug	160	196		Yes				
TG32-20	595505.03	2216120.19	20	25	92	6953	540	1978	TG										
TG33-17	596105.04	2216120.19	17	25	92	6957	600	1978	TG		Permaplug	161	200		Yes				
TG33-20	595305.03	2216120.19	20	25	92	6949	540	1978	TG										
TG34-17	595905.01	2216520.2	17	25	92	6958	600	1978	TG		Permaplug	158	275		Yes				
TG34-20	595705.02	2216520.2	20	25	92	6955	600	1978	TG										
TG35-17	595905.01	2216920.18	17	25	92	6954	600	1978	TG		Permaplug	152	333		Yes				
TG35-20	595505.03	2216520.2	20	25	92	6949	540	1978	TG					Resealed 1983?					
TG36-17	595905.01	2212120.18	17	25	92	6940	580	1980	TG		? Too Deep				Yes				
TG36-20	595305.03	2216520.2	20	25	92	6943	540	1978	TG										
TG37-17	596105.04	2212120.18	17	25	92	6947	580	1980	TG		Permaplug	161	317		Yes				
TG38-17	595905.01	2212520.16	17	25	92	6937	580	1980	TG		Permaplug	151	176		Yes				
TG39-17	596105.04	2212520.16	17	25	92	6941	580	1980	TG		? Too Deep				Yes				
TG39-20	595704.99	2216920.18	20	25	92	6950	600	1978	TG										
TG40-17	596305.03	2212520.16	17	25	92	6949	580	1980	TG		? Too Deep				Yes				
TG41-17	595905.01	2212920.17	17	25	92	6938	580	1980	TG		? Too Deep				Yes				
TG41-20	595504.99	2216920.18	20	25	92	6946	540	1978	TG										
TG42-17	596145.04	2212920.17	17	25	92	6942	580	1980	TG		? Too Deep				Yes				
TG42-20	595305	2216920.18	20	25	92	6941	540	1978	TG										
TG43-17	596305.03	2213120.16	17	25	92	6950	580	1980	TG		Permaplug	161	438	ShurGel & QuickGel	Yes				
TG43-20	595105.01	2216920.18	20	25	92	6939	540	1978	TG										
TG44-17	596505.03	2213520.2	17	25	92	6958	580	1980	TG		Permaplug	166	286		Yes				
TG44-20	592105	2212120.15	20	25	92	6879	460	1979	TG										
TG45-17	596505.03	2213920.18	17	25	92	6958	580	1980	TG		? Too Deep				Yes				
TG46-17	596705.02	2213920.18	17	25	92	6962	580	1980	TG		? Down Hole				Yes				
TG47-17	596505.03	2214320.19	17	25	92	6958	580	1980	TG		? Too Deep				Yes				
TG48-17	596305.03	2212120.18	17	25	92	6951	580	1980	TG		? Too Deep				Yes				
TG49-17	596005.03	2212520.16	17	25	92	6938	580	1980	TG		Permaplug	151	159		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page11 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TG50-17	596205.02	2212520.16	17	25	92	6945	580	1980	TG		? Too Deep				Yes				
TG51-17	597105.04	2214720.17	17	25	92	6972	600	1981	TG		Concrete	Did Not Open							
TG52-17	599105.04	2215520.19	17	25	92	7001	600	1981	TG		Concrete	Did Not Open							
TG52-20	595305.03	2212120.18	20	25	92	6929	580	1980	TG										
TG53-20	595505.03	2212120.18	20	25	92	6933	580	1980	TG										
TG54-20	595705.02	2212120.18	20	25	92	6936	580	1980	TG										
TG55-20	595105.04	2212520.16	20	25	92	6926	580	1980	TG										
TG56-20	595305.03	2212520.16	20	25	92	6928	580	1980	TG										
TG57-20	595505.03	2212520.16	20	25	92	6932	580	1980	TG										
TG58-20	595705.02	2212520.16	20	25	92	6936	580	1980	TG										
TG59-20	595305.03	2212920.17	20	25	92	6928	580	1980	TG										
TG60-20	595505.03	2212920.17	20	25	92	6930	580	1980	TG										
TG61-20	595717.03	2212910.19	20	25	92	6939	580	1980	TG										
TG62-20	595505.03	2213320.18	20	25	92	6933	580	1980	TG										
TG63-20	595305.03	2213520.17	20	25	92	6938	580	1980	TG										
TG64-20	595505.03	2213520.2	20	25	92	6938	580	1980	TG										
TG65-20	595705.02	2213520.2	20	25	92	6936	580	1980	TG										
TG66-20	595305.03	2213920.18	20	25	92	6935	580	1980	TG										
TG67-20	595505.03	2213920.18	20	25	92	6939	580	1980	TG										
TG68-20	595705.02	2213920.18	20	25	92	6941	580	1980	TG										
TG69-20	595305.03	2214320.19	20	25	92	6937	580	1980	TG										
TG70-20	595505.03	2214320.19	20	25	92	6941	580	1980	TG										
TG71-20	595705.02	2213120.16	20	25	92	6935	580	1980	TG										
TG72-20	595405.01	2212520.16	20	25	92	6930	580	1980	TG										
TG73-20	595805.03	2212520.16	20	25	92	6935	580	1980	TG										
TGC1-19	595405.04	2210920.18	19	25	92	6932	500	1980	TG		Permaplug	154	180		Yes				
TGC1A(45	595207.05	2210920.18	19	25	92	6927	140	1980	TG		? Angle Hole				Yes				
TGC1A(60	595205.05	2210920.18	19	25	92	6927	200	1980	TG		? Angle Hole				Yes				
TGC2-19	595565.07	2210920.18	19	25	92	6935	480	1980	TG		Yes				Yes				
TGC16	595905.05	2211170.16	18	25	92	6936	475	1979	TG										
TGC17	595905.05	2211160.17	18	25	92	6935	423	1979	TG		? Too Deep				Yes				
TGC18	595905.05	2211150.16	18	25	92	6935	442	1979	TG		Permaplug	155	369	ShurGel & QuickGel	Yes				
TGC19	595905.05	2211130.16	18	25	92	6935	465	1979	TG		Permaplug	155	389		Yes				
TGC20	596005.06	2210920.18	18	25	92	6939	460	1980	TG		? Too Deep				Yes				
TGC21	595805.06	2210920.18	18	25	92	6933	477	1980	TG		? Down Hole				Yes				
TT1	594953.08	2204825.14	24	25	93	6945	680	1976	TG		None	Dry			Yes				
TT2	595475.1	2204952.17	24	25	93	6959	700	1976	TG		Octoplug	Dry			Yes				
TT3	595420.11	2204780.13	24	25	93	6962	720	1976	TG			*Not Located*							
TT4	593417.05	2205460.13	24	25	93	6919	600	1976	TG		Octoplug	Dry			Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page12 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TT5	593395.04	2207708.15	19	25	92	6913	580	1976	TG		Sagebrush	174	356	ShurGel & QuickGel	Yes				
TT6	593412.03	2209201.15	19	25	92	6914	600	1976	TG		Sagebrush	Dry			Yes				
TT7	594288.07	2205245.15	24	25	93	6928	820	1976	TG		Octoplug	Dry			Yes				
TT8	594331.05	2206907.16	19	25	92	6923	740	1976	TG		Sagebrush	Dry			Yes				
TT9	595215.06	2209136.15	19	25	92	6928	600	1976	TG			*Not Located*							
TT13	593270.05	2205464.14	24	25	92	6914	500	1976	TG		Octoplug	Dry			Yes				
TT14	593468.04	2207633.16	19	25	92	6914	500	1976	TG		? Too Deep				Yes				
TT15	593316.06	2207796.13	19	25	92	6912	540	1976	TG		? Down Hole				Yes				
TT16	593275.04	2209357.14	19	25	92	6907	600	1976	TG		Octoplug	165	175		Yes				
TT17	594039.08	2204966.13	24	25	93	6927	1140	1976	TG		Octoplug	Dry			Yes				
TT18	593906.06	2208235.16	19	25	92	6923	1000	1976	TG		Octoplug	163	169		Yes				
TT19	595115.05	2209294.17	19	25	92	6921	600	1976	TG		None	Dry			Yes				
TT20	599133.06	2209282.18	18	25	92	6972	1160	1977	TG		Permaplug	210	270		Yes				
TT22	596083.09	2204681.14	13	25	93	6975	700	1977	TG		Octoplug	223	270		Yes				
TT23	596043.09	2205075.14	13	25	93	6974	600	1977	TG		Octoplug	226	261		Yes				
TT24	596008.08	2205501.13	13	25	93	6972	600	1977	TG		Octoplug	Dry			Yes				
TT25	593708.04	2205143.15	13	25	93	6923	700	1977	TG		Octoplug	184	196		Yes				
TT26	593470.05	2204871.15	24	25	93	6922	700	1977	TG		Octoplug	Dry			Yes				
TT27	593695.08	2204686.15	24	25	93	6929	700	1977	TG		Octoplug	Dry			Yes	2006	650	Grout	25' Cement
TT28	593844.08	2204869.14	24	25	93	6926	700	1977	TG		None	Dry			Yes				
TT29	593677.06	2206284.13	24	25	93	6913	700	1977	TG		Octoplug	Dry			Yes				
TT30	595509.06	2205700.15	19	25	92	6919	780	1977	TG		Octoplug	187	202		Yes				
TT31	594159.05	2207422.15	19	25	92	6923	600	1977	TG			*Not Located*			Yes	10/19/08	600	Grout	8' Cement
TT32	594439.04	2208146.15	19	25	92	6930	600	1977	TG		Octoplug	180	233		Yes				
TT33	593680.05	2209018.16	23	25	93	6911	600	1977	TG		Octoplug	177	208		Yes				
TT34	594905.04	2209306.18	19	25	92	6921	600	1977	TG		None	Dry			Yes				
TT35	593362.06	2209532.15	19	25	92	6909	600	1977	TG		Octoplug	163	183		Yes				
TT36	593543.05	2209921.15	19	25	92	6910	600	1977	TG		Octoplug	164	187		Yes				
TT37	595908.06	2209670.17	19	25	92	6936	800	1977	TG			*Not Located*							
TT38	593926.04	2210194.18	19	25	92	6911	600	1977	TG		None	115	120		Yes				
TT39	595302.05	2209531.15	19	25	92	6930	600	1977	TG		Octoplug	Dry			Yes				
TT40	594804.05	2208920.16	19	25	92	6924	800	1977	TG		Octoplug	Dry			Yes				
TT41	594695.04	2209407.18	19	25	92	6916	600	1977	TG		Octoplug	151	174		Yes				
TT42	595128.04	2209429.18	19	25	92	6925	600	1977	TG			*Not Located*							
TT43	594180.05	2209901.15	19	25	92	6913	1000	1977	TG			*Not Located*							
TT44	593427.06	2209722.16	19	25	92	6912	600	1977	TG		Octoplug	Dry			Yes				
TT45	593611.04	2208653.14	19	25	92	6918	1000	1977	TG		Sagebrush	Dry			Yes				
TT46	593714.04	2208317.16	19	25	92	6920	1000	1977	TG		Octoplug	177	189		Yes				
TT47	594087.06	2208151.16	19	25	92	6921	700	1977	TG		None	156	234		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page13 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TT48	593984.06	2207672.16	19	25	92	6920	1000	1977	TG		Octoplug	Dry			Yes				
TT49	593968.04	2207319.15	19	25	92	6919	1000	1977	TG		None	Dry			Yes				
TT50	594069.04	2206895.14	19	25	92	6919	900	1977	TG		Octoplug	Dry			Yes				
TT51	593748.03	2206819.15	19	25	92	6913	1000	1977	TG		? Too Deep				Yes				
TT52	593825.05	2206062.13	24	25	93	6919	1000	1977	TG		Octoplug	179	376	ShurGel & QuickGel	Yes				
TT53	593280.06	2206263.15	24	25	93	6907	1000	1977	TG		None	Dry			Yes				
TT54	593634.04	2205782.12	24	25	93	6916	700	1977	TG			*Not Located*							
TT55	593362.06	2205643.13	24	25	93	6915	700	1977	TG		Octoplug	182	210		Yes				
TT56	593488.06	2205036.12	24	25	93	6921	700	1977	TG		Octoplug	Dry			Yes				
TT57	593065.04	2204994.12	24	25	93	6916	700	1977	TG		Octoplug	184	194		Yes				
TT58	593252.07	2204765.14	24	25	93	6919	700	1977	TG			*Not Located*							
TT59	593969.09	2204722.14	24	25	93	6928	1060	1977	TG		? Too Deep				Yes				
TT60	594406.09	2204986.13	24	25	93	6933	900	1977	TG		Octoplug	189	210		Yes				
TT61	593485.07	2204631.13	24	25	93	6921	700	1977	TG		? Too Deep				Yes	2006	650	Grout	25' Cement
TT62	595246.1	2205278.14	24	25	93	6948	820	1977	TG		? Down Hole				Yes				
TT63	595435.07	2209681.16	19	25	92	6933	600	1977	TG		Octoplug	Dry			Yes				
TT64	594910.06	2209108.14	19	25	92	6923	600	1977	TG		Octoplug	155	193		Yes				
TT65	594425.06	2208538.15	19	25	92	6928	600	1977	TG		? Too Deep				Yes				
TT66	595025.04	2208968.15	19	25	92	6927	600	1977	TG			*Not Located*							
TT67	594095.06	2207861.13	19	25	92	6922	700	1977	TG			*Not Located*							
TT68	593868.06	2207115.13	19	25	92	6915	700	1977	TG		Octoplug	Dry			Yes				
TT69	593676.08	2204875.12	24	25	93	6924	700	1977	TG			*Not Located*							
TT70	595144.09	2205263.14	24	25	93	6947	760	1977	TG		Octoplug	198	199		Yes				
TT71	595268.08	2205177.14	24	25	93	6951	760	1977	TG		Octoplug	201	204		Yes				
TT72	595357.11	2205291.15	24	25	93	6951	760	1977	TG		Octoplug	199	203		Yes				
TT73	595218.05	2205380.13	24	25	93	6947	760	1977	TG		Octoplug	195	234		Yes				
TT74	595224.05	2209765.16	19	25	92	6928	600	1977	TG		Octoplug	156	170		Yes				
TT75	595342.04	2210066.17	19	25	92	6927	600	1977	TG			*Not Located*							
TT76	593612.06	2209426.18	19	25	92	6921	600	1977	TG		Sagebrush	Dry			Yes				
TT77	593343.06	2208992.15	19	25	92	6909	600	1977	TG		Octoplug	167	180		Yes				
TT78	595072.06	2209155.15	19	25	92	6925	600	1977	TG		Sagebrush	159	184		Yes				
TT79	594757.06	2208708.16	19	25	92	6931	600	1977	TG		Sagebrush	Dry			Yes				
TT80	594528.06	2208397.16	19	25	92	6933	600	1977	TG		Octoplug	180	222		Yes	10/2/08	600	Grout	8' Cement
TT81	594292.04	2208019.15	19	25	92	6926	700	1977	TG		Octoplug	175	232		Yes				
TT82	594140.05	2207810.15	19	25	92	6923	700	1977	TG		Octoplug	176	214		Yes				
TT83	593627.05	2206946.15	19	25	92	6911	700	1977	TG		None	Dry			Yes				
TT84	593492.06	2206483.14	24	25	93	6908	700	1977	TG		None	Dry			Yes				
TT85	594997.05	2209563.17	19	25	92	6921	600	1977	TG		Octoplug	153	320		Yes				
TT86	595136.05	2210060.17	19	25	92	6921	600	1977	TG			*Not Located*							

Table D5-3 Abandonment Information for Historic Exploration Holes (Page14 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TT87	595404.06	2209864.15	19	25	92	6932	600	1977	TG		Octoplug	161	190		Yes				
TT88	595437.07	2210272.17	19	25	92	6926	600	1977	TG			*Not Located*							
TT89	594598.05	2210127.17	19	25	92	6909	600	1977	TG		Octoplug	Dry			Yes				
TT90	595901.07	2210184.17	19	25	92	6937	600	1977	TG		Octoplug	Dry			Yes				
TT94	596605.07	2210420.15	18	25	92	6948	660	1978	TG		? Down Hole				Yes				
TT95	596205.05	2210420.15	18	25	92	6938	660	1978	TG		? Too Deep				Yes				
TT96	595805.06	2210420.15	18	25	92	6934	660	1978	TG		Sagebrush	Dry			Yes	9/26/08	600	Grout	8' Cement
TT97	595425.06	2210413.17	19	25	93	6927	600	1978	TG		? Down Hole				Yes				
TT98	595105.07	2208720.17	19	25	92	6912	700	1978	TG		? Down Hole				Yes				
TT99	594805.06	2208420.16	19	25	92	6916	700	1978	TG		Permaplug	Dry			Yes				
TT100	594605.04	2207820.13	19	25	92	6918	700	1978	TG		Permaplug	187	202		Yes				
TT101	594405.04	2207420.15	19	25	92	6912	700	1978	TG			*Not Located*							
TT102	593705.05	2207120.14	19	25	92	6914	660	1978	TG		Permaplug	177	203		Yes				
TT103	593705.05	2207520.15	19	25	92	6918	700	1978	TG		? Too Deep				Yes				
TT104	593705.05	2207920.13	19	25	92	6919	600	1978	TG		? Too Deep				Yes				
TT105	594305.06	2206520.16	24	25	93	6926	660	1978	TG		Permaplug	180	247		Yes				
TT106	594090.04	2206536.16	24	25	93	6924	700	1978	TG		Octoplug	178	200		Yes				
TT107	593624.04	2205535.15	24	25	93	6920	700	1978	TG		Octoplug	Dry			Yes				
TT108	594318.06	2205590.14	24	25	93	6924	700	1978	TG		Octoplug	176	182		Yes				
TT109	594105.04	2206720.15	19	25	92	6923	700	1978	TG		? Down Hole				Yes				
TT110	594768.05	2208715.17	19	25	92	6932	560	1978	TG		Octoplug	176	229		Yes				
TT111	595446.06	2210267.17	19	25	92	6928	500	1978	TG		Octoplug	155	170		Yes				
TT112	593905.04	2206520.14	24	25	93	6919	660	1978	TG		? Too Deep				Yes				
TT113	594105.04	2206320.15	24	25	93	6921	660	1978	TG		Permaplug	176	214		Yes				
TT114	593705.05	2205520.13	24	25	93	6920	660	1978	TG		Permaplug	186	197		Yes				
TT120	593905.04	2208120.15	19	25	92	6920	600	1978	TG		? Too Deep				Yes				
TT121	593905.04	2207920.13	19	25	92	6919	600	1978	TG		Permaplug	172	243		Yes				
TT122	593905.04	2207720.14	19	25	92	6919	600	1978	TG		Permaplug	Dry			Yes				
TT123	593905.04	2207520.15	19	25	92	6919	600	1978	TG		Permaplug	Dry			Yes				
TT124	594305.06	2207520.15	19	25	92	6927	620	1978	TG		? Too Deep				Yes				
TT125	593705.05	2207720.14	19	25	92	6917	600	1978	TG		Permaplug	178	251		Yes				
TT126	594305.06	2207720.14	19	25	92	6927	600	1978	TG		Permaplug	179	382	ShurGel & QuickGel	Yes				
TT127	594305.06	2207920.15	19	25	92	6926	600	1978	TG		Permaplug	176	228		Yes				
TT128	593505.06	2207720.14	19	25	92	6916	600	1978	TG		? Too Deep				Yes				
TT129	594305.06	2208120.15	19	25	92	6926	600	1978	TG		Permaplug	176	197		Yes				
TT130	593905.04	2205120.15	24	25	93	6927	700	1978	TG		Permaplug	Dry			Yes				
TT131	593905.04	2205320.14	24	25	93	6924	700	1978	TG		Permaplug	180	218		Yes				
TT132	593705.05	2205320.14	24	25	93	6920	700	1978	TG		Permaplug	184	203		Yes				
TT133	593905.08	2204920.13	24	25	93	6927	700	1978	TG		Permaplug	183	191		Yes				

Table D5-3 Abandonment Information for Historic Exploration Holes (Page15 of 15)

	Location								Exploration	Original Plug	Original Plug	1983-1984 TG Reopening, Probing & Re-Plugging Program				URE Replugging Program			
HoleID	N_nad83	E_nad83	S	T	R	Elev	TD	Year	Company	Material	Cap	Water Level (ft.)	Mud Depth (ft.)	Resealing Material	Concrete Recap	Date	Plug Depth (ft)	Replug Material	Concrete Recap
TT134	593905.04	2205520.13	24	25	93	6921	700	1978	TG		? Down Hole				Yes				
TT135	593505.06	2205320.14	24	25	93	6922	700	1978	TG		Permaplug	Dry			Yes				
TT136	593505.06	2205120.12	24	25	93	6920	700	1978	TG		Permaplug	187	394	ShurGel & QuickGel	Yes				
TT137	593305.06	2205320.14	24	25	93	6919	700	1978	TG		? Too Deep				Yes				
TT138	593305.06	2205120.12	24	25	93	6922	700	1978	TG		Permaplug	Dry			Yes				
TT139	593305.06	2204920.13	24	25	93	6922	630	1978	TG		? Too Deep				Yes				
TT140	594505.06	2208120.15	19	25	92	6923	600	1978	TG		? Too Deep				Yes				
TT141	594505.06	2207920.15	19	25	92	6924	600	1978	TG			*Not Located*				9/29/08	600'	Grout	8' Cement
TT142	594505.06	2207720.14	19	25	92	6922	620	1978	TG		Permaplug	184	243		Yes				
TT143	594505.06	2207520.15	19	25	92	6924	620	1978	TG		Permaplug	185	204		Yes				
TT144	594105.04	2207720.14	19	25	92	6922	620	1978	TG		Permaplug	Dry			Yes				
TT145	593905.04	2207520.15	19	25	92	6923	620	1978	TG		None	Dry			Yes				
TT146	593669.09	2204615.14	24	25	93	6929	700	1978	TG		Permaplug	191	207		Yes	2006	650	Grout	25' Cement
TT147	593620.1	2204614.13	24	25	93	6927	560	1978	TG		Permaplug	195	236		Yes	2006	650	Grout	25' Cement
TT148	593620.1	2204604.15	24	25	93	6927	560	1978	TG		Permaplug	195	236		Yes	2006	650	Grout	25' Cement
TT149	593568.09	2204613.13	24	25	93	6925	700	1978	TG		Permaplug	193	239		Yes	2006	650	Grout	25' Cement
TT150	594105.04	2207420.15	19	25	92	6925	650	1978	TG		Permaplug	176	249		Yes				
TT151	594405.04	2208020.15	19	25	92	6927	660	1978	TG		Permaplug	179	294		Yes				
TT152	594400.06	2208121.15	19	25	92	6910	520	1978	TG		Permaplug	179	236		Yes				
TT153	594005.06	2207420.15	19	25	92	6923	650	1978	TG		Permaplug	175	210		Yes				
TT154	594005.06	2207520.15	19	25	92	6924	700	1978	TG		? Down Hole				Yes				
TT155	594405.04	2208110.16	19	25	92	6924	490	1978	TG		Permaplug	179	272		Yes				
TT156	593620.1	2204594.13	24	25	93	6927	600	1978	TG		Permaplug	195	396	ShurGel & QuickGel	Yes	2006	650	Grout	25' Cement

Example

Sticker Placement for *all* Plates:

Place sticker to the left of the legend box, inline with the lower margin of the figure.

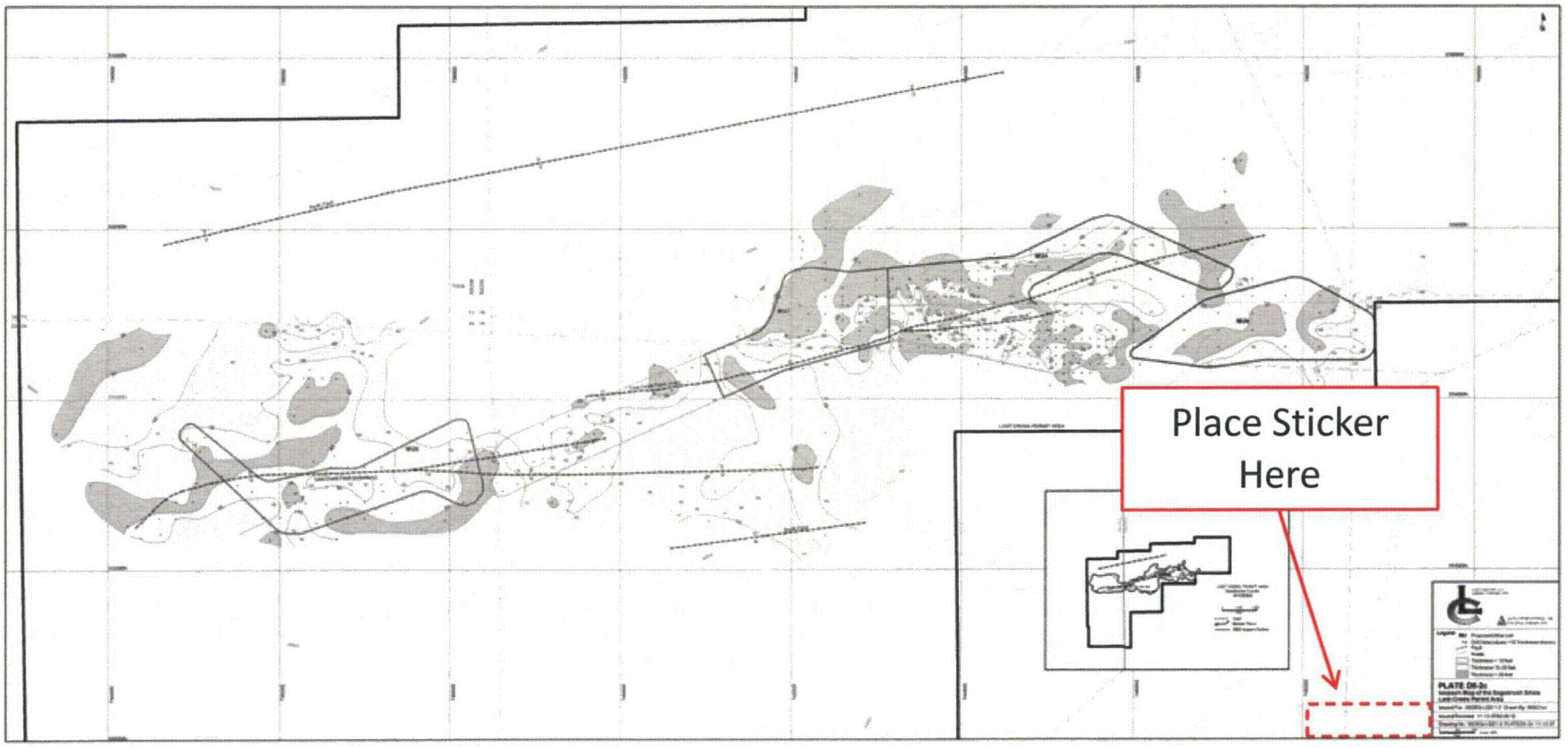


Plate AD5-2a

Example

Sticker Placement for *all* Plates:

Place sticker to the left of the legend box, inline with the lower margin of the figure.

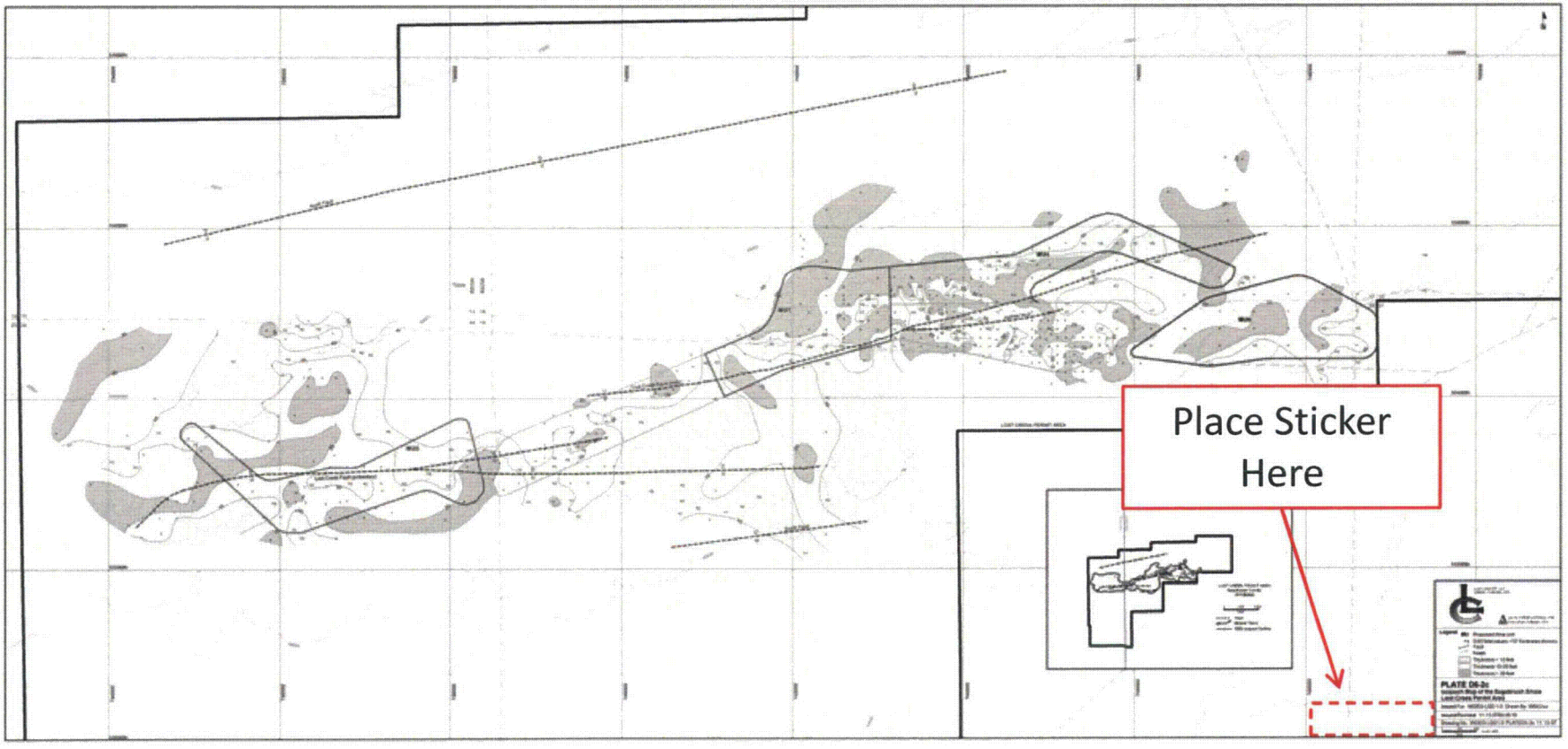


Plate AD5-26

Example

Sticker Placement for *all* Plates:

Place sticker to the left of the legend box, inline with the lower margin of the figure.

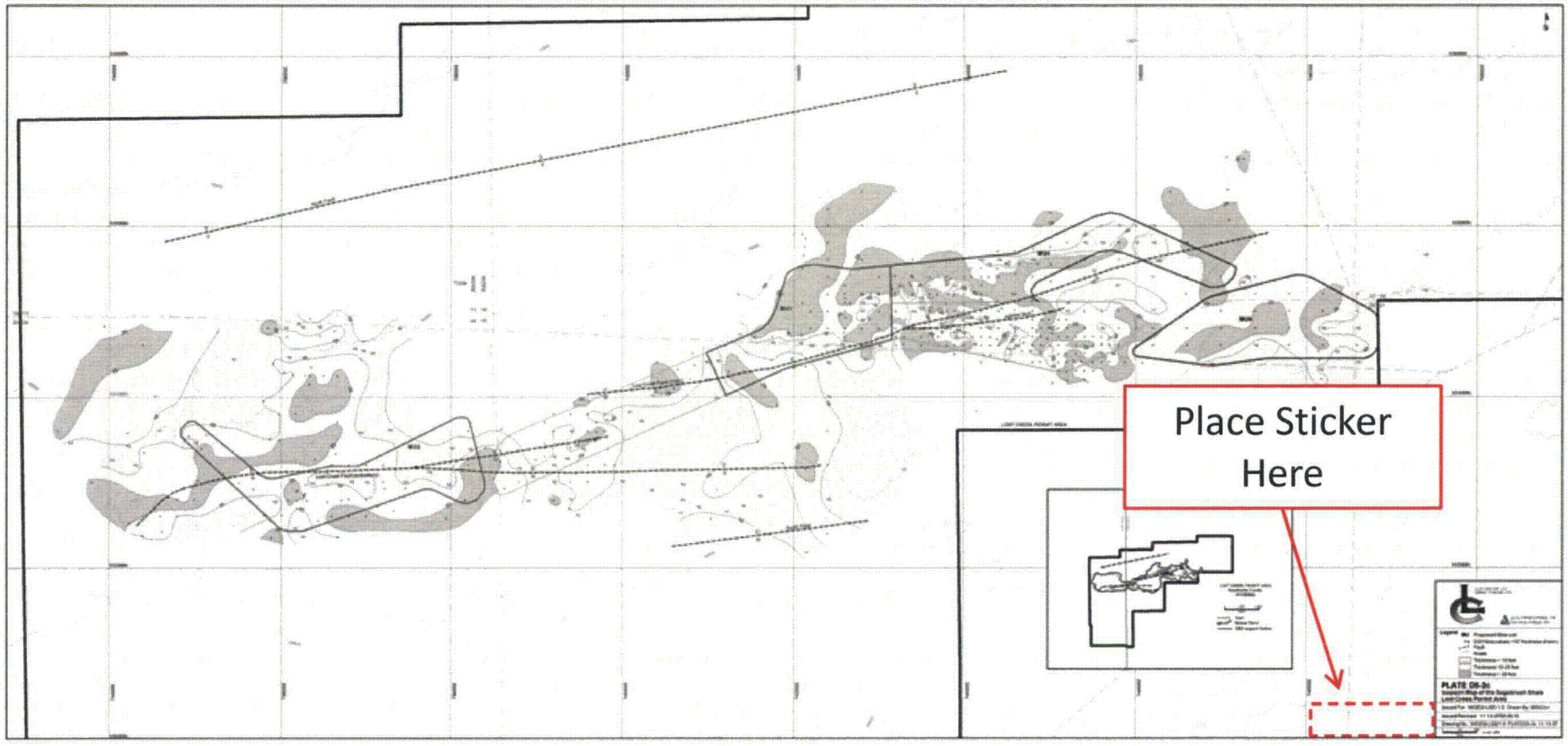


Plate AD5-2c

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan

FIGURES (continued)

MINE PERMIT VOLUME 5 of 5: Operations Plan and Reclamation Plan (continued)

MINE UNIT VOLUMES - Separate Submittals

TABLES

TABLES (continued)

TABLES (continued)

PLATES (continued)

ATTACHMENTS (continued)

MINE PERMIT VOLUME 4 of 5: Appendix D - Main Permit Area (D7 to D11) and Appendix D - East and West Roads

D7 Soils
- Attachment D7-1 Soil Survey Work Plan and Correspondence
- Attachment D7-2 Field Notes/Soil Sample Point Photographs
- Attachment D7-3 Laboratory Analysis

D8 Vegetation
- Attachment D8-1 Scope of Work
- Attachment D8-2 Raw Data
- Attachment D8-3 Sensitive Plant Probability

D9 Wildlife
- Attachment D9-1 WGFD Wildlife Observations System Data
- Attachment D9-2 Work Plan for Wildlife 2007
- Attachment D9-3 BLM and WDEQ Correspondence
- Attachment D9-4 Correspondence with WGFD about the Crooked Well Lek
- Attachment D9-5 MBHFI in Wyoming

D10 Background Radiological Characteristics
- Attachment D10-1 Data Quality Assurance Documentation
- Attachment D10-2 Data Quality Control Documentation
- Attachment D10-3 Final Baseline Gamma Survey and Ra-226 Soil Maps
- Attachment D10-4 HPIC-Adjusted Gamma Datasets (Electronic Dataset Only)

D11 Wetlands
- Attachment D11-1 Army Corps of Engineers' Jurisdictional Determination

Appendix D - East and West Roads

No Attachments

TABLES

PLATES

ATTACHMENTS

Table D6-12c is a list of the permits issued by the WSEO to LC ISR, LLC or its affiliates (Ur-E and NFU Wyoming, LLC). At this time, there are three water supply wells and 75 monitor wells permitted and bonded by WDEQ to LC ISR, LLC and its affiliates. Installation of these wells is on-going, and locations of wells currently used for water quality sampling, pump tests, and water supply are shown on figures which are discussed in other sections of **Appendix D6**. Currently, the Project consumes a negligible amount of groundwater for well development, monitoring, testing, and miscellaneous purposes related to uranium exploration. Projected water use once ISR begins and the impacts of that use are discussed in the Operations Plan included with this application.

The groundwater permits within one mile unrelated to mining are those of the BLM. In 1968 and 1980, the BLM Rawlins District was granted three permits by the WSEO (13834, 55112, and 55113). Each of these permits is associated with a well that supplies a stock pond (or tank). These wells and associated stock ponds are located outside of the Permit Area (**Figure D6-18**). In addition, there is a fourth BLM well, supplying a stock pond, for which no water-use permit was found. The permit numbers and names of these four BLM wells are:

SEO Permit 13834 - Battle Spring Draw Well No. 4451;
SEO Permit 55112 - Boundary Well No. 4775;
SEO Permit 55113 - Battle Spring Well No. 4777; and
No SEO Permit - East Eagle Nest Draw Well.

Battle Spring Draw Well No. 4451 pumps water into a stock tank east of the Permit Area (Township 25 North, Range 92 West, Section 21, NW¼, NE¼, NE¼). In 1968, a uranium exploration hole was drilled at this location; when water was encountered, plastic casing was installed and the well was developed. The well depth is 900 feet, with a static water level of 104 feet. A yield of 19 gallons per minute is permitted. The screened interval is unknown, but given the well depth, it may be significantly deeper than the sands targeted by LC ISR, LLC under this permit. In November 2007, this well did not appear to have been used in some time (**Figure D6-19**); however, in April 2009, the well had apparently been recently put back into use, as discussed in **Section D11.3** (**Figure D11-4**). Although Well No. 4451 is outside of the Permit Area, two ground water samples, one pond water sample, one algae sample, and one soil sample were collected and analyzed (**Table D6-13**). The results indicate that the water, algae, and soil all have high levels of radionuclides. In addition, the algae sample had a high selenium concentration.

Boundary Well No. 4775 and Battle Spring Well No. 4777 were drilled as stock wells in 1981 to a depth of approximately 280 feet and 220 feet, respectively. These wells are shallower than the sands targeted by LC ISR, LLC under this permit. A water use of 25 gpm is permitted at each of these wells. According to aerial photographs, Boundary Well No. 4775 is located northeast of the Permit Area, in Township 25 North, Range 92 West,

Section 10, SE¼, NE¼, SW¼. Battle Spring Well No. 4777 is situated southeast of the Permit Area, in Township 25 North, Range 92 West, Section 30, SE¼, NW¼. Boundary Well No. 4775 has apparently not been used in some time (**Figure D6-20**), and the windmill on the Battle Spring Well No. 4777 was not in working order in June 2007 (**Figure D6-21**).

In June and July of 2007, LC ISR, LLC contacted BLM to identify the status of these groundwater-use permits. These groundwater-use permits are still considered active (BLM, 2007a). In addition to these wells, BLM identified another active stock well, the East Eagle Nest Draw Well.

The East Eagle Nest Draw Well is located north of the Permit Area, in the NW¼, NW¼, NW¼ of Section 13, Township 25 North and Range 93 West. From mid-May through mid-September, an electric submersible pump in the well is used to pump water into a livestock watering pond at an average rate of five gallons per minute for six to eight hours each day (**Figure D6-22**). The total depth of this well is 370 feet, with a static water level of 269 feet.

Throughout the phases of the Project, LC ISR, LLC will correspond with BLM to ensure that the stock reservoirs and wells are not impacted in a manner that restricts the intended use, and LC ISR, LLC will work with BLM to replace the water source if any wells are rendered unusable due to LC ISR's mining activities.

D6.4 Groundwater Quality

This section describes the regional and local groundwater quality based on information from investigations performed within the Great Divide Basin, data presented in previous applications/reports for the Permit Area, and recent data collected in the Permit Area.

D6.4.1 Regional Groundwater Quality

Water quality within the Great Divide Basin ranges from very poor to excellent. Groundwater in the near surface, more permeable aquifers is generally of better quality than groundwater in deeper and less permeable aquifers. Groundwater with TDS less than 3,000 mg/L can generally be found at depths less than 1,500 feet within the Tertiary aquifer system, which includes the Battle Spring/Wasatch, Fort Union and Lance aquifers (Collentine et al., 1981).

Water quality for the Great Divide Basin is available from a large number of sources including the USGS National Water Information System (NWIS) database, the University of Wyoming Water Resources Data System (WRDS) and the USGS Produced Waters Database. Much of these data are tabulated in "Water Resources of Sweetwater County, Wyoming", a USGS Scientific Investigation Report by Mason and Miller (2005).

The second sampling round was conducted in November 2006. The third sampling round was conducted in February and March 2007. The fourth sampling round was conducted in May 2007. All 17 of the wells listed above were included in each sampling event (**Figure D6-26a**). In addition to the baseline sampling program, LC ISR, LLC has also sampled two of the water supply wells, LC1 and LC2. Ten additional baseline monitoring wells were drilled and installed in the fall of 2008 to provide more extensive coverage of the entire Permit Area. The additional wells included the following:

- DE Monitor Wells: MB-1, MB-7, MB-10;
- LFG Monitor Wells: MB-2, MB-5, MB-8;
- HJ Monitor Wells: MB-3B, MB-6, MB-9; and
- UKM Monitor Well: MB-4.

These wells have been sampled for four quarters for the same constituents as the initial baseline wells (listed in **Table D6-14)**. Wells MB-7 and MB-10 had insufficient water to sample throughout the monitoring period.

Results of the LC ISR, LLC baseline monitoring program are summarized in **Table D6-15a**. The raw laboratory data are presented in **Attachment D6-4**. In **Table D6-15a**, those analytical results which exceed specific WDEQ WQD or EPA criteria are highlighted, and the WQD and EPA criteria used for the comparison are included in **Table D6-15b**. The table shows that the WDEQ TDS Class I standard is exceeded at one well in each of the DE, HJ and UKM aquifers, Wells LC31M, LC26M, and LC23M, respectively. Twenty-two out of the 25 wells have TDS levels below the Class I Standard. The distribution of TDS (averaged from the four sampling events) is shown in **Figure D6-26a**. Sulfate exceeds the WDEQ Class I Standard (250 mg/L) in one DE monitor well (LC31M) and one HJ monitor well (LC26M). The distribution of sulfate, averaged from September 2006 to May 2007, is shown in **Figure D6-26b**. As with the Conoco monitoring results, chloride values are low with all but five samples at ten mg/L or lower (**Table D6-15a**).

Piper diagrams have been developed to compare groundwater quality between individual wells (**Figure D6-27a**) and between different aquifers (**Figure D6-27b**). The individual well comparison plots the average value for each of the wells for all of the samples analyzed. The piper diagram comparing different aquifers represents the average water quality for all wells sampled within individual aquifers (DE, LFG, HJ and UKM). Groundwater within the shallow Battle Springs aquifers beneath the Permit Area is a calcium sulfate to calcium bicarbonate type water. There is some variability in water chemistry when the wells are compared individually.

The trace constituents, boron, cadmium, chromium, copper, mercury, molybdenum, nickel, and vanadium were at or below detection limits for all samples. Zinc was also at or below detection limits for all but two samples. Ammonia exceeded the WDEQ Class I Standard (0.5 mg/L) in one DE monitor well (LC29M) and one UKM monitor well (LC23M). Selenium exceeded the WDEQ Class I Standard and EPA MCL (0.05 mg/L) in one DE monitor well (LC31M). Iron exceeded the WDEQ Class I Standard and EPA MCL (0.3 mg/L) in two DE monitor wells (LC29M and MB-1), three LFG monitor wells (LC18M, LC21M and MB-8), one HJ monitor well (MB-9), and one UKM monitor well (LC24M). Manganese was above the WDEQ Class I Standard and EPA MCL (0.05 mg/L) in seven of the 12 samples collected from DE monitor wells but did not exceed those standards in any other sampled aquifer.

With the exception of four UKM monitor wells (LC17M, LC23M, LC27M, and LC28M), one LFG monitor well (MB-5), and one HJ monitor well (MB-6), every well exceeded the EPA uranium MCL of 0.03 mg/L in at least one quarter. The average uranium concentration of all samples collected in the baseline monitoring program (0.226 mg/L) is almost an order of magnitude greater than the MCL. The average distribution of uranium at individual wells from September 2006 to July 2010 is shown on **Figure D6-28a**.

The average distribution of radium-226+228 is shown on **Figure D6-28b**. The WDEQ Class I Standard and EPA MCL for radium-226+228 is 5.0 pCi/L. **Table D6-16** summarizes the number of wells in each aquifer that exceed the EPA MCL.

A summary of the water quality for each of the four hydrostratigraphic units of interest (DE, LFG, HJ and UKM) is presented below. All metal concentrations are reported as dissolved.

DE Sand Water Quality

Six wells completed in the DE Sand were included in the baseline sampling program (LC29M, LC30M, LC31M, MB-1, MB-7, and MB-10). Both MB-7 and MB-10 had insufficient water to sample and therefore were not included in the analyses. Sample results from the existing baseline monitor wells are included in **Table D6-15a**.

Results of the baseline sampling indicate that three of the DE monitor wells (LC29M, LC30M, and MB-1) are calcium bicarbonate water, whereas the third is a calcium sulfate type (LC31M). Both sulfate and TDS levels in LC31M exceed the WDEQ Class I Standards (250 mg/l and 500 mg/l, respectively). Chloride levels in all four wells are low (12 mg/L or less).

Manganese exceeded the WDEQ Class I Standard (0.05 mg/L) in seven of the 16 samples collected from DE monitor wells. The average detectable manganese value was 0.10 mg/L for the DE monitor wells. The average selenium concentration at well LC31M was 0.172 mg/L, exceeding the WDEQ Class I Standard of 0.05 mg/L.

Iron exceeded the WDEQ Class I Standard (0.3 mg/L) in two of the four samples from LC29M and one of the four samples from MB-1. The average values for the four samples from LC29M and MB-1 were below the standard. Similarly, the average ammonia concentration was below the WDEQ Class I Standard (0.5 mg/L) at well LC29M, although two of the four samples exceeded the standard.

Uranium levels exceeded the EPA MCL in every sample collected from the DE monitor wells except one MB-1 sample collected in August 2009. The average uranium concentration for the 16 samples collected was 0.577 mg/L. Radium 226 exceeded the EPA radium 226+228 MCL of 5.0 pCi/L in two samples. Combined radium 226+228 exceeded the standard in four of the samples. However, the average radium 226+228 activity for each of the DE monitor wells was below the WDEQ Class I Standard.

LFG Sand Water Quality

Seven wells completed in the LFG Sand were included in the baseline sampling program (LC15M, LC18M, LC21M, LC25M, MB-2, MB-5, and MB-8). Sample results from the existing baseline monitor wells are included in **Table D6-15a**.

Results of the baseline sampling indicate that the LFG monitor wells are calcium-bicarbonate to calcium-sulfate water. TDS and sulfate levels are below the WDEQ Class I Standards (500 mg/L and 250 mg/L, respectively) and chloride levels in all seven wells are low (10 mg/L or less).

Manganese and selenium were below the respective WDEQ Class I Standards in all the LFG samples. Iron exceeded the WDEQ Class I Standard in three out of four samples at LC18M, one out of four samples at LC25M, and in one sample at MB-8 for total iron.

Uranium levels exceeded the EPA MCL in every sample collected from the LFG monitor wells except for samples taken at MB-5. The average uranium concentration for the LFG samples was 0.289 mg/L. Radium levels were widely distributed. At least one sample from all LFG wells exceeded the WDEQ Class I Standard for radium 226+228 except for MB-2.

HJ Horizon Water Quality

Seven wells completed in the HJ Horizon were included in the baseline sampling program (LC16M, LC19M, LC22M, LC26M, MB-3B, MB-6, and MB-9). Sample results from the existing baseline monitor wells are included in **Table D6-15a**.

Results of the baseline sampling indicate that the HJ monitor wells are calcium-bicarbonate to calcium-sulfate water. Both sulfate and TDS levels in LC26M exceed the WDEQ Class I Standards (250 mg/L and 500 mg/L, respectively). Chloride levels in all four wells are low (11 mg/L or less).

Manganese and selenium were below the respective WDEQ Class I Standards in all the HJ samples.

Uranium levels exceeded the EPA MCL in every sample collected from LC16M, LC19M, LC22M, LC26M, and MB-3B HJ monitor wells. Only one sample from MB-9 and no samples from MB-6 exceeded the EPA MCL. The average uranium concentration for the HJ samples was 0.160 mg/L.

UKM Sand Water Quality

Seven wells completed in the UKM Sand were included in the baseline sampling program (LC17M, LC20M, LC23M, LC24M, LC27M, LC28M, and MB-4). Two of the wells were originally thought to be completed in the HJ Horizon (LC27M and LC28M) but were later reinterpreted as UKM completions. Sample results from the existing baseline monitor wells are included in **Table D6-15a**.

Results of the baseline sampling indicate that the UKM monitor wells are calcium-bicarbonate to calcium-sulfate water. TDS and sulfate levels are below the WDEQ Class I Standards (500 mg/L and 250 mg/L, respectively) in all but one sample and chloride levels in all seven wells are low (32 mg/L or less).

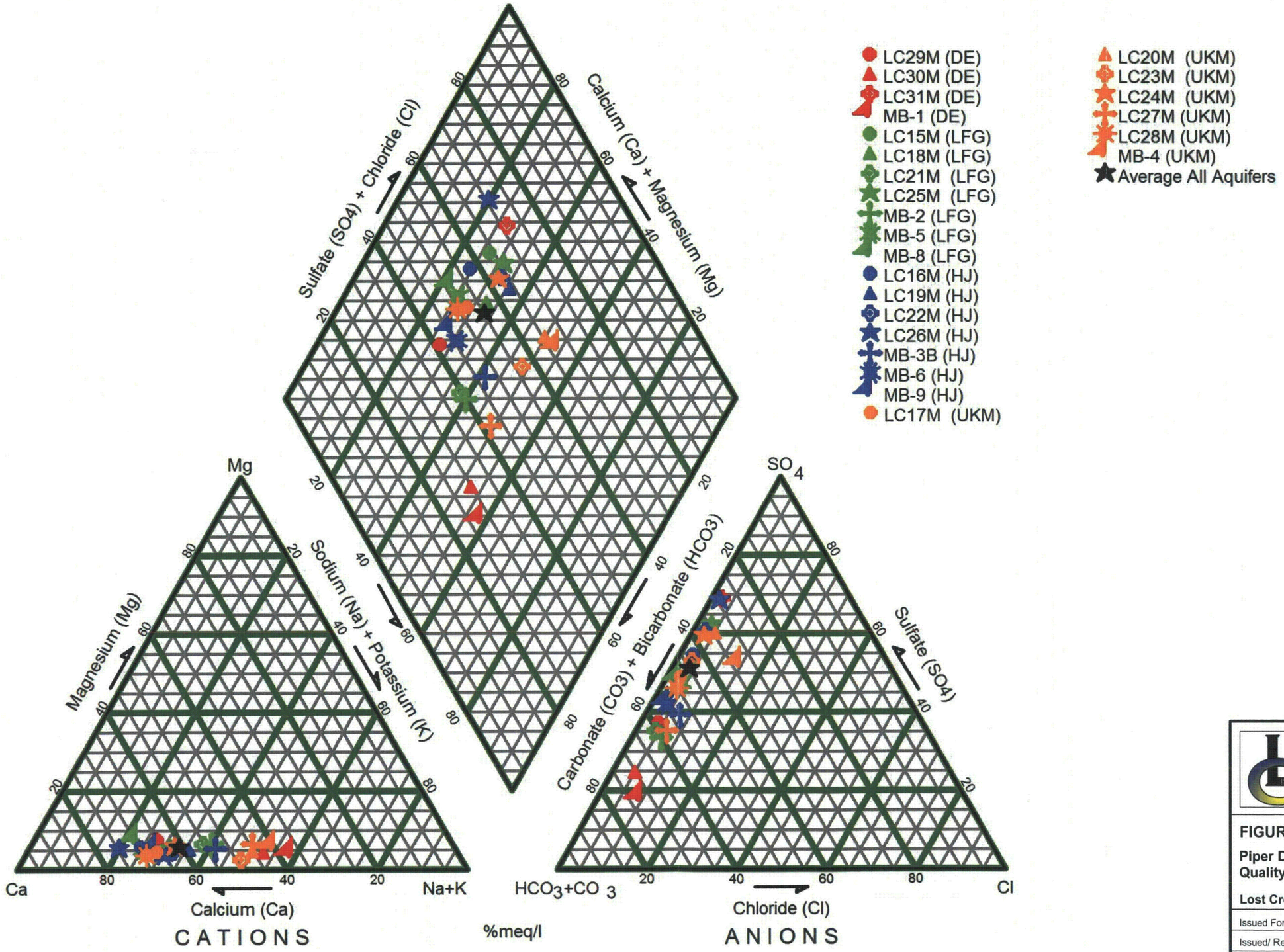
Manganese and selenium were below the respective WDEQ Class I Standards in all the UKM samples.

Uranium levels exceeded the EPA MCL in some samples collected at LC20M, LC24M, and MB-4. LC17M, LC23M, LC27M, and LC28M did not have any samples that exceeded the uranium EPA MCL. The average uranium concentration for the UKM samples was 0.028 mg/L.

Average radium 226+228 levels exceeded the WDEQ Class I Standard in at least one sample for each of the UKM monitor wells except MB-4.

Summary of Site Groundwater Quality

General water quality in the shallow Battle Spring aquifers within the Permit Area tends to be relatively good, with the exception of the presence of radionuclides. TDS and sulfate values are relatively low, with occasional exceedances of WDEQ Class I standards. Manganese is elevated above state and federal standards in the water table aquifer (DE) but is below standards in deeper confined aquifers in the vicinity of the uranium orebodies. Radium-226+228 exceeds the EPA MCL in approximately 60 percent of the samples collected and the average uranium concentration is almost an order of magnitude greater than the EPA MCL for that constituent. An elevated concentration of these constituents is consistent with the presence of uranium orebodies.



Lost Creek ISR, LLC
Littleton, Colorado, USA

Petrotek www.petrotek.com Littleton, CO USA

FIGURE D6-27a

Piper Diagram - Average Water Quality at Individual Monitor Wells

Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0	Drawn By: JM
Issued/ Revised: 09.09.2010	
Drawing No.: WDEQ_LQD_FIG_D6-27a.ai	

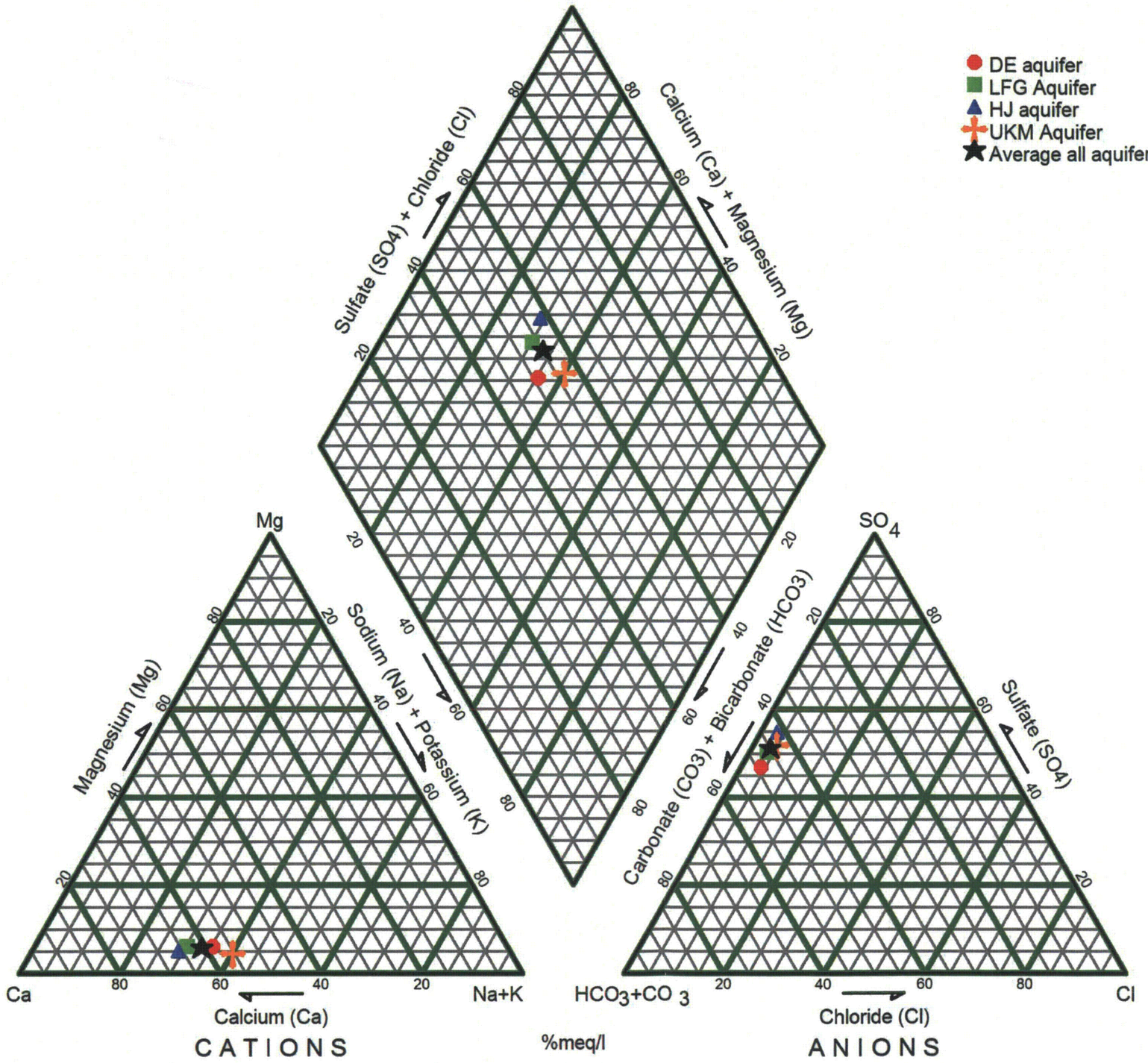


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FIGURE D6-27 b

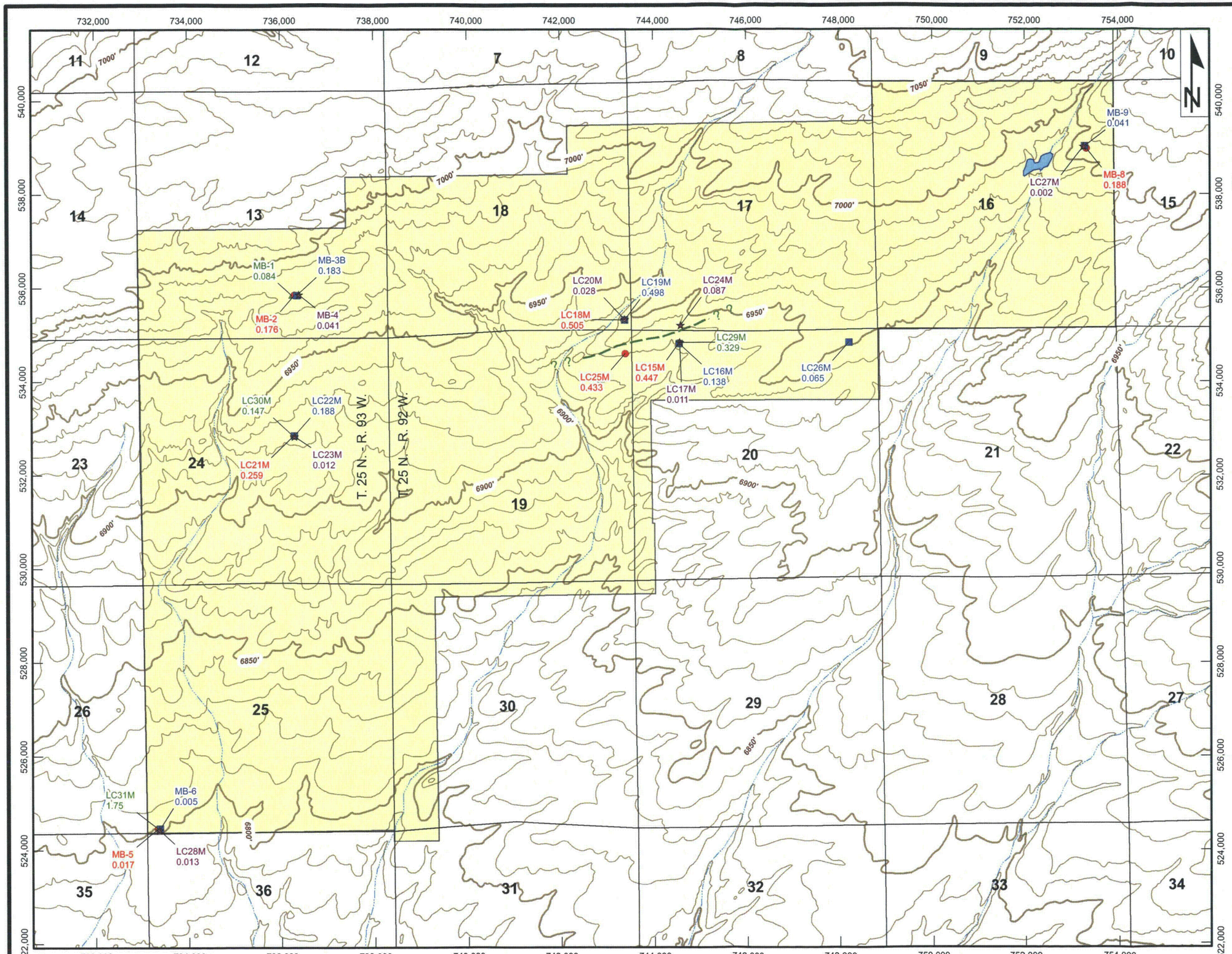
Piper Diagram - Average Water Quality in Aquifer of Interest

Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0 Drawn By: JM

Issued/ Revised: 09.09.2010

Drawing No.: WDEQ_LQD_FIG_D6-27b.ai



Legend

- DE Monitor Well (Uranium value in mg/L)
- LFG Monitor Well (Uranium value in mg/L)
- HJ Monitor Well (Uranium value in mg/L)
- UKM Monitor Well (Uranium value in mg/L)
- Lost Creek Fault
- Lost Creek Permit Area

Projection: NAD 27 StatePlane Wyoming West Central (feet)

Scale: 1:24,000

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Littleton, Colorado, USA

Petrotek www.petrotek.com Littleton, CO USA

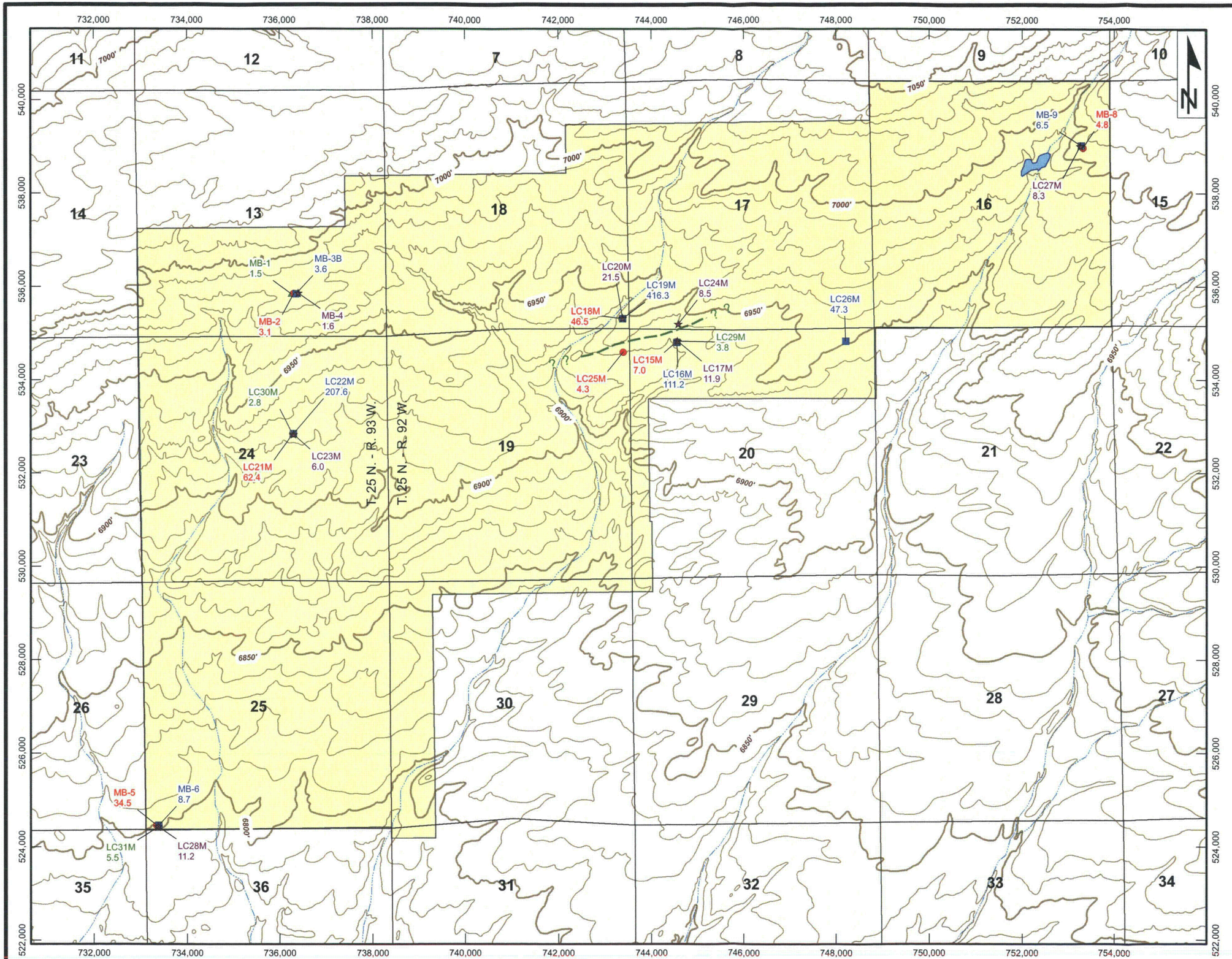
FIGURE D6-28a

Distribution of Average Uranium September 2006 to July 2010

Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0	Drawn By: JM
Issued/ Revised: 09.09.2010	
Drawing No.: WDEQ_LQD_FIG_D6-28a.mxd	

0 1,500 3,000 Feet



Legend

- DE Monitor Well (Radium value in pCi/L)
- LFG Monitor Well (Radium value in pCi/L)
- HJ Monitor Well (Radium value in pCi/L)
- UKM Monitor Well (Radium value in pCi/L)
- Lost Creek Fault
- Lost Creek Permit Area

Scale: 1:24,000

Lost Creek ISR, LLC
Littleton, Colorado, USA

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FIGURE D6-28b

Distribution of Average Radium 226 + 228, September 2006 to July 2010

Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0	Drawn By: JM
Issued/ Revised: 09.09.2010	
Drawing No.: WDEQ_LQD_FIG_D6-28b.mxd	

0 1,500 3,000 Feet

Table D6-6 Water Level Data (Page 1 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW [1]	WL Elev [2]	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/18/82	08/18/82	6/22/07	6/22/07	6/27/07	6/27/07	7/2/07	7/2/07	7/3/07	7/3/07	7/7/07	7/7/07
HJMO-101	LFG	6949.70	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-102	FG	6934.56	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-103	FG	6936.29	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-104	LFG	6940.76	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-105	LFG	6938.00	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-106	LFG	6941.75	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-107	LFG	6937.86	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-108	LFG	6951.64	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-109	LFG	6938.95	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-110	LFG	6947.13	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-111	LFG	6950.46	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-112	LFG	6935.51	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-113	LFG	6936.97	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-114	LFG	6940.75	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-101	LHJ	6948.64	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-102	MHJ-2	6936.15	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-103	M1&M2	6936.49	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-104	MHJ-2	6941.04	-	-	170.79	6770.25	171.81	6769.23	206.43	6734.61	208.25	6732.79	180.10	6760.94
HJMP-105	LHJ	6937.38	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-106	LHJ	6941.29	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-107	MHJ-1,2	6938.45	-	-	183.09	6755.36	183.61	6754.84	184.74	6753.71	184.95	6753.50	184.55	6753.90
HJMP-108	MHJ-2	6952.20	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-109	LHJ	6939.10	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-110	LHJ	6947.01	-	-	173.60	6773.41	174.89	6772.12	213.58	6733.43	215.37	6731.64	182.80	6764.21
HJMP-111	M1&2	6949.49	-	-	176.58	6772.91	176.94	6772.55	210.71	6738.78	212.50	6736.99	184.65	6764.84
HJMP-112	UHJ	6935.48	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-113	MHJ-2	6937.26	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-114	M1&2	6941.01	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-101	UKM	6949.03	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-102	UKM	6935.35	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-103	UKM	6936.06	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-104	UKM	6940.51	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-105	UKM	6937.58	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-106	UKM	6941.75	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-107	UKM	6937.88	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-108	UKM	6951.51	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-109	UKM	6939.38	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-110	UKM	6947.56	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-111	UKM	6950.08	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-112	UKM	6935.35	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-113	UKM	6936.99	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-114	UKM	6940.43	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 2 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/18/82	8/18/82	6/22/07	6/22/07	6/27/07	6/27/07	7/2/07	7/2/07	7/3/07	7/3/07	7/7/07	7/7/07
HJT-101	LHJ	6937.56	-	-	-	-	-	-	-	-	-	-	-	-
HJT-102	MHJ-2	6939.15	-	-	-	-	-	-	-	-	-	-	-	-
HJT-103	MHJ-1	6938.22	-	-	-	-	-	-	-	-	-	-	-	-
HJT-104	LHJ	6940.15	-	-	168.27	6771.88	169.51	6770.64	208.22	6731.93	209.95	6730.20	177.30	6762.85
HJT-105	UHJ	6938.87	-	-	-	-	170.09	6768.78	174.47	6764.40	175.02	6763.85	-	-
HJT-106	DE	6935.14	-	-	-	-	-	-	-	-	-	-	-	-
LC15M	LFG	6936.55	-	-	-	-	-	-	-	-	-	-	-	-
LC16M	HJ	6936.15	-	-	177.58	6758.57	178.14	6758.01	179.38	6756.77	179.61	6756.54	179.10	6757.05
LC17M	UKM	6936.90	-	-	-	-	-	-	-	-	-	-	-	-
LC18M	LFG	6948.97	-	-	167.98	6780.99	168.04	6780.93	169.00	6779.97	169.14	6779.83	168.60	6780.37
LC19M	HJ	6950.01	-	-	178.96	6771.05	180.08	6769.93	270.92	6679.09	273.40	6676.61	-	-
LC20M	UKM	6950.51	-	-	201.40	6749.11	202.36	6748.15	203.07	6747.44	203.23	6747.28	203.35	6747.16
LC24M	UKM	6944.33	-	-	-	-	-	-	-	-	-	-	-	-
LC25M	LFG	6936.40	-	-	166.25	6770.15	167.05	6769.35	168.43	6767.97	168.60	6767.80	167.90	6768.50
LC29M	DE	6937.55	-	-	-	-	-	-	-	-	-	-	-	-
UKMO-101	MHJ-2	6942.28	-	-	-	-	177.59	6764.69	182.78	6759.50	183.30	6758.98	179.80	6762.48
UKMO-102	MHJ-2	6940.79	-	-	-	-	165.15	6775.64	185.04	6755.75	186.69	6754.10	172.30	6768.49
UKMO-103	MHJ-2	6950.53	-	-	-	-	-	-	-	-	-	-	-	-
UKMP-101	UKM	6941.74	-	-	191.02	6750.72	192.13	6749.61	192.51	6749.23	192.66	6749.08	193.05	6748.69
UKMP-102	UKM	6942.10	-	-	189.51	6752.59	190.68	6751.42	191.63	6750.47	191.83	6750.27	191.80	6750.30
UKMP-103	UKM	6950.84	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-101	MKM	6941.87	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-102	MKM	6942.62	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-103	MKM	6950.92	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1D	UKM	6,967.40	†	6761.60	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	†	6781.80	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	†	6792.90	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	†	6740.60	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	†	6770.80	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	†	6778.00	-	-	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	†	6749.80	-	-	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	†	6745.50	-	-	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	†	6745.70	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	†	6751.80	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	†	6758.90	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	†	6776.40	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 3 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/18/82	8/18/82	6/22/07	6/22/07	6/27/07	6/27/07	7/2/07	7/2/07	7/3/07	7/3/07	7/7/07	7/7/07
MB-1	DE	6,985.89	-	-	-	-	-	-	-	-	-	-	-	-
MB-2	LFG	6,986.92	-	-	-	-	-	-	-	-	-	-	-	-
MB-3B	HJ	6,987.38	-	-	-	-	-	-	-	-	-	-	-	-
MB-4	UKM	6,987.27	-	-	-	-	-	-	-	-	-	-	-	-
MB-5	LFG	6,805.04	-	-	-	-	-	-	-	-	-	-	-	-
MB-6	HJ	6,804.90	-	-	-	-	-	-	-	-	-	-	-	-
MB-8	LFG	6,985.50	-	-	-	-	-	-	-	-	-	-	-	-
MB-9	HJ	6,986.31	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 4 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			7/9/07	7/9/07	10/8/07	10/8/07	10/9/07	10/9/07	10/22/07	10/22/07	10/23/07	10/23/07	10/24/07	10/24/07
HJMO-101	LFG	6949.70	-	-	-	-	169.43	6780.27	-	-	-	-	-	-
HJMO-102	FG	6934.56	-	-	-	-	157.62	6776.94	-	-	-	-	-	-
HJMO-103	FG	6936.29	-	-	-	-	158.40	6777.89	-	-	-	-	-	-
HJMO-104	LFG	6940.76	-	-	-	-	162.03	6778.73	-	-	-	-	-	-
HJMO-105	LFG	6938.00	-	-	-	-	159.16	6778.84	-	-	-	-	-	-
HJMO-106	LFG	6941.75	-	-	-	-	161.60	6780.15	-	-	-	-	-	-
HJMO-107	LFG	6937.86	-	-	-	-	163.12	6774.74	-	-	-	-	-	-
HJMO-108	LFG	6951.64	-	-	-	-	169.89	6781.75	-	-	-	-	-	-
HJMO-109	LFG	6938.95	-	-	-	-	162.05	6776.90	-	-	-	-	-	-
HJMO-110	LFG	6947.13	-	-	164.79	6782.34	164.93	6782.20	-	-	-	-	-	-
HJMO-111	LFG	6950.46	-	-	-	-	166.42	6784.04	-	-	-	-	-	-
HJMO-112	LFG	6935.51	-	-	-	-	156.94	6778.57	157.11	6778.40	157.02	6778.49	157.22	6778.29
HJMO-113	LFG	6936.97	-	-	-	-	159.32	6777.65	159.49	6777.48	159.61	6777.36	159.85	6777.12
HJMO-114	LFG	6940.75	-	-	-	-	160.73	6780.02	160.90	6779.85	160.77	6779.98	161.01	6779.74
HJMP-101	LHJ	6948.64	-	-	-	-	180.13	6768.51	180.32	6768.32	180.59	6768.05	180.86	6767.78
HJMP-102	MHJ-2	6936.15	-	-	-	-	173.76	6762.39	172.90	6763.25	173.01	6763.14	173.18	6762.97
HJMP-103	M1&M2	6936.49	-	-	-	-	169.72	6766.77	169.86	6766.63	170.00	6766.49	170.18	6766.31
HJMP-104	MHJ-2	6941.04	177.63	6763.41	-	-	176.25	6764.79	174.49	6766.55	174.64	6766.40	174.83	6766.21
HJMP-105	LHJ	6937.38	-	-	-	-	169.96	6767.42	170.10	6767.28	170.25	6767.13	170.46	6766.92
HJMP-106	LHJ	6941.29	-	-	-	-	172.15	6769.14	172.31	6768.98	172.52	6768.77	172.74	6768.55
HJMP-107	MHJ-1,2	6938.45	184.56	6753.89	-	-	184.66	6753.79	183.83	6754.62	197.37	6741.08	203.25	6735.20
HJMP-108	MHJ-2	6952.20	-	-	-	-	182.21	6769.99	182.35	6769.85	182.59	6769.61	182.83	6769.37
HJMP-109	LHJ	6939.10	-	-	-	-	185.90	6753.20	184.99	6754.11	196.80	6742.30	202.62	6736.48
HJMP-110	LHJ	6947.01	180.48	6766.53	176.38	6770.63	176.51	6770.50	176.71	6770.30	177.09	6769.92	177.41	6769.60
HJMP-111	M1&2	6949.49	182.46	6767.03	-	-	178.19	6771.30	177.81	6771.68	178.08	6771.41	178.34	6771.15
HJMP-112	UHJ	6935.48	-	-	-	-	179.22	6756.26	178.18	6757.30	189.98	6745.50	195.88	6739.60
HJMP-113	MHJ-2	6937.26	-	-	-	-	181.79	6755.47	180.74	6756.52	206.01	6731.25	211.65	6725.61
HJMP-114	M1&2	6941.01	-	-	-	-	181.53	6759.48	180.50	6760.51	198.14	6742.87	203.35	6737.66
HJMU-101	UKM	6949.03	-	-	-	-	200.92	6748.11	-	-	-	-	-	-
HJMU-102	UKM	6935.35	-	-	-	-	180.67	6754.68	-	-	-	-	-	-
HJMU-103	UKM	6936.06	-	-	-	-	190.83	6745.23	-	-	-	-	-	-
HJMU-104	UKM	6940.51	-	-	-	-	195.29	6745.22	-	-	-	-	-	-
HJMU-105	UKM	6937.58	-	-	-	-	193.03	6744.55	-	-	-	-	-	-
HJMU-106	UKM	6941.75	-	-	-	-	194.58	6747.17	-	-	-	-	-	-
HJMU-107	UKM	6937.88	-	-	-	-	190.05	6747.83	-	-	-	-	-	-
HJMU-108	UKM	6951.51	-	-	-	-	203.42	6748.09	-	-	-	-	-	-
HJMU-109	UKM	6939.38	-	-	-	-	190.44	6748.94	-	-	-	-	-	-
HJMU-110	UKM	6947.56	-	-	199.04	6748.52	199.25	6748.31	-	-	-	-	-	-
HJMU-111	UKM	6950.08	-	-	-	-	201.05	6749.03	-	-	-	-	-	-
HJMU-112	UKM	6935.35	-	-	-	-	183.91	6751.44	183.80	6751.55	184.08	6751.27	184.46	6750.89
HJMU-113	UKM	6936.99	-	-	-	-	186.57	6750.42	186.42	6750.57	186.69	6750.30	187.07	6749.92
HJMU-114	UKM	6940.43	-	-	-	-	188.57	6751.86	188.44	6751.99	188.62	6751.81	188.90	6751.53

Table D6-6 Water Level Data (Page 5 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			7/9/07	7/9/07	10/8/07	10/8/07	10/9/07	10/9/07	10/22/07	10/22/07	10/23/07	10/23/07	10/24/07	10/24/07
HJT-101	LHJ	6937.56	-	-	-	-	175.07	6762.49	175.25	6762.31	175.40	6762.16	175.65	6761.91
HJT-102	MHJ-2	6939.15	-	-	-	-	172.64	6766.51	172.81	6766.34	172.96	6766.19	173.15	6766.00
HJT-103	MHJ-1	6938.22	-	-	-	-	190.34	6747.88	189.98	6748.24	194.24	6743.98	198.48	6739.74
HJT-104	LHJ	6940.15	175.11	6765.04	170.73	6769.42	171.25	6768.90	171.35	6768.80	172.26	6767.89	172.88	6767.27
HJT-105	UHJ	6938.87	171.94	6766.93	170.88	6767.99	171.42	6767.45	171.18	6767.69	179.44	6759.43	183.22	6755.65
HJT-106	DE	6935.14	-	-	-	-			-	-	-	-	-	-
LC15M	LFG	6936.55	-	-	-	-	157.47	6779.08	157.62	6778.93	157.54	6779.01	157.70	6778.85
LC16M	HJ	6936.15	179.04	6757.11	178.27	6757.88	178.81	6757.34	178.77	6757.38	237.04	6699.11	242.30	6693.85
LC17M	UKM	6936.90	-	-	-	-	186.08	6750.82	185.96	6750.94	186.24	6750.66	186.62	6750.28
LC18M	LFG	6948.97	168.58	6780.39	-	-	168.19	6780.78	-	-	-	-	-	-
LC19M	HJ	6950.01	185.47	6764.54	-	-	181.02	6768.99	-	-	-	-	-	-
LC20M	UKM	6950.51	203.42	6747.09	-	-	202.65	6747.86	-	-	-	-	-	-
LC24M	UKM	6944.33	-	-	192.13	6752.20	192.28	6752.05	192.33	6752.00	192.49	6751.84	192.59	6751.74
LC25M	LFG	6936.40	167.73	6768.67	-	-	166.80	6769.60	155.19	6782.36	155.16	6782.39	-	-
LC29M	DE	6937.55	-	-	-	-	155.07	6782.48	178.50	6763.78	189.41	6752.87	155.04	6782.51
UKMO-101	MHJ-2	6942.28	170.45	6771.83	178.27	6764.01	179.10	6763.18	166.79	6774.00	167.05	6773.74	193.72	6748.56
UKMO-102	MHJ-2	6940.79	179.44	6761.35	166.56	6774.23	166.67	6774.12	175.19	6775.34	175.55	6774.98	167.46	6773.33
UKMO-103	MHJ-2	6950.53	-	-	175.08	6775.45	175.10	6775.43	192.61	6749.13	192.75	6748.99	175.80	6774.75
UKMP-101	UKM	6941.74	193.15	6748.59	192.45	6749.29	192.54	6749.20	191.36	6750.74	191.95	6750.15	192.81	6774.71
UKMP-102	UKM	6942.10	191.84	6750.26	192.58	6749.52	191.98	6750.12	-	-	-	-	192.19	6774.73
UKMP-103	UKM	6950.84	-	-	198.56	6752.28	198.30	6752.54	-	-	-	-	-	6748.93
UKMU-101	MKM	6941.87	-	-	193.12	6748.75	193.18	6748.69	193.24	6748.63	193.30	6748.57	-	6749.91
UKMU-102	MKM	6942.62	-	-	191.97	6750.65	192.07	6750.55	192.14	6750.48	192.28	6750.34	192.32	6750.30
UKMU-103	MKM	6950.92	-	-	198.63	6752.29	198.67	6752.25	-	-	-	-	-	-
M-25-92-17-1D	UKM	6,967.40	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 6 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			7/9/07	7/9/07	10/8/07	10/8/07	10/9/07	10/9/07	10/22/07	10/22/07	10/23/07	10/23/07	10/24/07	10/24/07
MB-1	DE	6,985.89	-	-	-	-	-	-	-	-	-	-	-	-
MB-2	LFG	6,986.92	-	-	-	-	-	-	-	-	-	-	-	-
MB-3B	HJ	6,987.38	-	-	-	-	-	-	-	-	-	-	-	-
MB-4	UKM	6,987.27	-	-	-	-	-	-	-	-	-	-	-	-
MB-5	LFG	6,805.04	-	-	-	-	-	-	-	-	-	-	-	-
MB-6	HJ	6,804.90	-	-	-	-	-	-	-	-	-	-	-	-
MB-8	LFG	6,985.50	-	-	-	-	-	-	-	-	-	-	-	-
MB-9	HJ	6,986.31	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 7 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			10/25/07	10/25/07	10/26/07	10/26/07	10/29/07	10/29/07	10/31/07	10/31/07	11/5/07	11/5/07	11/8/07	11/8/07	11/9/07	11/9/07
HJMO-101	LFG	6949.70	-	-	-	-	169.51	6780.19	169.45	6780.25	169.44	6780.26	169.36	6780.34	-	-
HJMO-102	FG	6934.56	-	-	-	-	157.65	6776.91	-	-	157.60	6776.96	157.53	6777.03	-	-
HJMO-103	FG	6936.29	-	-	-	-	158.45	6777.84	158.39	6777.90	158.40	6777.89	158.34	6777.95	-	-
HJMO-104	LFG	6940.76	-	-	-	-	162.05	6778.71	162.00	6778.76	162.02	6778.74	161.94	6778.82	-	-
HJMO-105	LFG	6938.00	-	-	-	-	159.17	6778.83	159.13	6778.87	159.15	6778.85	159.09	6778.91	-	-
HJMO-106	LFG	6941.75	-	-	-	-	161.54	6780.21	-	-	160.49	6781.26	161.42	6780.33	-	-
HJMO-107	LFG	6937.86	-	-	-	-	163.96	6773.90	163.74	6774.12	163.49	6774.37	163.32	6774.54	-	-
HJMO-108	LFG	6951.64	-	-	-	-	169.94	6781.70	169.90	6781.74	169.90	6781.74	169.81	6781.83	-	-
HJMO-109	LFG	6938.95	-	-	-	-	163.09	6775.86	162.79	6776.16	162.54	6776.41	162.38	6776.57	-	-
HJMO-110	LFG	6947.13	-	-	-	-	164.99	6782.14	164.92	6782.21	164.92	6782.21	164.85	6782.28	-	-
HJMO-111	LFG	6950.46	-	-	-	-	165.46	6785.00	166.41	6784.05	166.41	6784.05	166.34	6784.12	166.16	6784.30
HJMO-112	LFG	6935.51	157.28	6778.23	157.43	6778.08	157.95	6777.56	157.73	6777.78	157.51	6778.00	-	-	-	-
HJMO-113	LFG	6936.97	159.51	6777.46	160.07	6776.90	160.33	6776.64	160.05	6776.92	159.80	6777.17	-	-	159.56	6777.41
HJMO-114	LFG	6940.75	161.12	6779.63	161.72	6779.03	162.58	6778.17	162.29	6778.46	161.91	6778.84	-	-	-	-
HJMP-101	LHJ	6948.64	181.05	6767.59	181.21	6767.43	181.54	6767.10	181.33	6767.31	181.00	6767.64	180.80	6767.84	-	-
HJMP-102	MHJ-2	6936.15	173.31	6762.84	173.51	6762.64	173.93	6762.22	-	-	173.51	6762.64	173.33	6762.82	-	-
HJMP-103	M1&M2	6936.49	170.31	6766.18	170.52	6765.97	170.91	6765.58	170.78	6765.71	170.50	6765.99	170.32	6766.17	-	-
HJMP-104	MHJ-2	6941.04	174.98	6766.06	175.19	6765.85	175.57	6765.47	175.43	6765.61	175.13	6765.91	174.94	6766.10	-	-
HJMP-105	LHJ	6937.38	170.62	6766.76	170.83	6766.55	171.20	6766.18	171.04	6766.34	170.75	6766.63	170.56	6766.82	-	-
HJMP-106	LHJ	6941.29	172.90	6768.39	173.12	6768.17	173.44	6767.85	-	-	172.98	6768.31	172.78	6768.51	-	-
HJMP-107	MHJ-1,2	6938.45	206.73	6731.72	208.75	6729.70	195.75	6742.70	-	-	185.30	6753.15	184.45	6754.00	-	-
HJMP-108	MHJ-2	6952.20	182.99	6769.21	183.22	6768.98	183.50	6768.70	-	-	183.02	6769.18	182.82	6769.38	-	-
HJMP-109	LHJ	6939.10	206.05	6733.05	208.08	6731.02	196.96	6742.14	191.03	6748.07	186.62	6752.48	175.83	6763.27	-	-
HJMP-110	LHJ	6947.01	177.62	6769.39	177.88	6769.13	177.97	6769.04	-	-	177.36	6769.65	177.17	6769.84	-	-
HJMP-111	M1&2	6949.49	178.52	6770.97	178.76	6770.73	178.99	6770.50	178.80	6770.69	178.40	6771.09	178.28	6771.21	-	-
HJMP-112	UHJ	6935.48	199.45	6736.03	201.39	6734.09	190.00	6745.48	184.11	6751.37	179.67	6755.81	-	-	-	-
HJMP-113	MHJ-2	6937.26	214.89	6722.37	216.82	6720.44	192.36	6744.90	-	-	182.25	6755.01	-	-	181.25	6756.01
HJMP-114	M1&2	6941.01	206.46	6734.55	208.28	6732.73	191.21	6749.80	-	-	181.77	6759.24	-	-	-	-
HJMU-101	UKM	6949.03	-	-	-	-	201.40	6747.63	201.30	6747.73	201.19	6747.84	201.06	6747.97	205.26	6743.77
HJMU-102	UKM	6935.35	-	-	-	-	181.52	6753.83	-	-	181.18	6754.17	181.10	6754.25		
HJMU-103	UKM	6936.06	-	-	-	-	191.33	6744.73	191.30	6744.76	191.50	6744.56	191.04	6745.02	192.70	6743.36
HJMU-104	UKM	6940.51	-	-	-	-	195.71	6744.80	195.66	6744.85	195.57	6744.94	195.44	6745.07	197.13	6743.38
HJMU-105	UKM	6937.58	-	-	-	-	192.50	6745.08	192.44	6745.14	192.36	6745.22	192.24	6745.34	194.16	6743.42
HJMU-106	UKM	6941.75	-	-	-	-	194.96	6746.79	-	-	194.78	6746.97	194.64	6747.11	198.27	6743.48
HJMU-107	UKM	6937.88	-	-	-	-	193.11	6744.77	191.75	6746.13	190.47	6747.41	190.08	6747.80	191.55	6746.33
HJMU-108	UKM	6951.51	-	-	-	-	203.81	6747.70	-	-	203.61	6747.90	203.47	6748.04	208.14	6743.37
HJMU-109	UKM	6939.38	-	-	-	-	192.27	6747.11	191.79	6747.59	191.61	6747.77	180.95	6758.43	191.44	6747.94
HJMU-110	UKM	6947.56	-	-	-	-	199.65	6747.91	-	-	199.39	6748.17	199.28	6748.28		
HJMU-111	UKM	6950.08	-	-	-	-	201.37	6748.71	201.29	6748.79	201.11	6748.97	201.05	6749.03		
HJMU-112	UKM	6935.35	184.82	6750.53	185.27	6750.08	185.56	6749.79	185.16	6750.19	184.62	6750.73			184.50	6750.85
HJMU-113	UKM	6936.99	187.44	6749.55	187.88	6749.11	188.19	6748.80	187.80	6749.19	187.25	6749.74			187.19	6749.80
HJMU-114	UKM	6940.43	189.15	6751.28	189.54	6750.89	190.02	6750.41	189.74	6750.69	189.26	6751.17			189.16	6751.27

Table D6-6 Water Level Data (Page 8 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			10/25/07	10/25/07	10/26/07	10/26/07	10/29/07	10/29/07	10/31/07	10/31/07	11/5/07	11/5/07	11/8/07	11/8/07	11/9/07	11/9/07
HJT-101	LHJ	6937.56	175.84	6761.72	176.10	6761.46	176.55	6761.01	-	-	175.92	6761.64	175.77	6761.79	-	-
HJT-102	MHJ-2	6939.15	173.31	6765.84	173.52	6765.63	173.90	6765.25	173.76	6765.39	173.45	6765.70	173.25	6765.90	-	-
HJT-103	MHJ-1	6938.22	201.51	6736.71	203.42	6734.80	200.35	6737.87	195.48	6742.74	191.54	6746.68	190.73	6747.49	-	-
HJT-104	LHJ	6940.15	173.24	6766.91	173.58	6766.57	173.13	6767.02	-	-	172.03	6768.12	172.84	6767.31	-	-
HJT-105	UHJ	6938.87	185.47	6753.40	186.82	6752.05	179.11	6759.76	-	-	172.66	6766.21	-	-	172.19	6766.68
HJT-106	DE	6935.14	-	-	-	-	-	-	153.52	6781.62	153.52	6781.62	153.47	6781.67	-	-
LC15M	LFG	6936.55	157.69	6778.86	157.84	6778.71	153.63	6781.51	-	-	158.11	6778.44	-	-	157.89	6778.66
LC16M	HJ	6936.15	244.90	6691.25	246.67	6689.48	158.34	6778.21	-	-	180.05	6756.10	-	-	179.20	6756.95
LC17M	UKM	6936.90	186.95	6749.95	187.34	6749.56	187.69	6749.21	-	-	186.77	6750.13	-	-	-	-
LC18M	LFG	6948.97	-	-	-	-	168.25	6780.72	-	-	168.18	6780.79	168.10	6780.87	-	-
LC19M	HJ	6950.01	-	-	-	-	181.96	6768.05	-	-	181.46	6768.55	181.27	6768.74	-	-
LC20M	UKM	6950.51	-	-	-	-	203.10	6747.41	-	-	202.84	6747.67	202.75	6747.76	-	-
LC24M	UKM	6944.33	192.59	6751.74	192.72	6751.61	192.60	6751.73	192.48	6751.85	192.35	6751.98			-	-
LC25M	LFG	6936.40	-	-	-	-	-	-	164.24	6772.16	164.08	6772.32	163.92	6772.48	-	-
LC29M	DE	6937.55	154.87	6782.68	154.97	6782.58	-	-	-	-		-	-	-	-	-
UKMO-101	MHJ-2	6942.28	196.16	6746.12	197.56	6744.72	187.07	6755.21	-	-	180.03	6762.25	-	-	179.73	6762.55
UKMO-102	MHJ-2	6940.79	167.66	6773.13	167.92	6772.87	168.07	6772.72	-	-	185.46	6755.33	-	-	167.05	6773.74
UKMO-103	MHJ-2	6950.53	175.97	6774.56	176.20	6774.33	176.42	6774.11	-	-	175.94	6774.59	175.74	6774.79	-	-
UKMP-101	UKM	6941.74	192.78	6748.96	192.91	6748.83	193.00	6748.74	192.92	6748.82	192.76	6748.98	-	-	-	-
UKMP-102	UKM	6942.10	192.28	6749.82	192.45	6749.65	192.00	6750.10	191.75	6750.35	191.49	6750.61	-	-	-	-
UKMP-103	UKM	6950.84	-	-	-	-	-	-	-	-	198.90	6751.94	198.85	6751.99	319.27	6631.57
UKMU-101	MKM	6941.87	193.31	6748.56	193.45	6748.42	193.65	6748.22	193.59	6748.28	193.38	6748.49	-	-	196.95	6744.92
UKMU-102	MKM	6942.62	192.27	6750.35	192.39	6750.23	192.46	6750.16	192.35	6750.27	192.30	6750.32	-	-	198.66	6743.96
UKMU-103	MKM	6950.92	-	-	-	-	199.12	6751.80	199.09	6751.83	198.95	6751.97	-	-	-	-
M-25-92-17-1D	UKM	6,967.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 9 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			10/25/07	10/25/07	10/26/07	10/26/07	10/29/07	10/29/07	10/31/07	10/31/07	11/5/07	11/5/07	11/8/07	11/8/07	11/9/07	11/9/07
MB-1	DE	6,985.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-2	LFG	6,986.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-3B	HJ	6,987.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-4	UKM	6,987.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-5	LFG	6,805.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-6	HJ	6,804.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-8	LFG	6,985.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-9	HJ	6,986.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 10 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			11/10/07	11/10/07	11/11/07	11/11/07	11/12/07	11/12/07	11/13/07	11/13/07	11/14/07	11/14/07	11/15/07	11/15/07	11/21/07	11/21/07
HJMO-101	LFG	6949.70	-	-	-	-	-	-	-	-	169.48	6780.22	-	-	169.47	6780.23
HJMO-102	FG	6934.56	-	-	-	-	-	-	-	-	157.66	6776.90	-	-	154.66	6779.90
HJMO-103	FG	6936.29	-	-	-	-	-	-	-	-	158.42	6777.87	-	-	158.45	6777.84
HJMO-104	LFG	6940.76	-	-	-	-	-	-	-	-	162.04	6778.72	-	-	162.34	6778.42
HJMO-105	LFG	6938.00	-	-	-	-	-	-	-	-	159.17	6778.83	-	-	159.20	6778.80
HJMO-106	LFG	6941.75	-	-	-	-	-	-	-	-	161.52	6780.23	-	-	161.55	6780.20
HJMO-107	LFG	6937.86	-	-	-	-	-	-	-	-	163.35	6774.51	-	-	163.29	6774.57
HJMO-108	LFG	6951.64	-	-	-	-	-	-	-	-	169.92	6781.72	-	-	169.95	6781.69
HJMO-109	LFG	6938.95	-	-	-	-	-	-	-	-	162.42	6776.53	-	-	162.38	6776.57
HJMO-110	LFG	6947.13	-	-	-	-	-	-	-	-	164.94	6782.19	-	-	164.98	6782.15
HJMO-111	LFG	6950.46	166.12	6784.34	166.09	6784.37	166.33	6784.13	166.30	6784.16	166.40	6784.06	166.51	6783.95	166.49	6783.97
HJMO-112	LFG	6935.51	-	-	-	-	-	-	-	-	157.35	6778.16	-	-	157.29	6778.22
HJMO-113	LFG	6936.97	159.49	6777.48	159.42	6777.55	159.63	6777.34	159.64	6777.33	159.76	6777.21	159.61	6777.36	159.63	6777.34
HJMO-114	LFG	6940.75	-	-	-	-	-	-	-	-	161.68	6779.07	-	-	161.60	6779.15
HJMP-101	LHJ	6948.64	-	-	-	-	-	-	-	-	181.12	6767.52	-	-	181.10	6767.54
HJMP-102	MHJ-2	6936.15	-	-	-	-	-	-	-	-	173.89	6762.26	-	-	175.67	6760.48
HJMP-103	M1&M2	6936.49	-	-	-	-	-	-	-	-	170.61	6765.88	-	-	170.60	6765.89
HJMP-104	MHJ-2	6941.04	-	-	-	-	-	-	-	-	175.26	6765.78	-	-	175.21	6765.83
HJMP-105	LHJ	6937.38	-	-	-	-	-	-	-	-	170.89	6766.49	-	-	170.85	6766.53
HJMP-106	LHJ	6941.29	-	-	-	-	-	-	-	-	173.04	6768.25	-	-	173.07	6768.22
HJMP-107	MHJ-1,2	6938.45	-	-	-	-	-	-	-	-	184.30	6754.15	-	-	183.94	6754.51
HJMP-108	MHJ-2	6952.20	-	-	-	-	-	-	-	-	183.06	6769.14	-	-	183.10	6769.10
HJMP-109	LHJ	6939.10	-	-	-	-	-	-	-	-	185.71	6753.39	-	-	185.25	6753.85
HJMP-110	LHJ	6947.01	-	-	-	-	-	-	-	-	177.43	6769.58	-	-	177.44	6769.57
HJMP-111	M1&2	6949.49	-	-	178.11	6771.38	178.28	6771.21	178.28	6771.21	178.49	6771.00	178.60	6770.89	178.55	6770.94
HJMP-112	UHJ	6935.48	-	-	-	-	-	-	-	-	178.56	6756.92	-	-	178.24	6757.24
HJMP-113	MHJ-2	6937.26	181.15	6756.11	181.09	6756.17	181.19	6756.07	181.21	6756.05	181.20	6756.06	181.00	6756.26	180.84	6756.42
HJMP-114	M1&2	6941.01	-	-	-	-	-	-	-	-	180.75	6760.26	-	-	180.37	6760.64
HJMU-101	UKM	6949.03	206.94	6742.09	208.16	6740.87	209.03	6740.00	209.91	6739.12	210.19	6738.84	206.38	6742.65	202.49	6746.54
HJMU-102	UKM	6935.35			182.52	6752.83	183.01	6752.34	183.19	6752.16	183.62	6751.73	183.21	6752.14	181.91	6753.44
HJMU-103	UKM	6936.06	193.88	6742.18	194.83	6741.23	195.60	6740.46	196.53	6739.53	196.55	6739.51	195.25	6740.81	192.34	6743.72
HJMU-104	UKM	6940.51	198.28	6742.23	199.22	6741.29	200.00	6740.51	200.92	6739.59	200.98	6739.53	199.60	6740.91	196.73	6743.78
HJMU-105	UKM	6937.58	195.42	6742.16	196.40	6741.18	197.98	6739.60	198.56	6739.02	198.18	6739.40	196.57	6741.01	193.56	6744.02
HJMU-106	UKM	6941.75	199.94	6741.81	201.02	6740.73	201.87	6739.88	202.36	6739.39	203.01	6738.74	199.75	6742.00	196.05	6745.70
HJMU-107	UKM	6937.88	192.30	6745.58	192.83	6745.05	193.33	6744.55	193.85	6744.03	193.89	6743.99	192.51	6745.37	190.60	6747.28
HJMU-108	UKM	6951.51	209.90	6741.61	211.11	6740.40	212.00	6739.51	212.98	6738.53	213.18	6738.33	208.90	6742.61	204.92	6746.59
HJMU-109	UKM	6939.38	191.85	6747.53	192.21	6747.17	192.62	6746.76	192.83	6746.55	193.11	6746.27	192.59	6746.79	191.45	6747.93
HJMU-110	UKM	6947.56			207.36	6740.20	208.24	6739.32	208.80	6738.76	209.45	6738.11	204.72	6742.84	200.73	6746.83
HJMU-111	UKM	6950.08			210.51	6739.57	211.40	6738.68	212.00	6738.08	212.68	6737.40	206.59	6743.49	202.51	6747.57
HJMU-112	UKM	6935.35	184.78	6750.57	185.04	6750.31	185.44	6749.91	185.75	6749.60	185.89	6749.46	185.61	6749.74	184.81	6750.54
HJMU-113	UKM	6936.99	187.49	6749.50	187.75	6749.24	188.14	6748.85	188.45	6748.54	188.58	6748.41	188.31	6748.68	187.48	6749.51
HJMU-114	UKM	6940.43	189.44	6750.99	189.74	6750.69	190.06	6750.37	190.37	6750.06	190.50	6749.93	190.32	6750.11	189.47	6750.96

Table D6-6 Water Level Data (Page 11 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			11/10/07	11/10/07	11/11/07	11/11/07	11/12/07	11/12/07	11/13/07	11/13/07	11/14/07	11/14/07	11/15/07	11/15/07	11/21/07	11/21/07
HJT-101	LHJ	6937.56	-	-	-	-	-	-	-	-	176.21	6761.35	-	-	176.04	6761.52
HJT-102	MHJ-2	6939.15	-	-	-	-	-	-	-	-	173.61	6765.54	-	-	173.55	6765.60
HJT-103	MHJ-1	6938.22	-	-	-	-	-	-	-	-	190.54	6747.68	-	-	190.28	6747.94
HJT-104	LHJ	6940.15	-	-	-	-	-	-	-	-	172.21	6767.94	-	-	172.08	6768.07
HJT-105	UHJ	6938.87	172.28	6766.59	172.31	6766.56	172.45	6766.42	172.53	6766.34	172.58	6766.29	-	-	171.68	6767.19
HJT-106	DE	6935.14	-	-	-	-	-	-	-	-	153.61	6781.53	-	-	153.58	6781.56
LC15M	LFG	6936.55	157.80	6778.75	157.74	6778.81	157.97	6778.58	157.95	6778.60	157.97	6778.58	157.92	6778.63	157.94	6778.61
LC16M	HJ	6936.15	179.05	6757.10	179.09	6757.06	179.00	6757.15	179.07	6757.08	179.00	6757.15	178.90	6757.25	178.78	6757.37
LC17M	UKM	6936.90	-	-	187.27	6749.63	187.61	6749.29	187.72	6749.18	188.08	6748.82	187.80	6749.10	186.96	6749.94
LC18M	LFG	6948.97	-	-	-	-	-	-	-	-	168.21	6780.76	-	-	168.11	6780.86
LC19M	HJ	6950.01	-	-	-	-	-	-	-	-	181.52	6768.49	-	-	181.41	6768.60
LC20M	UKM	6950.51	-	-	209.95	6740.56	210.85	6739.66	211.41	6739.10	212.00	6738.51	208.09	6742.42	204.20	6746.31
LC24M	UKM	6944.33	-	-	206.73	6737.60	207.68	6736.65	208.28	6736.05	208.96	6735.37	197.99	6746.34	193.68	6750.65
LC25M	LFG	6936.40	-	-	-	-	-	-	-	-	160.85	6775.55	-	-	163.76	6772.64
LC29M	DE	6937.55	-	-	-	-	-	-	-	-	-	-	-	-	155.14	6782.41
UKMO-101	MHJ-2	6942.28	179.84	6762.44	179.91	6762.37	180.09	6762.19	180.15	6762.13	180.23	6762.05	179.56	6762.72	179.00	6763.28
UKMO-102	MHJ-2	6940.79	167.03	6773.76	167.05	6773.74	167.25	6773.54	167.22	6773.57	167.42	6773.37	167.58	6773.21	167.52	6773.27
UKMO-103	MHJ-2	6950.53	-	-	175.55	6774.98	175.73	6774.80	175.68	6774.85	175.94	6774.59	175.94	6774.59	176.02	6774.51
UKMP-101	UKM	6941.74	-	-	200.66	6741.08	201.57	6740.17	202.11	6739.63	202.79	6738.95	197.96	6743.78	194.09	6747.65
UKMP-102	UKM	6942.10	-	-	203.10	6739.00	203.97	6738.13	204.55	6737.55	205.29	6736.81	197.05	6745.05	192.81	6749.29
UKMP-103	UKM	6950.84	-	-	322.45	6628.39	323.16	6627.68	324.03	6626.81	-	-	204.53	6746.31	200.30	6750.54
UKMU-101	MKM	6941.87	198.66	6743.21	199.74	6742.13	200.61	6741.26	201.58	6740.29	201.28	6740.59	198.34	6743.53	194.69	6747.18
UKMU-102	MKM	6942.62	200.72	6741.90	201.91	6740.71	202.85	6739.77	203.43	6739.19	204.10	6738.52	197.76	6744.86	193.60	6749.02
UKMU-103	MKM	6950.92	-	-	210.66	6740.26	211.61	6739.31	212.10	6738.82	212.89	6738.03	204.47	6746.45	200.39	6750.53
M-25-92-17-1D	UKM	6,967.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 12 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev.	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			11/10/07	11/10/07	11/11/07	11/11/07	11/12/07	11/12/07	11/13/07	11/13/07	11/14/07	11/14/07	11/15/07	11/15/07	11/21/07	11/21/07
MB-1	DE	6,985.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-2	LFG	6,986.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-3B	HJ	6,987.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-4	UKM	6,987.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-5	LFG	6,805.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-6	HJ	6,804.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-8	LFG	6,985.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB-9	HJ	6,986.31	-	-	-	-	-	--	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 13 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/27/09	8/27/09	8/26/09	8/26/09	8/31/09	8/31/09	12/14/09	12/14/09	12/14/09	12/14/09	1/4/10	1/4/10	3/30/10	3/30/10
HJMO-101	LFG	6949.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-102	FG	6934.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-103	FG	6936.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-104	LFG	6940.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-105	LFG	6938.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-106	LFG	6941.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-107	LFG	6937.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-108	LFG	6951.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-109	LFG	6938.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-110	LFG	6947.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-111	LFG	6950.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-112	LFG	6935.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-113	LFG	6936.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMO-114	LFG	6940.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-101	LHJ	6948.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-102	MHJ-2	6936.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-103	M1&M2	6936.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-104	MHJ-2	6941.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-105	LHJ	6937.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-106	LHJ	6941.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-107	MHJ-1,2	6938.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-108	MHJ-2	6952.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-109	LHJ	6939.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-110	LHJ	6947.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-111	M1&2	6949.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-112	UHJ	6935.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-113	MHJ-2	6937.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMP-114	M1&2	6941.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-101	UKM	6949.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-102	UKM	6935.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-103	UKM	6936.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-104	UKM	6940.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-105	UKM	6937.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-106	UKM	6941.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-107	UKM	6937.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-108	UKM	6951.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-109	UKM	6939.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-110	UKM	6947.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-111	UKM	6950.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-112	UKM	6935.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-113	UKM	6936.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJMU-114	UKM	6940.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 14 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/27/09	8/27/09	8/26/09	8/26/09	8/31/09	8/31/09	12/14/09	12/14/09	12/14/09	12/14/09	1/4/10	1/4/10	3/30/10	3/30/10
HJT-101	LHJ	6937.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJT-102	MHJ-2	6939.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJT-103	MHJ-1	6938.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJT-104	LHJ	6940.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJT-105	UHJ	6938.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HJT-106	DE	6935.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC15M	LFG	6936.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC16M	HJ	6936.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC17M	UKM	6936.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC18M	LFG	6948.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC19M	HJ	6950.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC20M	UKM	6950.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC24M	UKM	6944.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC25M	LFG	6936.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LC29M	DE	6937.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMO-101	MHJ-2	6942.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMO-102	MHJ-2	6940.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMO-103	MHJ-2	6950.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMP-101	UKM	6941.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMP-102	UKM	6942.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMP-103	UKM	6950.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-101	MKM	6941.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-102	MKM	6942.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UKMU-103	MKM	6950.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1D	UKM	6,967.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 15 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			8/27/09	8/27/09	8/26/09	8/26/09	8/31/09	8/31/09	12/14/09	12/14/09	12/14/09	12/14/09	1/4/10	1/4/10	3/30/10	3/30/10
MB-1	DE	6,985.89	ND	ND	-	-	-	-			-	-	233.55	6,752.34	243.90	6,741.99
MB-2	LFG	6,986.92	-	-	243.23	6,743.69	-	-			242.90	6,744.02	-	-	246.20	6,740.72
MB-3B	HJ	6,987.38	261.95	6,725.43	--	--	-	-	-	-	261.70	6,725.68	-	-	265.10	6,722.28
MB-4	UKM	6,987.27	-	-	-	-	274.95	6,712.32	-	-	273.54	6,713.73	-	-	275.20	6,712.07
MB-5	LFG	6,805.04	143.33	6,661.71	-	-	-	-	-	-	144.20	6,660.84	-	-	-	-
MB-6	HJ	6,804.90	142.83	6,662.07	-	-	-	-	-	-	142.68	6,662.22	-	-	-	-
MB-8	LFG	6,985.50	-	-	ND	ND	-	-	-	-	-	-	170.60	6,814.90	172.20	6,813.30
MB-9	HJ	6,986.31	-	-	182.40	6,803.91	-	-	183.50	6,802.81	-	-	-	-	186.00	6,800.31

Table D6-6 Water Level Data (Page 16 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			3/31/10	3/31/10	6/29/2010	6/29/2010	7/6/2010	7/6/2010	7/7/2010	7/7/2010
HJMO-101	LFG	6949.70	-	-	-	-	-	-	-	-
HJMO-102	FG	6934.56	-	-	-	-	-	-	-	-
HJMO-103	FG	6936.29	-	-	-	-	-	-	-	-
HJMO-104	LFG	6940.76	-	-	-	-	-	-	-	-
HJMO-105	LFG	6938.00	-	-	-	-	-	-	-	-
HJMO-106	LFG	6941.75	-	-	-	-	-	-	-	-
HJMO-107	LFG	6937.86	-	-	-	-	-	-	-	-
HJMO-108	LFG	6951.64	-	-	-	-	-	-	-	-
HJMO-109	LFG	6938.95	-	-	-	-	-	-	-	-
HJMO-110	LFG	6947.13	-	-	-	-	-	-	-	-
HJMO-111	LFG	6950.46	-	-	-	-	-	-	-	-
HJMO-112	LFG	6935.51	-	-	-	-	-	-	-	-
HJMO-113	LFG	6936.97	-	-	-	-	-	-	-	-
HJMO-114	LFG	6940.75	-	-	-	-	-	-	-	-
HJMP-101	LHJ	6948.64	-	-	-	-	-	-	-	-
HJMP-102	MHJ-2	6936.15	-	-	-	-	-	-	-	-
HJMP-103	M1&M2	6936.49	-	-	-	-	-	-	-	-
HJMP-104	MHJ-2	6941.04	-	-	-	-	-	-	-	-
HJMP-105	LHJ	6937.38	-	-	-	-	-	-	-	-
HJMP-106	LHJ	6941.29	-	-	-	-	-	-	-	-
HJMP-107	MHJ-1,2	6938.45	-	-	-	-	-	-	-	-
HJMP-108	MHJ-2	6952.20	-	-	-	-	-	-	-	-
HJMP-109	LHJ	6939.10	-	-	-	-	-	-	-	-
HJMP-110	LHJ	6947.01	-	-	-	-	-	-	-	-
HJMP-111	M1&2	6949.49	-	-	-	-	-	-	-	-
HJMP-112	UHJ	6935.48	-	-	-	-	-	-	-	-
HJMP-113	MHJ-2	6937.26	-	-	-	-	-	-	-	-
HJMP-114	M1&2	6941.01	-	-	-	-	-	-	-	-
HJMU-101	UKM	6949.03	-	-	-	-	-	-	-	-
HJMU-102	UKM	6935.35	-	-	-	-	-	-	-	-
HJMU-103	UKM	6936.06	-	-	-	-	-	-	-	-
HJMU-104	UKM	6940.51	-	-	-	-	-	-	-	-
HJMU-105	UKM	6937.58	-	-	-	-	-	-	-	-
HJMU-106	UKM	6941.75	-	-	-	-	-	-	-	-
HJMU-107	UKM	6937.88	-	-	-	-	-	-	-	-
HJMU-108	UKM	6951.51	-	-	-	-	-	-	-	-
HJMU-109	UKM	6939.38	-	-	-	-	-	-	-	-
HJMU-110	UKM	6947.56	-	-	-	-	-	-	-	-
HJMU-111	UKM	6950.08	-	-	-	-	-	-	-	-
HJMU-112	UKM	6935.35	-	-	-	-	-	-	-	-
HJMU-113	UKM	6936.99	-	-	-	-	-	-	-	-
HJMU-114	UKM	6940.43	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 17 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			3/31/10	3/31/10	6/29/2010	6/29/2010	7/6/2010	7/6/2010	7/7/2010	7/7/2010
HJT-101	LHJ	6937.56	-	-	-	-	-	-	-	-
HJT-102	MHJ-2	6939.15	-	-	-	-	-	-	-	-
HJT-103	MHJ-1	6938.22	-	-	-	-	-	-	-	-
HJT-104	LHJ	6940.15	-	-	-	-	-	-	-	-
HJT-105	UHJ	6938.87	-	-	-	-	-	-	-	-
HJT-106	DE	6935.14	-	-	-	-	-	-	-	-
LC15M	LFG	6936.55	-	-	-	-	-	-	-	-
LC16M	HJ	6936.15	-	-	-	-	-	-	-	-
LC17M	UKM	6936.90	-	-	-	-	-	-	-	-
LC18M	LFG	6948.97	-	-	-	-	-	-	-	-
LC19M	HJ	6950.01	-	-	-	-	-	-	-	-
LC20M	UKM	6950.51	-	-	-	-	-	-	-	-
LC24M	UKM	6944.33	-	-	-	-	-	-	-	-
LC25M	LFG	6936.40	-	-	-	-	-	-	-	-
LC29M	DE	6937.55	-	-	-	-	-	-	-	-
UKMO-101	MHJ-2	6942.28	-	-	-	-	-	-	-	-
UKMO-102	MHJ-2	6940.79	-	-	-	-	-	-	-	-
UKMO-103	MHJ-2	6950.53	-	-	-	-	-	-	-	-
UKMP-101	UKM	6941.74	-	-	-	-	-	-	-	-
UKMP-102	UKM	6942.10	-	-	-	-	-	-	-	-
UKMP-103	UKM	6950.84	-	-	-	-	-	-	-	-
UKMU-101	MKM	6941.87	-	-	-	-	-	-	-	-
UKMU-102	MKM	6942.62	-	-	-	-	-	-	-	-
UKMU-103	MKM	6950.92	-	-	-	-	-	-	-	-
M-25-92-17-1D	UKM	6,967.40	-	-	-	-	-	-	-	-
M-25-92-17-1M	HJ	6,966.70	-	-	-	-	-	-	-	-
M-25-92-17-1S	LFG	6,966.20	-	-	-	-	-	-	-	-
M-25-92-18-1D	UKM	6,938.70	-	-	-	-	-	-	-	-
M-25-92-18-1M	HJ	6,940.00	-	-	-	-	-	-	-	-
M-25-92-18-1S	LFG	6,939.30	-	-	-	-	-	-	-	-
M-25-92-19-1M	HJ	6,926.10	-	-	-	-	-	-	-	-
M-25-92-19-2M	HJ	6,925.50	-	-	-	-	-	-	-	-
M-25-92-19-3M	HJ	6,923.90	-	-	-	-	-	-	-	-
M-25-92-20-1D	UKM	6,935.00	-	-	-	-	-	-	-	-
M-25-92-20-1M	HJ	6,934.90	-	-	-	-	-	-	-	-
M-25-92-20-1S	LFG	6,934.50	-	-	-	-	-	-	-	-

Table D6-6 Water Level Data (Page 18 of 18)

Well Name	Completion Zone	Measure Point Elevation	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev	DTW	WL Elev
			3/31/10	3/31/10	6/29/2010	6/29/2010	7/6/2010	7/6/2010	7/7/2010	7/7/2010
MB-1	DE	6,985.89	-	-	235.00	6750.89	-	-	-	-
MB-2	LFG	6,986.92	-	-	-	-	246.30	6740.62	-	-
MB-3B	HJ	6,987.38	-	-	-	-	266.20	6721.18	-	-
MB-4	UKM	6,987.27	-	-	-	-	-	-	274.45	6712.82
MB-5	LFG	6,805.04	146.20	6,658.84	-	-	146.00	6659.04	-	-
MB-6	HJ	6,804.90	144.00	6,660.90	-	-	-	-	144.60	6660.30
MB-8	LFG	6,985.50	-	-	172.20	6813.30	-	-	-	-
MB-9	HJ	6,986.31	-	-	-	-	186.00	6800.31	-	-

[1] DTW - Depth to water in feet below measure point
[2] WL. Elev. - Water Level Elevation in feet above mean sea level
† values not provided in Hydro-Search Inc 1982 report
(ND) Data unavailable
(-) Water level not measured

Table D6-12c Lost Creek Project Groundwater Permits

General Disclaimer *

The data contained herein are provided AS IS and IN NO EVENT SHALL the State of Wyoming, its agencies or representatives, be LIABLE for any DAMAGES including, without limitation, damages resulting from lost data or profits or revenue the costs of recovering such data, the cost of substitute data, computer repair or replacement costs, claims by third parties for similar costs, or any special, direct or indirect, incidental, punitive or consequential damages of any kind whatsoever, arising out of the use of these data. The accuracy or reliability of the data IS NOT GUARANTEED or WARRANTED in ay way and the State of Wyoming, its agencies or representatives, EXPRESSLY DISCLAIM LIABILITY, whether expressed or implied, or of any kind whatsoever, including, without limitation, liability for QUALITY, PERFORMANCE, MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE arising from the use of the data, NEITHER the State of Wyoming, NOR its agencies or representatives, including the State Engineer's Office, REPRESENT or ENDORSE the ACCURACY or RELIABILITY OF ANY INFORMATION contained in the database, as some of the data are provided by permit applicants and may not have been verified by the State of Wyoming, its agencies or representatives. The State of Wyoming, its agencies and representatives RESERVE THE RIGHT, at their sole discretion, WITHOUT OBLIGATION, to MODIFY, ADD OR REMOVE all or portions of the data , at any time, WITH OR WITHOUT NOTICE. This includes the correction of errors or omissions within the database. All data or information provided by the Wyoming State Engineer's Office shall be used and relied upon only at the USER'S SOLE RISK, and the user agrees to indemnify and hold harmless the State of Wyoming, its agencies or representatives, including the Wyoming State Engineer's Office, and its officials, officers, and employees, from any liability arising out of the use or distribution of these data.

* (WSEO, 2006)

Definitions *

- **Abandoned:** The loss of a water right based on the non-use of that water right when water was available for a period of five consecutive years, or the voluntary relinquishment of an adjudicated water right.
- **Adjudicated:** A priority assigned to an appropriation and a decree or certificate issued publicly recognizing the defined water right and conveying property-right status on the appropriation.
- **Cancelled:**
  - A temporary use permit issued for a limited time, after which the permit is cancelled; or
  - A permit or certificate that has been issued by the state engineer or the board of control, in which the provisions of the permit or certificate were found willfully violated.
- **Good Standing Incomplete:** All legally required notices have not been received and the permit has not expired.
- **INP:** Information Not Provided
- **Unadjudicated:** A water right permit before it has been publicly recognized by proof of inspection and advertisement.

* WSEO, 2006

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 1 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Lost Creek Project Monitoring Wells *(Listed by "Permit Facility Name" in same order as in Table D6-5 and Attachment D6-3. Well locations shown on Figure D6-9.)*													
DE Horizon													
Well	P179861W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJT 106	LCS	LCS	LCS
Well	P179862W	NFU Wyoming LLC	25 N	92 W	20	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJT 107	LCS	LCS	LCS
Well	P175260W	NFU Wyoming LLC and BLM	25 N	92 W	20	NWNW	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC29M	LCS	171	153.95
Well	P175262W	NFU Wyoming LLC and BLM	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC30M	LCS	236	198.91
Well	P175268W	NFU Wyoming LLC and BLM	25 N	93 W	25	SWSW	Monitoring	6/9/2006	Good Standing Incomplete	LC31M	LCS	191	144.01
Well	41/9/283W	Lost Creek ISR LLC	25 N	93 W	13	NWSE	Monitoring	9/26/2008	Unadjucated	MB-01	LCS	LCS	LCS
Well	41/5/284W	Lost Creek ISR LLC	25 N	92 W	16	SENE	Monitoring	9/26/2008	Unadjucated	MB-07	LCS	LCS	LCS
Well	41/8/284W	Lost Creek ISR LLC	25 N	92 W	18	SESE	Monitoring	9/26/2008	Unadjucated	MB-10	LCS	LCS	LCS
FG Horizon													
Well	P179865W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-101	LCS	LCS	LCS
Well	P179868W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-102	LCS	LCS	LCS
Well	P179871W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-103	LCS	LCS	LCS
Well	P179874W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-104	LCS	LCS	LCS
Well	P179877W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-105	LCS	LCS	LCS
Well	P179880W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-106	LCS	LCS	LCS
Well	P179883W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-107	LCS	LCS	LCS
Well	P179886W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-108	LCS	LCS	LCS
Well	P179889W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-109	LCS	LCS	LCS
Well	P179892W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-110	LCS	LCS	LCS
Well	P179895W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-111	LCS	LCS	LCS
Well	P179898W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-112	LCS	LCS	LCS
Well	P179901W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-113	LCS	LCS	LCS
Well	P179904W	NFU Wyoming LLC	25 N	92 W	20	NENW	Monitoring	3/1/2007	Good Standing Incomplete	HJMO-114	LCS	LCS	LCS
Well	P175260W	NFU Wyoming LLC and BLM	25 N	92 W	20	NWNW	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC15M	LCS	350	160.8
Well	P175261W	NFU Wyoming LLC and BLM	25 N	92 W	18	SESE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC18M	LCS	350	168.04
Well	P175262W	NFU Wyoming LLC and BLM	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC21M	LCS	410	198.2
Well	P175264W	NFU Wyoming LLC and BLM	25 N	92 W	19	NENE	Monitoring	6/9/2006	Good Standing Incomplete	LC25M	LCS	380	167.05
Well	41/10/283W	Lost Creek ISR LLC	25 N	93 W	13	NWSE	Monitoring	9/26/2008	Unadjucated	MB-02	LCS	LCS	LCS

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 2 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Well	41/3/284W	Lost Creek ISR LLC	25 N	93 W	25	SWSW	Monitoring	9/26/2008	Unadjucated	MB-05	LCS	LCS	LCS
Well	41/6/284W	Lost Creek ISR LLC	25 N	92 W	16	SENE	Monitoring	9/26/2008	Unadjucated	MB-08	LCS	LCS	LCS
HJ Horizon													
Well	P179864W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-101	LCS	LCS	LCS
Well	P179867W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-102	LCS	LCS	LCS
Well	P179870W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-103	LCS	LCS	LCS
Well	P179873W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-104	LCS	430	171.81
Well	P179876W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-105	LCS	LCS	LCS
Well	P179879W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-106	LCS	LCS	LCS
Well	P179882W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-107	LCS	464	183.61
Well	P179885W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-108	LCS	LCS	LCS
Well	P179888W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-109	LCS	LCS	LCS
Well	P179891W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-110	LCS	476	174.89
Well	P179894W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-111	LCS	440	176.94
Well	P179897W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-112	LCS	LCS	LCS
Well	P179900W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-113	LCS	LCS	LCS
Well	P179903W	NFU Wyoming LLC	25 N	92 W	20	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMP-114	LCS	LCS	LCS
Well	P179856W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJT 101	LCS	LCS	LCS
Well	P179857W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJT 102	LCS	LCS	LCS
Well	P179858W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJT 103	LCS	LCS	LCS
Well	P179859W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJT 104	LCS	460	169.51
Well	P179860W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJT 105	LCS	LCS	LCS
Well	P175260W	NFU Wyoming LLC and BLM	25 N	92 W	20	NWNW	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC16M	LCS	472	178.14
Well	P175261W	NFU Wyoming LLC and BLM	25 N	92 W	18	SESE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC19M	LCS	463	180.08
Well	P175262W	NFU Wyoming LLC and BLM	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC22M	LCS	592	206.73
Well	P175265W	NFU Wyoming LLC and BLM	25 N	92 W	20	NENE	Monitoring	6/9/2006	Good Standing Incomplete	LC26M	LCS	436	171.1
Well	P179907W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	UKMO-101	LCS	LCS	LCS
Well	P179910W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMO-102	LCS	LCS	LCS
Well	P179913W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMO-103	LCS	LCS	LCS
Well	41/1/284W	Lost Creek ISR LLC	25 N	93 W	13	NWSE	Monitoring	9/26/2008	Unadjucated	MB-03B	LCS	LCS	LCS
Well	41/4/284W	Lost Creek ISR LLC	25 N	93 W	25	SWSW	Monitoring	9/26/2008	Unadjucated	MB-06	LCS	LCS	LCS

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 3 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Well	41/7/284W	Lost Creek ISR LLC	25 N	92 W	16	SENE	Monitoring	9/26/2008	Unadjucated	MB-09	LCS	LCS	LCS
KM Horizon													
Well	P179863W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-101	LCS	LCS	LCS
Well	P179866W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-102	LCS	LCS	LCS
Well	P179869W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-103	LCS	LCS	LCS
Well	P179872W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-104	LCS	LCS	LCS
Well	P179875W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-105	LCS	LCS	LCS
Well	P179878W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-106	LCS	LCS	LCS
Well	P179881W	NFU Wyoming LLC	25 N	92 W	19	NENE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-107	LCS	LCS	LCS
Well	P179884W	NFU Wyoming LLC	25 N	92 W	18	SESE	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-108	LCS	LCS	LCS
Well	P179887W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-109	LCS	LCS	LCS
Well	P179890W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-110	LCS	LCS	LCS
Well	P179893W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-111	LCS	LCS	LCS
Well	P179896W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-112	LCS	LCS	LCS
Well	P179899W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-113	LCS	LCS	LCS
Well	P179902W	NFU Wyoming LLC	25 N	92 W	20	NENW	Monitoring	3/1/2007	Good Standing Incomplete	HJMU-114	LCS	LCS	LCS
Well	P175260W	NFU Wyoming LLC and BLM	25 N	92 W	20	NWNW	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC17M	LCS	575	185.26
Well	P175261W	NFU Wyoming LLC and BLM	25 N	92 W	18	SESE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC20M	LCS	543	202.36
Well	P175262W	NFU Wyoming LLC and BLM	25 N	93 W	24	SWNE	Monitoring, Test Well	6/9/2006	Good Standing Incomplete	LC23M	LCS	634	220.75
Well	P175263W	NFU Wyoming LLC and BLM	25 N	92 W	17	SWSW	Monitoring	6/9/2006	Good Standing Incomplete	LC24M	LCS	542	192.11
Well	P175266W	NFU Wyoming LLC and BLM	25 N	92 W	16	SENE	Monitoring	6/9/2006	Good Standing Incomplete	LC27M	LCS	477	189.8
Well	P175267W	NFU Wyoming LLC and BLM	25 N	93 W	25	SWSW	Monitoring	6/9/2006	Good Standing Incomplete	LC28M	LCS	563	154.45
Well	P179906W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	UKMP-101	LCS	575	192.13
Well	P179909W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMP-102	LCS	498	190.68
Well	P179912W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMP-103	LCS	LCS	LCS
Well	41/2/284W	Lost Creek ISR LLC	25 N	93 W	13	NWSE	Monitoring	9/26/2008	Unadjucated	MB-04	LCS	LCS	LCS
Well	P179905W	NFU Wyoming LLC	25 N	92 W	20	NWNW	Monitoring	3/1/2007	Good Standing Incomplete	UKMU-101	LCS	LCS	LCS
Well	P179908W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMU-102	LCS	LCS	LCS
Well	P179911W	NFU Wyoming LLC	25 N	92 W	17	SWSW	Monitoring	3/1/2007	Good Standing Incomplete	UKMU-103	LCS	LCS	LCS
Other Wells *(listed in order by location)*													
Well	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW	LCS	LCS	LCS

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 4 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	16	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	17	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 5 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	18	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	19	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	20	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 6 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	92 W	30	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	13	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 7 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	24	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NESE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NWSE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NESW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SWSW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	SENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	25	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	36	NWNW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	36	NENW	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	36	NWNE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Use Point	P169906W	Ur-Energy USA Inc. -- WSBLC	25 N	93 W	36	NENE	Miscellaneous	9/12/2005	Good Standing Incomplete	LCIW			
Well	P179826W	Lost Creek ISR LLC	25 N	92 W	17	NWSE	Miscellaneous	2/28/2007	Good Standing Incomplete	LC 32W	LCS	LCS	LCS
Well	P179827W	Lost Creek ISR LLC	25 N	92 W	20	NENE	Miscellaneous	2/28/2007	Good Standing Incomplete	LC 33W	LCS	LCS	LCS
Well	41/1/163W	Ur-Energy USA Inc.	25 N	92 W	19	SWNE	Monitoring	7/3/2008	Unadjucated	SWNE19M	LCS	LCS	LCS
Well	41/10/162W	Ur-Energy USA Inc.	25 N	92 W	19	NWNE	Monitoring	7/3/2008	Unadjucated	NWNE19M	LCS	LCS	LCS
Well	41/10/163W	Ur-Energy USA Inc.	25 N	92 W	20	NWNW	Monitoring	7/3/2008	Unadjucated	NWNW20PW	LCS	LCS	LCS
Well	41/2/162W	Ur-Energy USA Inc.	25 N	92 W	18	SESW	Monitoring	7/3/2008	Unadjucated	SESW18M	LCS	LCS	LCS
Well	41/2/163W	Ur-Energy USA Inc.	25 N	92 W	19	NENW	Monitoring	7/3/2008	Unadjucated	NENW19M	LCS	LCS	LCS
Well	41/3/162W	Ur-Energy USA Inc.	25 N	92 W	18	SWSE	Monitoring	7/3/2008	Unadjucated	SWSE18M	LCS	LCS	LCS

Table D6-12c LC ISR, LLC Affiliates Groundwater Use Permits - Wyoming State Engineer Records December 2008 (Page 8 of 8)

Well or Use Point [1]	Permit Number	Applicant [2]	Township	Range	Section	¼ of the ¼	Uses	Priority	Status	Permit Facility Name	Yield [3]	Well Depth (ft)	Static Well Depth (ft)
Well	41/3/163W	Ur-Energy USA Inc.	25 N	92 W	19	NWNE	Monitoring	7/3/2008	Unadjucated	NWNE19MU	LCS	LCS	LCS
Well	41/3/213W	NFU Wyoming LLC	25 N	93 W	25	SWSW	Miscellaneous	7/29/2008	Unadjucated	LC 28M	LCS	LCS	LCS
Well	41/4/162W	Ur-Energy USA Inc.	25 N	92 W	18	SESE	Monitoring	7/3/2008	Unadjucated	SESE18M	LCS	LCS	LCS
Well	41/4/163W	Ur-Energy USA Inc.	25 N	92 W	19	NWNE	Monitoring	7/3/2008	Unadjucated	NWNE19MO	LCS	LCS	LCS
Well	41/5/162W	Ur-Energy USA Inc.	25 N	92 W	17	SWSW	Monitoring	7/3/2008	Unadjucated	SWSW17M	LCS	LCS	LCS
Well	41/5/163W	Ur-Energy USA Inc.	25 N	92 W	19	NWNE	Monitoring	7/3/2008	Unadjucated	NWNE19MP	LCS	LCS	LCS
Well	41/5/294W	Lost Creek ISR LLC	25 N	93 W	25	SWSW	Monitoring	10/9/2008	Unadjucated	Deep Well No. 1	LCS	LCS	LCS
Well	41/5/35W	Lost Creek ISR LLC	25 N	92 W	17	NWSE	Miscellaneous	4/8/2008	Unadjucated	ENL. LC 32W	LCS	LCS	LCS
Well	41/6/162W	Ur-Energy USA Inc.	25 N	92 W	17	SESW	Monitoring	7/3/2008	Unadjucated	SESW17M	LCS	LCS	LCS
Well	41/6/163W	Ur-Energy USA Inc.	25 N	92 W	20	NENW	Monitoring	7/3/2008	Unadjucated	NENW20MU	LCS	LCS	LCS
Well	41/6/35W	Lost Creek ISR LLC	25 N	92 W	20	NENE	Miscellaneous	4/8/2008	Unadjucated	ENL. LC 33W	LCS	LCS	LCS
Well	41/7/162W	Ur-Energy USA Inc.	25 N	92 W	20	NENW	Monitoring	7/3/2008	Unadjucated	NENW20M	LCS	LCS	LCS
Well	41/7/163W	Ur-Energy USA Inc.	25 N	92 W	20	NENW	Monitoring	7/3/2008	Unadjucated	NENW20MO	LCS	LCS	LCS
Well	41/7/2W	Lost Creek ISR LLC	25 N	93 W	24	NENW	Miscellaneous	3/19/2008	Unadjucated	ENL. LCIW	LCS	LCS	LCS
Well	41/8/162W	Ur-Energy USA Inc.	25 N	92 W	20	NWNW	Monitoring	7/3/2008	Unadjucated	NWNW20M	LCS	LCS	LCS
Well	41/8/163W	Ur-Energy USA Inc.	25 N	92 W	20	NENW	Monitoring	7/3/2008	Unadjucated	NENW20MP	LCS	LCS	LCS
Well	41/8/2W	Lost Creek ISR LLC	25 N	92 W	18	SWNE	Miscellaneous	3/19/2008	Unadjucated	LC229W	LCS	LCS	LCS
Well	41/9/162W	Ur-Energy USA Inc.	25 N	92 W	19	NENE	Monitoring	7/3/2008	Unadjucated	NENE19M	LCS	LCS	LCS
Well	41/9/163W	Ur-Energy USA Inc.	25 N	92 W	18	SESE	Monitoring	7/3/2008	Unadjucated	SESE18PW	LCS	LCS	LCS

[1] Each number represents a well. A number followed by a letter(s) is a point of use related to the well.

[2] WSBLC = Wyoming State Board of Land Commissioners.

[3] LCS = Part of the on-going Lost Creek Project study. Information will be provided when it becomes available.

Table D6-13 BLM Battle Spring Draw Well No. 4451 Laboratory Results

Parameter			Well Water		Pond Water	Algae	Soil
			8/27/2009	6/29/2010	7/13/2010	7/13/2010	7/13/2010
Major Cations and Anions	Na (mg/L)		30	31	36	-	-
	K (mg/L)		3	3	8	-	-
	Ca (mg/L)		167	170	166	-	-
	Mg (mg/L)		8	8	10	-	-
	Cl (mg/L)		7	7	9	-	-
	HCO_3 (mg/L)		206	200	200	-	-
	CO_3 (mg/L)		ND	ND	ND	-	-
	SO_4 (mg/L)		340	353	379	-	-
	SiO_2 (mg/L)		16.9	16.5	18.7	-	-
	NO_3+NO_2 (mg/L)		0.01	ND	ND	-	-
General Water Quality	TDS (mg/L)		698	694	786	-	-
	Specific Conductivity		929	948	983	-	-
	Lab pH (SU)		7.94	8	7.61	-	-
	Alkalinity (mg/L)		169	164	164	-	-
						-	-
Radionuclides	Gross Alpha (pCi/L)		1230	1190	932	-	-
	Gross Beta (pCi/L)		313	249	239	-	-
	Ra-226 (pCi/L)		11	7.9	1.9	-	-
	Ra-228 (pCi/L)		8.0	5.4	1.6	-	-
	Ra-226 + Ra-228 (pCi/L)		19.0	13.3	3.5	-	-
	Uranium (mg/L)		0.91	1.10	1.02	112	11.8
Trace Parameters (Dissolved unless otherwise noted.)	Al (mg/L)		ND	ND	ND	-	-
	NH_3-N (mg/L)		0.1	ND	0.13	-	-
	As (mg/L)		ND	ND	0.003	-	-
	Ba (mg/L)		ND	ND	ND	-	-
	B (mg/L)		ND	ND	ND	-	-
	Cd (mg/L)		ND	ND	ND	-	-
	Cr (mg/L)		ND	ND	ND	-	-
	Cu (mg/L)		ND	ND	ND	-	-
	F (mg/L)		0.1	ND	0.1	-	-
	Fe (mg/L)	Dissolved	ND	ND	ND	-	-
		Total	0.11	0.11	1.45	-	-
	Hg (mg/L)		ND	N	ND	-	-
	Mn (mg/L)	Dissolved	0.02	0.01	0.27	-	-
		Total	0.02	0.01	0.36	-	-
	Mo (mg/L)		ND	ND	ND	-	-
	Ni (mg/L)		ND	ND	ND	-	-
	Pb (mg/L)		ND	ND	ND	-	-
	Se (mg/L)		0.015	0.025	0.008	2.3	ND
	V (mg/L)		ND	ND	ND	-	-
	Zn (mg/L)		0.02	0.03	ND	-	-

ND - Concentration was below the laboratory detection limit.

(-) Not analyzed.

Table D6-15a Analytical Results of Baseline Monitoring (Page 1 of 17)

Major Cations and Anions												
Well ID	Completion Zone	Sample Date	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Cl (mg/L)	HCO_3 (mg/L)	CO_3 (mg/L)	SO_4 (mg/L)	SiO_2 (mg/L)	NO_3+NO_2 (mg/L)
LC29M	DE	9/20/06	26.0	2.0	57.0	4.0	6.0	137.0	ND	108.0	12.0	ND
LC29M	DE	11/26/06	26.0	3.0	64.0	4.0	4.0	98.0	ND	131.0	17.2	ND
LC29M	DE	3/1/07	24.0	2.0	57.0	3.0	4.0	205.0	ND	54.0	18.1	ND
LC29M	DE	5/4/07	27.0	2.0	47.0	3.0	10.0	183.0	ND	21.0	15.3	0.90
LC30M	DE	9/20/06	29.0	2.0	33.0	2.0	6.0	122.0	ND	31.0	14.7	1.40
LC30M	DE	11/26/06	25.0	1.0	31.0	2.0	5.0	124.0	ND	26.0	13.7	1.20
LC30M	DE	3/1/07	51.0	2.0	33.0	2.0	6.0	156.0	ND	51.0	17.4	0.60
LC30M	DE	5/3/07	62.0	2.0	28.0	2.0	6.0	176.0	ND	55.0	17.7	ND
LC31M	DE	9/21/06	40.0	3.0	140.0	9.0	7.0	140.0	ND	**316.0**	15.0	0.80
LC31M	DE	11/26/06	39.0	3.0	120.0	8.0	7.0	145.0	ND	**280.0**	13.9	0.40
LC31M	DE	2/28/07	64.0	3.0	108.0	7.0	8.0	156.0	ND	**277.0**	17.0	0.30
LC31M	DE	5/3/07	71.0	3.0	99.0	6.0	6.0	159.0	ND	**279.0**	15.9	0.20
MB-1	DE	8/27/09	22.0	3.0	10.0	ND	12.0	ND	18.0	22.0	15.7	1.55
MB-1	DE	1/4/10	23.0	2.0	11.0	ND	8.0	59.0	ND	21.0	14.4	1.60
MB-1	DE	3/30/10	29.0	3.0	19.0	1.0	6.0	108.0	ND	21.0	14.2	1.80
MB-1	DE	6/29/10	28.0	3.0	20.0	1.0	6.0	112.0	ND	20.0	14.3	1.60
MB-7	DE	8/26/09	Insufficient water to sample.									
MB-10	DE	8/26/09	Insufficient water to sample.									

Table D6-15a Analytical Results of Baseline Monitoring (Page 2 of 17)

			General Water Quality				Radionuclides					
Well ID	Completion Zone	Sample Date	TDS (mg/L)	Specific Conductivity	Lab pH (SU)	Alkalinity (mg/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Ra-226 (pCi/L)	Ra-228 (pCi/L)	Ra-226 + Ra-228 (pCi/L)	Uranium (mg/L)
LC29M	DE	9/20/06	283.0			112.0	**328.0**	142.0	1.9	ND	1.9	**0.499**
LC29M	DE	11/26/06	298.0	491.0	7.68	80.0	**158.0**	54.0	1.7	4.7	**6.4**	**0.246**
LC29M	DE	3/1/07	265.0	385.0	7.77		**265.0**	86.1	4.0	ND	4.0	**0.318**
LC29M	DE	5/4/07	219.0	356.0	7.75		**200.0**	84.6	3.0	ND	3.0	**0.251**
LC30M	DE	9/20/06	184.0			100.0	**129.0**	41.5	1.0	ND	1.0	**0.141**
LC30M	DE	11/26/06	170.0	288.0	7.33	102.0	**107.0**	32.3	0.9	1.6	2.5	**0.154**
LC30M	DE	3/1/07	241.0	393.0	8.02		**108.0**	31.9	5.7	ND	**5.7**	**0.162**
LC30M	DE	5/3/07	260.0	440.0	8.07		**109.0**	40.0	2.1	ND	2.1	**0.130**
LC31M	DE	9/21/06	**602.0**	800.0	7.85	114.0	**1120.0**	405.0	2.0	1.7	3.7	**1.890**
LC31M	DE	11/26/06	**528.0**	838.0	7.79	119.0	**1430.0**	395.0	2.6	3.2	**5.8**	**2.100**
LC31M	DE	2/28/07	**563.0**	817.0	7.94		**967.0**	262.0	7.2	1.0	**8.2**	**1.400**
LC31M	DE	5/3/07	**559.0**	860.0	7.79		**1030.0**	319.0	1.9	2.4	4.3	**1.610**
MB-1	DE	8/27/09	121.0	186.0	**10.10**		**21.4**	10.1	0.7	0.9	1.6	0.011
MB-1	DE	1/4/10	95.0	183.0	**9.27**	55.0	**74.7**	18.9	0.3	1.6	1.9	**0.063**
MB-1	DE	3/30/10	167.0	235.0	8.42	88.0	**158.0**	27.1	0.3	1.0	1.3	**0.135**
MB-1	DE	6/29/10	133.0	242.0	**8.61**	92.0	**173.0**	36.7	0.2	0.9	1.1	**0.126**
MB-7	DE	8/26/09	Insufficient water to sample.									
MB-10	DE	8/26/09	Insufficient water to sample.									

Table D6-15a Analytical Results of Baseline Monitoring (Page 3 of 17)

Trace Parameters (Dissolved unless otherwise noted.)											
Well ID	Completion Zone	Sample Date	Al (mg/L)	NH_3-N (mg/L)	As (mg/L)	Ba (mg/L)	B (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	F (mg/L)
LC29M	DE	9/20/06	ND	**1.07**	0.002	ND	ND	ND	ND	ND	0.30
LC29M	DE	11/26/06	ND	**0.57**	0.003	ND	ND	ND	ND	ND	0.30
LC29M	DE	3/1/07	ND	0.26	0.005	ND	ND	ND	ND	ND	0.20
LC29M	DE	5/4/07	ND	0.18	ND	ND	ND	ND	ND	ND	0.20
LC30M	DE	9/20/06	ND	0.11	0.002	ND	ND	ND	ND	ND	0.50
LC30M	DE	11/26/06	ND	0.08	0.002	ND	ND	ND	ND	ND	0.50
LC30M	DE	3/1/07	ND	0.07	0.004	ND	ND	ND	ND	ND	0.50
LC30M	DE	5/3/07	ND	0.06	0.007	ND	ND	ND	ND	ND	0.50
LC31M	DE	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC31M	DE	11/26/06	ND	0.07	ND	ND	ND	ND	ND	ND	0.20
LC31M	DE	2/28/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC31M	DE	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-1	DE	8/27/09	ND	ND	0.00	ND	ND	ND	ND	ND	ND
MB-1	DE	1/4/10	ND	ND	0.00	ND	ND	ND	ND	ND	0.30
MB-1	DE	3/30/10	ND	ND	0.00	ND	ND	ND	ND	ND	ND
MB-1	DE	6/29/10	ND	ND	0.00	ND	ND	ND	ND	ND	0.30
MB-7	DE	8/26/09	Insufficient water to sample.								
MB-10	DE	8/26/09	Insufficient water to sample.								

Table D6-15a Analytical Results of Baseline Monitoring (Page 4 of 17)

Trace Parameters (Dissolved unless otherwise noted.)													
Well ID	Completion Zone	Sample Date	Fe (mg/L)		Hg (mg/L)	Mn (mg/L)		Mo (mg/L)	Ni (mg/L)	Pb (mg/L)	Se (mg/L)	V (mg/L)	Zn (mg/L)
			Dissolved	Total		Dissolved	Total						
LC29M	DE	9/20/06	0.09	0.09	ND	**0.12**	**0.11**	ND	ND	ND	0.002	ND	ND
LC29M	DE	11/26/06	**0.67**	**0.46**	ND	**0.48**	**0.32**	ND	ND	ND	ND	ND	ND
LC29M	DE	3/1/07	**0.40**	**0.40**	ND	**0.24**	**0.24**	ND	ND	ND	ND	ND	ND
LC29M	DE	5/4/07	0.14	0.14	ND	0.04	0.04	ND	ND	ND	ND	ND	ND
LC30M	DE	9/20/06	ND	ND	ND	0.01	ND	ND	ND	ND	0.016	ND	ND
LC30M	DE	11/26/06	ND	ND	ND	0.01	0.01	ND	ND	ND	0.016	ND	ND
LC30M	DE	3/1/07	0.11	0.11	ND	**0.08**	**0.08**	ND	ND	ND	0.006	ND	ND
LC30M	DE	5/3/07	0.09	0.09	ND	**0.07**	**0.07**	ND	ND	ND	0.003	ND	ND
LC31M	DE	9/21/06	ND	ND	ND	0.01	ND	ND	ND	ND	**0.215**	ND	ND
LC31M	DE	11/26/06	ND	ND	ND	**0.06**	0.05	ND	ND	ND	**0.211**	ND	ND
LC31M	DE	2/28/07	0.10	0.10	ND	**0.10**	**0.10**	ND	ND	ND	**0.151**	ND	ND
LC31M	DE	5/3/07	0.07	0.07	ND	0.02	0.02	ND	ND	ND	**0.111**	ND	ND
MB-1	DE	8/27/09	**0.40**	**0.42**	ND	ND	ND	ND	ND	ND	0.003	ND	ND
MB-1	DE	1/4/10	0.03	0.10	ND	ND	ND	ND	ND	ND	0.004	ND	ND
MB-1	DE	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	0.004	ND	ND
MB-1	DE	6/29/10	ND	0.14	ND	ND	ND	ND	ND	ND	0.004	ND	ND
MB-7	DE	8/26/09	Insufficient water to sample										
MB-10	DE	8/26/09	Insufficient water to sample										

Table D6-15a Analytical Results of Baseline Monitoring (Page 5 of 17)

Major Cations and Anions												
Well ID	Completion Zone	Sample Date	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Cl (mg/L)	HCO_3 (mg/L)	CO_3 (mg/L)	SO_4 (mg/L)	SiO_2 (mg/L)	NO_3+NO_2 (mg/L)
LC15M	LFG	9/12/06	31.0	4.0	86.0	4.0	8.0	127.0	ND	180.0	16.0	ND
LC15M	LFG	11/26/06	31.0	2.0	84.0	4.0	6.0	134.0	ND	157.0	14.3	ND
LC15M	LFG	3/1/07	33.0	3.0	89.0	5.0	1.0	130.0	ND	180.0	14.8	0.20
LC15M	LFG	5/4/07	34.0	9.0	46.0	3.0	6.0	85.0	ND	142.0	13.0	0.40
LC18M	LFG	9/20/06	35.0	3.0	61.0	3.0	5.0	122.0	ND	122.0	13.2	ND
LC18M	LFG	11/22/06	31.0	2.0	55.0	3.0	5.0	117.0	ND	117.0	12.4	ND
LC18M	LFG	3/1/07	33.0	2.0	60.0	3.0	5.0	120.0	ND	120.0	13.6	ND
LC18M	LFG	5/4/07	30.0	3.0	49.0	3.0	5.0	112.0	ND	119.0	12.6	ND
LC21M	LFG	9/20/06	33.0	2.0	46.0	3.0	6.0	121.0	5.0	62.0	15.8	1.00
LC21M	LFG	11/26/06	30.0	2.0	41.0	3.0	5.0	132.0	ND	59.0	13.9	0.80
LC21M	LFG	2/28/07	31.0	3.0	35.0	3.0	5.0	120.0	ND	60.0	15.2	1.00
LC21M	LFG	5/3/07	30.0	2.0	41.0	3.0	5.0	124.0	ND	58.0	13.7	1.00
LC25M	LFG	9/21/06	35.0	4.0	73.0	2.0	6.0	100.0	2.0	146.0	14.1	0.30
LC25M	LFG	11/17/06	34.0	2.0	70.0	4.0	6.0	120.0	ND	139.0	14.6	0.20
LC25M	LFG	3/1/07	32.0	2.0	72.0	4.0	6.0	126.0	ND	150.0	14.7	0.20
LC25M	LFG	5/3/07	34.0	4.0	34.0	3.0	4.0	36.0	ND	133.0	13.5	ND
MB-2	LFG	8/27/09	29.0	2.0	37.0	3.0	8.0	121.0	ND	53.0	16.1	1.2
MB-2	LFG	12/14/09	27.0	2.0	34.0	3.0	8.0	124.0	ND	58.0	14.7	1.1
MB-2	LFG	3/30/10	34.0	3.0	38.0	2.0	8.0	128.0	ND	58.0	16.5	1.2
MB-2	LFG	7/6/10	31.0	2.0	37.0	3.0	8.0	128.0	ND	59.0	15.1	1.1
MB-5	LFG	8/27/09	24.0	3.0	63.0	3.0	6.0	132.0	ND	105.0	17.2	ND
MB-5	LFG	12/14/09	24.0	2.0	61.0	3.0	7.0	134.0	ND	114.0	15.9	ND
MB-5	LFG	3/31/10	25.0	2.0	62.0	3.0	6.0	141.0	ND	108.0	12.8	ND
MB-5	LFG	7/6/10	26.0	2.0	61.0	3.0	6.0	139.0	ND	109.0	16.2	ND
MB-8	LFG	8/26/09	24.0	3.0	70.0	4.0	5.0	159.0	ND	121.0	16.9	0.0
MB-8	LFG	1/4/10	27.0	2.0	74.0	5.0	6.0	154.0	ND	129.0	17.5	ND
MB-8	LFG	3/30/10	26.0	2.0	73.0	5.0	6.0	163.0	ND	130.0	16.8	ND
MB-8	LFG	6/29/10	25.0	2.0	72.0	5.0	6.0	159.0	ND	131.0	16.1	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 6 of 17)

			General Water Quality				Radionuclides					
Well ID	Completion Zone	Sample Date	TDS (mg/L)	Specific Conductivity	Lab pH (SU)	Alkalinity (mg/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Ra-226 (pCi/L)	Ra-228 (pCi/L)	Ra-226 + Ra-228 (pCi/L)	Uranium (mg/L)
LC15M	LFG	9/12/06	390.0				**263.0**	83.3	5.3	0.9	**6.2**	**0.489**
LC15M	LFG	11/26/06	370.0	605.0	7.84	110.0	**334.0**	116.0	3.8	4.8	**8.6**	**0.472**
LC15M	LFG	3/1/07	390.0	587.0	7.32		**374.0**	92.7	6.0	3.5	**9.5**	**0.467**
LC15M	LFG	5/4/07	296.0	492.0	8.27		**236.0**	92.1	3.6	ND	3.6	**0.358**
LC18M	LFG	9/20/06	303.0			100.0	**518.0**	192.0	43.0	2.8	**45.8**	**0.523**
LC18M	LFG	11/22/06	277.0	461.0	8.33	98.0	**490.0**	199.0	63.5	3.9	**67.4**	**0.546**
LC18M	LFG	3/1/07	296.0	460.0	7.86		**439.0**	148.0	ND	ND	0.0	**0.533**
LC18M	LFG	5/4/07	277.0	467.0	8.09		**385.0**	115.0	26.4	ND	**26.4**	**0.419**
LC21M	LFG	9/20/06	233.0			106.0	**219.0**	70.3	1.6	1.2	2.8	**0.251**
LC21M	LFG	11/26/06	219.0	373.0	8.17	108.0	**205.0**	49.2	1.2	12.0	**13.2**	**0.278**
LC21M	LFG	2/28/07	214.0	333.0	8.25		**815.0**	62.6	230.0	ND	**230.0**	**0.270**
LC21M	LFG	5/3/07	219.0	371.0	8.17		**202.0**	65.2	3.7	ND	3.7	**0.236**
LC25M	LFG	9/21/06	336.0	452.0	8.37	91.0	**353.0**	124.0	3.1	3.3	**6.4**	**0.465**
LC25M	LFG	11/17/06	330.0	516.0	8.28		**301.0**	138.0	3.1	ND	3.1	**0.460**
LC25M	LFG	3/1/07	344.0	519.0	7.97		**369.0**	107.0	2.3	2.3	4.6	**0.517**
LC25M	LFG	5/3/07	244.0	390.0	**8.57**		**194.0**	72.5	2.9	ND	2.9	**0.289**
MB-2	LFG	8/27/09	220.0	337.0	8.17		**223.0**	61.4	1.7	2.0	3.7	**0.164**
MB-2	LFG	12/14/09	195.0	345.0	8.07		**175.0**	61.9	1.5	1.3	2.8	**0.172**
MB-2	LFG	3/30/10	231.0	341.0	8.14	105.0	**196.0**	34.2	1.4	2.1	3.5	**0.191**
MB-2	LFG	7/6/10	236.0	344.0	7.78	105.0	**185.0**	56.7	1.0	1.5	2.5	**0.178**
MB-5	LFG	8/27/09	295.0	438.0	7.99		**80.9**	28.4	32.0	3.3	**35.3**	0.017
MB-5	LFG	12/14/09	298.0	449.0	7.92		**70.2**	30.9	29.0	2.8	**31.8**	0.018
MB-5	LFG	3/31/10	301.0	440.0	7.90	115.0	**67.9**	24.5	32.0	2.5	**34.5**	0.016
MB-5	LFG	7/6/10	311.0	439.0	7.57	114.0	**67.9**	23.6	34.0	2.2	**36.2**	0.016
MB-8	LFG	8/26/09	333.0	487.0	7.91		**204.0**	54.9	3.2	2.4	**5.6**	**0.152**
MB-8	LFG	1/4/10	306.0	501.0	7.94	126.0	**261.0**	60.6	1.8	3.0	4.8	**0.190**
MB-8	LFG	3/30/10	332.0	505.0	7.86	133.0	**195.0**	35.9	1.7	2.6	4.3	**0.204**
MB-8	LFG	6/29/10	325.0	509.0	7.78	130.0	**291.0**	52.0	2.1	2.5	4.6	**0.207**

Table D6-15a Analytical Results of Baseline Monitoring (Page 7 of 17)

Trace Parameters (Dissolved unless otherwise noted.)											
Well ID	Completion Zone	Sample Date	Al (mg/L)	NH_3-N (mg/L)	As (mg/L)	Ba (mg/L)	B (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	F (mg/L)
LC15M	LFG	9/12/06	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC15M	LFG	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC15M	LFG	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC15M	LFG	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC18M	LFG	9/20/06	ND	ND	0.004	ND	ND	ND	ND	ND	0.20
LC18M	LFG	11/22/06	ND	ND	0.002	ND	ND	ND	ND	ND	0.20
LC18M	LFG	3/1/07	ND	ND	0.002	ND	ND	ND	ND	ND	0.20
LC18M	LFG	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC21M	LFG	9/20/06	ND	0.08	ND	ND	ND	ND	ND	ND	0.30
LC21M	LFG	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.30
LC21M	LFG	2/28/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC21M	LFG	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC25M	LFG	9/21/06	ND	ND	0.004	ND	ND	ND	ND	ND	0.20
LC25M	LFG	11/17/06	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC25M	LFG	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC25M	LFG	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-2	LFG	8/27/09	ND	0.14	0.00	ND	ND	ND	ND	ND	ND
MB-2	LFG	12/14/09	ND	ND	0.00	ND	ND	ND	ND	ND	0.20
MB-2	LFG	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-2	LFG	7/6/10	ND	ND	0.00	ND	ND	ND	ND	ND	ND
MB-5	LFG	8/27/09	ND	0.08	ND	ND	ND	ND	ND	ND	ND
MB-5	LFG	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.10
MB-5	LFG	3/31/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-5	LFG	7/6/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-8	LFG	8/26/09	ND	0.13	ND	ND	ND	ND	ND	ND	ND
MB-8	LFG	1/4/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-8	LFG	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	
MB-8	LFG	6/29/10	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 8 of 17)

Trace Parameters (Dissolved unless otherwise noted.)													
Well ID	Completion Zone	Sample Date	Fe (mg/L)		Hg (mg/L)	Mn (mg/L)		Mo (mg/L)	Ni (mg/L)	Pb (mg/L)	Se (mg/L)	V (mg/L)	Zn (mg/L)
			Dissolved	Total		Dissolved	Total						
LC15M	LFG	9/12/06	0.03	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND
LC15M	LFG	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.016	ND	ND
LC15M	LFG	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND
LC15M	LFG	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	0.010	ND	ND
LC18M	LFG	9/20/06	**0.53**	**0.53**	ND	ND	ND	ND	ND	ND	0.024	ND	ND
LC18M	LFG	11/22/06	**0.51**	**0.51**	ND	ND	ND	ND	ND	ND	0.015	ND	ND
LC18M	LFG	3/1/07	**0.67**	**0.67**	ND	ND	ND	ND	ND	ND	0.016	ND	ND
LC18M	LFG	5/4/07	0.10	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC21M	LFG	9/20/06	**0.40**	**0.40**	ND	0.02	0.02	ND	ND	ND	0.040	ND	ND
LC21M	LFG	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.039	ND	ND
LC21M	LFG	2/28/07	ND	ND	ND	ND	ND	ND	ND	ND	0.034	ND	ND
LC21M	LFG	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.032	ND	ND
LC25M	LFG	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	0.027	ND	ND
LC25M	LFG	11/17/06	ND	ND	ND	ND	ND	ND	ND	ND	0.027	ND	ND
LC25M	LFG	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	0.025	ND	ND
LC25M	LFG	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.015	ND	ND
MB-2	LFG	8/27/09	0.20	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND
MB-2	LFG	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND
MB-2	LFG	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	0.015	ND	ND
MB-2	LFG	7/6/10	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND
MB-5	LFG	8/27/09	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-5	LFG	12/14/09	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
MB-5	LFG	3/31/10	ND	0.04	ND	0.01	0.01	ND	ND	ND	ND	ND	ND
MB-5	LFG	7/6/10	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-8	LFG	8/26/09	0.10	**0.42**	ND	ND	ND	ND	ND	ND	0.003	ND	0.05
MB-8	LFG	1/4/10	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND
MB-8	LFG	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	0.004	ND	ND
MB-8	LFG	6/29/10	ND	ND	ND	ND	ND	ND	ND	ND	0.004	ND	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 9 of 17)

Major Cations and Anions												
Well ID	Completion Zone	Sample Date	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Cl (mg/L)	HCO_3 (mg/L)	CO_3 (mg/L)	SO_4 (mg/L)	SiO_2 (mg/L)	NO_3+NO_2 (mg/L)
LC16M	HJ	9/12/06	27.0	2.0	77.0	4.0	5.0	134.0	ND	144.0	16.0	ND
LC16M	HJ	11/10/06	29.3	8.0	80.1	3.9	7.0	128.0	ND	136.0		ND
LC16M	HJ	3/1/07	30.0	2.0	74.0	4.0	4.0	132.0	ND	138.0	15.0	ND
LC16M	HJ	5/4/07	29.0	2.0	74.0	4.0	5.0	137.0	ND	139.0	14.8	ND
LC19M	HJ	9/20/06	35.0	3.0	66.0	3.0	6.0	103.0	2.0	139.0		ND
LC19M	HJ	11/3/06	32.8	2.1	72.9	3.2	6.0	132.0	ND	146.0	15.0	ND
LC19M	HJ	3/5/07	40.0	13.0	41.0	3.0	6.0	73.0	ND	124.0	14.5	ND
LC19M	HJ	5/4/07	33.0	8.0	45.0	3.0	5.0	93.0	ND	137.0	14.8	ND
LC22M	HJ	9/21/06	40.0	2.0	74.0	3.0	5.0	113.0	ND	170.0	15.0	ND
LC22M	HJ	11/16/06	36.0	2.0	62.0	3.0	4.0	109.0	ND	154.0	12.8	ND
LC22M	HJ	3/1/07	37.0	4.0	60.0	3.0	6.0	110.0	ND	142.0	14.2	ND
LC22M	HJ	5/3/07	35.0	4.0	64.0	3.0	5.0	113.0	ND	137.0	13.0	ND
LC26M	HJ	9/21/06	35.0	4.0	133.0	6.0	6.0	168.0	ND	**269.0**	17.7	ND
LC26M	HJ	11/17/06	33.0	3.0	127.0	5.0	6.0	166.0	ND	**256.0**	17.0	ND
LC26M	HJ	3/1/07	33.0	3.0	125.0	5.0	5.0	159.0	ND	**253.0**	16.2	ND
LC26M	HJ	5/3/07	34.0	8.0	90.0	5.0	5.0	57.0	ND	**259.0**	17.5	ND
MB-3B	HJ	8/27/09	31.0	4.0	37.0	2.0	11.0	108.0	ND	66.0	17.2	0.9
MB-3B	HJ	12/14/09	30.0	3.0	37.0	2.0	10.0	112.0	ND	70.0	15.3	0.8
MB-3B	HJ	3/30/10	32.0	2.0	35.0	3.0	10.0	118.0	ND	71.0	15.1	0.8
MB-3B	HJ	7/6/10	32.0	3.0	38.0	2.0	9.0	120.0	ND	71.0	16.0	0.8
MB-6	HJ	8/27/09	38.0	3.0	38.0	1.0	4.0	77.0	ND	106.0	16.8	ND
MB-6	HJ	12/14/09	19.0	2.0	50.0	2.0	5.0	142.0	ND	71.0	16.7	ND
MB-6	HJ	3/31/10	21.0	2.0	52.0	2.0	6.0	149.0	ND	71.0	13.4	ND
MB-6	HJ	7/7/10	22.0	2.0	55.0	2.0	5.0	146.0	ND	73.0	16.9	ND
MB-9	HJ	8/27/09	24.0	3.0	70.0	4.0	5.0	159.0	ND	121.0	16.9	0.0
MB-9	HJ	12/15/09	21.0	6.0	47.0	2.0	5.0	117.0	ND	75.0	19.0	ND
MB-9	HJ	3/30/10	24.0	5.0	48.0	2.0	6.0	136.0	ND	75.0	18.5	ND
MB-9	HJ	7/6/10	23.0	4.0	48.0	2.0	5.0	136.0	ND	75.0	18.9	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 10 of 17)

			General Water Quality				Radionuclides					
Well ID	Completion Zone	Sample Date	TDS (mg/L)	Specific Conductivity	Lab pH (SU)	Alkalinity (mg/L)	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Ra-226 (pCi/L)	Ra-228 (pCi/L)	Ra-226 + Ra-228 (pCi/L)	Uranium (mg/L)
LC16M	HJ	9/12/06	330.0				**299.0**	109.0	166.0	4.3	**170.3**	**0.164**
LC16M	HJ	11/10/06	304.0	517.0			**274.0**	120.0	2.0	78.4	**80.4**	**0.133**
LC16M	HJ	3/1/07	333.0	509.0	7.92		**290.0**	79.7	65.1	3.8	**68.9**	**0.134**
LC16M	HJ	5/4/07	335.0	534.0	8.01		**188.0**	69.2	122.0	3.2	**125.2**	**0.122**
LC19M	HJ	9/20/06	319.0			87.0	**985.0**	540.0	366.0	4.8	**370.8**	**0.336**
LC19M	HJ	11/3/06	328.0	506.0	7.85	108.0	**863.0**	592.0	547.0	4.1	**551.1**	**0.051**
LC19M	HJ	3/5/07	278.0	432.0	8.02		**1220.0**	473.0	316.0	3.4	**319.4**	**0.844**
LC19M	HJ	5/4/07	266.0	482.0	8.11		**1470.0**	603.0	423.0	1.0	**424.0**	**0.762**
LC22M	HJ	9/21/06	366.0	511.0	8.14	93.0	**810.0**	358.0	261.0	3.2	**264.2**	**0.342**
LC22M	HJ	11/16/06	328.0	531.0	8.15		**597.0**	258.0	247.0	1.9	**248.9**	**0.185**
LC22M	HJ	3/1/07	319.0	483.0	7.87		**86.5**	97.9	1.7	3.6	**5.3**	**0.129**
LC22M	HJ	5/3/07	316.0	513.0	8.11		**576.0**	186.0	308.0	3.8	**311.8**	**0.097**
LC26M	HJ	9/21/06	**554.0**	741.0	8.16	138.0	**306.0**	111.0	87.7	4.6	**92.3**	**0.107**
LC26M	HJ	11/17/06	**528.0**	786.0	8.06		**300.0**	119.0	77.2	3.8	**81.0**	**0.072**
LC26M	HJ	3/1/07	**519.0**	745.0	7.85		**30.5**	46.1	ND	3.6	3.6	**0.045**
LC26M	HJ	5/3/07	449.0	653.0	8.44		**50.2**	23.4	12.4	ND	**12.4**	**0.037**
MB-3B	HJ	8/27/09	231.0	353.0	8.29		**255.0**	48.8	1.9	3.1	5.0	**0.179**
MB-3B	HJ	12/14/09	220.0	358.0	8.17		**215.0**	61.8	1.5	1.5	3.0	**0.186**
MB-3B	HJ	3/30/10	246.0	359.0	8.23	97.0	**204.0**	31.9	1.5	1.5	3.0	**0.174**
MB-3B	HJ	7/6/10	247.0	361.0	7.86	98.0	**235.0**	57.1	1.9	1.3	3.2	**0.194**
MB-6	HJ	8/27/09	256.0	374.0	**8.79**		10.2	8.9	3.4	3.8	**7.2**	0.000
MB-6	HJ	12/14/09	242.0	373.0	7.98		**21.0**	12.9	5.9	3.8	**9.7**	0.007
MB-6	HJ	3/31/10	265.0	370.0	7.90	122.0	**27.9**	12.9	5.5	3.1	**8.6**	0.006
MB-6	HJ	7/7/10	259.0	374.0	7.66	120.0	**24.3**	13.4	4.6	4.5	**9.1**	0.006
MB-9	HJ	8/27/09	333.0	487.0	7.91		**204.0**	54.9	3.2	2.4	**5.6**	**0.152**
MB-9	HJ	12/15/09	240.0	361.0	8.47		12.5	12.3	2.9	4.4	**7.3**	0.004
MB-9	HJ	3/30/10	231.0	369.0	8.05	111.0	**19.2**	13.0	2.2	4.4	**6.6**	0.004
MB-9	HJ	7/6/10	254.0	366.0	7.53	111.0	12.4	6.8	2.7	3.7	**6.4**	0.004

Table D6-15a Analytical Results of Baseline Monitoring (Page 11 of 17)

Trace Parameters (Dissolved unless otherwise noted.)											
Well ID	Completion Zone	Sample Date	Al (mg/L)	NH_3-N (mg/L)	As (mg/L)	Ba (mg/L)	B (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	F (mg/L)
LC16M	HJ	9/12/06	ND	ND	0.002	ND	ND	ND	ND	ND	0.10
LC16M	HJ	11/10/06	ND	ND	ND	ND	ND	ND	ND	ND	0.10
LC16M	HJ	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC16M	HJ	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC19M	HJ	9/20/06	ND	ND	0.014	ND	ND	ND	ND	ND	ND
LC19M	HJ	11/3/06	ND	ND	0.002	ND	ND	ND	ND	ND	ND
LC19M	HJ	3/5/07	ND	0.06	0.008	ND	ND	ND	ND	ND	0.20
LC19M	HJ	5/4/07	ND	ND	0.007	ND	ND	ND	ND	ND	ND
LC22M	HJ	9/21/06	ND	ND	0.005	ND	ND	ND	ND	ND	ND
LC22M	HJ	11/16/06	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC22M	HJ	3/1/07	ND	ND	0.002	ND	ND	ND	ND	ND	0.20
LC22M	HJ	5/3/07	ND	ND	0.002	ND	ND	ND	ND	ND	0.20
LC26M	HJ	9/21/06	ND	ND	0.003	ND	ND	ND	ND	ND	ND
LC26M	HJ	11/17/06	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC26M	HJ	3/1/07	ND	0.07	ND	ND	ND	ND	ND	ND	ND
LC26M	HJ	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-3B	HJ	8/27/09	ND	0.25	0.00	ND	ND	ND	ND	ND	ND
MB-3B	HJ	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-3B	HJ	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-3B	HJ	7/6/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-6	HJ	8/27/09	ND	ND	0.00	ND	ND	ND	ND	ND	ND
MB-6	HJ	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-6	HJ	3/31/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-6	HJ	7/7/10	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-9	HJ	8/27/09	ND	0.13	ND	ND	ND	ND	ND	ND	ND
MB-9	HJ	12/15/09	ND	ND	0.01	ND	ND	ND	ND	ND	0.20
MB-9	HJ	3/30/10	ND	ND	0.00	ND	ND	ND	ND	ND	ND
MB-9	HJ	7/6/10	ND	ND	0.00	ND	ND	ND	ND	ND	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 12 of 17)

Trace Parameters (Dissolved unless otherwise noted.)													
Well ID	Completion Zone	Sample Date	Fe (mg/L)		Hg (mg/L)	Mn (mg/L)		Mo (mg/L)	Ni (mg/L)	Pb (mg/L)	Se (mg/L)	V (mg/L)	Zn (mg/L)
			Dissolved	Total		Dissolved	Total						
LC16M	HJ	9/12/06	0.03	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC16M	HJ	11/10/06	0.06	0.06	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC16M	HJ	3/1/07	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC16M	HJ	5/4/07	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC19M	HJ	9/20/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC19M	HJ	11/3/06	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC19M	HJ	3/5/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC19M	HJ	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC22M	HJ	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC22M	HJ	11/16/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC22M	HJ	3/1/07	ND	ND	ND	0.02	0.01	ND	ND	ND	ND	ND	ND
LC22M	HJ	5/3/07	ND	0.03	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC26M	HJ	9/21/06	ND	ND	ND	0.02	0.02	ND	ND	ND	ND	ND	ND
LC26M	HJ	11/17/06	0.23	0.23	ND	0.03	0.03	ND	ND	ND	ND	ND	ND
LC26M	HJ	3/1/07	ND	ND	ND	0.02	0.02	ND	ND	ND	ND	ND	ND
LC26M	HJ	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-3B	HJ	8/27/09	0.20	ND	ND	ND	ND	ND	ND	ND	0.02	ND	0.01
MB-3B	HJ	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND
MB-3B	HJ	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
MB-3B	HJ	7/6/10	ND	0.10	ND	ND	ND	ND	ND	ND	0.02	ND	ND
MB-6	HJ	8/27/09	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-6	HJ	12/14/09	ND	0.04	ND	ND	0.01	ND	ND	ND	ND	ND	ND
MB-6	HJ	3/31/10	ND	0.04	ND	0.01	0.01	ND	ND	ND	ND	ND	ND
MB-6	HJ	7/7/10	ND	0.14	ND	ND	0.01	ND	ND	ND	ND	ND	ND
MB-9	HJ	8/27/09	0.10	**0.42**	ND	ND	ND	ND	ND	ND	0.00	ND	0.05
MB-9	HJ	12/15/09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-9	HJ	3/30/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MB-9	HJ	7/6/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Major Cations and Anions												
Well ID	Completion Zone	Sample Date	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Cl (mg/L)	HCO_3 (mg/L)	CO_3 (mg/L)	SO_4 (mg/L)	SiO_2 (mg/L)	NO_3+NO_2 (mg/L)
LC17M	UKM	9/12/06	27.0	4.0	55.0	2.0	4.0	107.0	4.0	107.0	15.2	ND
LC17M	UKM	11/26/06	27.0	2.0	55.0	2.0	5.0	120.0	ND	94.0	15.1	ND
LC17M	UKM	3/1/07	29.0	2.0	62.0	3.0	5.0	124.0	ND	105.0	16.8	ND
LC17M	UKM	5/4/07	27.0	2.0	61.0	3.0	4.0	142.0	ND	108.0	15.9	ND
LC20M	UKM	9/21/06	32.0	3.0	56.0	2.0	6.0	113.0	2.0	102.0	17.2	ND
LC20M	UKM	11/22/06	32.0	5.0	38.0	ND	6.0	63.0	3.0	80.0	12.7	ND
LC20M	UKM	3/1/07	36.0	11.0	15.0	ND	5.0	39.0	ND	95.0	14.6	ND
LC20M	UKM	5/4/07	35.0	11.0	12.0	ND	6.0	34.0	2.0	91.0	14.1	ND
LC23M	UKM	9/21/06	44.0	8.0	58.0	ND	5.0	83.0	6.0	165.0	13.9	ND
LC23M	UKM	11/26/06	41.0	7.0	50.0	2.0	3.0	85.0	ND	150.0	14.1	ND
LC23M	UKM	3/1/07	64.0	48.0	52.0	ND	15.0	7.0	137.0	146.0	10.7	ND
LC23M	UKM	5/3/07	63.0	52.0	86.0	ND	5.0	4.0	66.0	126.0	9.4	ND
LC24M	UKM	9/21/06	32.0	3.0	68.0	4.0	5.0	109.0	ND	138.0	16.1	ND
LC24M	UKM	11/26/06	29.0	2.0	66.0	3.0	4.0	126.0	2.0	121.0	14.7	ND
LC24M	UKM	3/1/07	31.0	7.0	43.0	3.0	5.0	73.0	ND	126.0	14.8	ND
LC24M	UKM	5/4/07	31.0	7.0	48.0	3.0	5.0	85.0	ND	126.0	14.6	ND
LC27M	UKM	9/26/06	19.5	4.1	29.5	0.6	4.0	93.0	1.0	29.0	15.3	ND
LC27M	UKM	11/16/06	21.0	4.0	27.0	ND	6.0	82.0	2.0	29.0	15.5	ND
LC27M	UKM	3/1/07	21.0	5.0	11.0	ND	4.0	38.0	ND	39.0	16.4	ND
LC27M	UKM	5/3/07	22.0	5.0	7.0	ND	4.0	33.0	5.0	32.0	17.8	ND
LC28M	UKM	9/21/06	27.0	3.0	60.0	3.0	6.0	125.0	ND	101.0	16.1	ND
LC28M	UKM	11/26/06	24.0	2.0	58.0	3.0	4.0	127.0	ND	88.0	15.7	ND
LC28M	UKM	2/28/07	25.0	2.0	59.0	3.0	6.0	127.0	ND	95.0	16.9	ND
LC28M	UKM	5/3/07	25.0	2.0	62.0	3.0	6.0	130.0	ND	96.0	15.0	ND
MB-4	UKM	8/31/09	32.0	8.0	32.0	ND	10.0	ND	23.0	61.0	19.5	0.5
MB-4	UKM	12/14/09	33.0	8.0	19.0	ND	32.0	15.0	10.0	66.0	14.0	0.7
MB-4	UKM	3/30/10	32.0	5.0	21.0	ND	7.0	23.0	16.0	73.0	17.4	0.9
MB-4	UKM	7/7/10	29.0	3.0	19.0	ND	6.0	35.0	10.0	72.0	16.0	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 14 of 17)

			General Water Quality				Radionuclides					
Well ID	Completion Zone	Sample Date	TDS (mg/L)	Specific Conductivity	Lab pH (SU)	Alkalinity (mg/L)	Gross Alpha	Gross Beta	Ra-226 (pCi/L)	Ra-228 (pCi/L)	Ra-226 + Ra-228	Uranium (mg/L)
LC17M	UKM	9/12/06	262.0				**28.4**	13.7	10.6	1.1	**11.7**	0.0135
LC17M	UKM	11/26/06	262.0	436.0	8.02	98.0	**29.0**	15.5	8.8	12.9	**21.7**	0.010
LC17M	UKM	3/1/07	284.0	433.0	7.88		**26.8**	11.5	5.5	ND	**5.5**	0.011
LC17M	UKM	5/4/07	291.0	467.0	8.11		**17.3**	9.1	7.2	1.5	**8.7**	0.009
LC20M	UKM	9/21/06	274.0	388.0	**8.56**	96.0	**44.4**	24.0	9.6	3.9	**13.5**	**0.036**
LC20M	UKM	11/22/06	216.0	362.0	**8.91**	56.0	**38.7**	19.5	9.3	3.4	**12.7**	0.025
LC20M	UKM	3/1/07	197.0	305.0	7.66		**65.3**	23.9	47.8	ND	**47.8**	0.024
LC20M	UKM	5/4/07	188.0	322.0	**9.04**		**31.9**	23.6	9.2	2.6	**11.8**	0.025
LC23M	UKM	9/21/06	341.0	451.0	**8.87**	76.0	**32.8**	17.5	3.3	ND	3.3	0.023
LC23M	UKM	11/26/06	303.0	498.0	7.97	70.0	**35.0**	14.9	4.7	6.7	**11.4**	0.019
LC23M	UKM	3/1/07	452.0	1180.0	**11.60**		5.3	34.8	1.9	1.0	2.9	0.002
LC23M	UKM	5/3/07	**526.0**	1720.0	**11.60**		**15.1**	44.7	4.7	1.5	**6.2**	0.002
LC24M	UKM	9/21/06	321.0	455.0	8.30	91.0	**107.0**	43.2	6.5	1.5	**8.0**	**0.134**
LC24M	UKM	11/26/06	302.0	500.0	8.33	105.0	**86.8**	27.6	5.9	5.8	**11.7**	**0.100**
LC24M	UKM	3/1/07	266.0	410.0	7.99		**48.6**	22.6	1.8	2.0	3.8	**0.062**
LC24M	UKM	5/4/07	277.0	452.0	8.08		**49.1**	23.8	8.9	1.5	**10.4**	**0.052**
LC27M	UKM	9/26/06	136.0				10.7	9.7	1.1	0.4	1.5	0.0026
LC27M	UKM	11/16/06	145.0	243.0	**8.66**		6.8	9.4	1.1	3.6	4.7	0.002
LC27M	UKM	3/1/07	117.0	171.0	**8.74**		**77.7**	4.1	26.6	ND	**26.6**	0.001
LC27M	UKM	5/3/07	111.0	178.0	**9.51**		2.9	3.9	0.4	ND	0.4	0.002
LC28M	UKM	9/21/06	276.0	394.0	8.14	103.0	**30.7**	19.4	8.1	3.4	**11.5**	0.017
LC28M	UKM	11/26/06	259.0	435.0	8.00	104.0	**18.1**	14.4	8.4	4.2	**12.6**	0.006
LC28M	UKM	2/28/07	269.0	400.0	8.15		**27.0**	13.0	7.7	2.1	**9.8**	0.007
LC28M	UKM	5/3/07	273.0	440.0	8.01		**19.4**	11.2	7.1	3.7	**10.8**	0.023
MB-4	UKM	8/31/09	209.0	474.0	**11.10**		**49.8**	22.4	0.5	1.7	2.2	0.017
MB-4	UKM	12/14/09	183.0	329.0	**9.65**		**59.2**	23.0	0.9	1.2	2.1	**0.065**
MB-4	UKM	3/30/10	198.0	285.0	**9.91**	45.0	**58.6**	13.2	ND	ND	ND	**0.037**
MB-4	UKM	7/7/10	182.0	259.0	**9.36**	45.0	**70.5**	20.5	0.2	0.3	0.5	**0.044**

Table D6-15a Analytical Results of Baseline Monitoring (Page 15 of 17)

Trace Parameters (Dissolved unless otherwise noted.)											
Well ID	Completion Zone	Sample Date	Al (mg/L)	NH_3-N (mg/L)	As (mg/L)	Ba (mg/L)	B (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	F (mg/L)
LC17M	UKM	9/12/06	ND	ND	0.006	ND	ND	ND	ND	ND	0.20
LC17M	UKM	11/26/06	ND	ND	0.003	ND	ND	ND	ND	ND	0.20
LC17M	UKM	3/1/07	ND	0.06	0.002	ND	ND	ND	ND	ND	0.20
LC17M	UKM	5/4/07	ND	ND	0.002	ND	ND	ND	ND	ND	0.20
LC20M	UKM	9/21/06	ND	ND	**0.012**	ND	ND	ND	ND	ND	ND
LC20M	UKM	11/22/06	ND	ND	**0.012**	ND	ND	ND	ND	ND	0.20
LC20M	UKM	3/1/07	ND	ND	**0.012**	ND	ND	ND	ND	ND	0.20
LC20M	UKM	5/4/07	ND	ND	**0.011**	ND	ND	ND	ND	ND	0.20
LC23M	UKM	9/21/06	ND	ND	0.009	ND	ND	ND	ND	ND	ND
LC23M	UKM	11/26/06	ND	ND	0.004	ND	ND	ND	ND	ND	0.20
LC23M	UKM	3/1/07	ND	**0.86**	0.003	0.30	ND	ND	ND	ND	0.40
LC23M	UKM	5/3/07	**0.20**	**0.75**	0.002	0.30	ND	ND	ND	ND	0.20
LC24M	UKM	9/21/06	ND	0.13	0.003	ND	ND	ND	ND	ND	ND
LC24M	UKM	11/26/06	ND	0.08	ND	ND	ND	ND	ND	ND	0.20
LC24M	UKM	3/1/07	ND	0.08	ND	ND	ND	ND	ND	ND	ND
LC24M	UKM	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC27M	UKM	9/26/06	ND	ND	0.009	ND	ND	ND	ND	ND	0.20
LC27M	UKM	11/16/06	ND	ND	0.006	ND	ND	ND	ND	ND	0.30
LC27M	UKM	3/1/07	ND	ND	0.007	ND	ND	ND	ND	ND	0.30
LC27M	UKM	5/3/07	ND	ND	0.005	ND	ND	ND	ND	ND	0.30
LC28M	UKM	9/21/06	ND	ND	0.005	ND	ND	ND	ND	ND	ND
LC28M	UKM	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC28M	UKM	2/28/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
LC28M	UKM	5/3/07	ND	ND	ND	ND	ND	ND	ND	ND	0.20
MB-4	UKM	8/31/09	**0.30**	0.07	0.00	ND	ND	ND	ND	ND	ND
MB-4	UKM	12/14/09	ND	ND	0.01	ND	ND	ND	ND	ND	0.30
MB-4	UKM	3/30/10	ND	ND	0.01	ND	ND	ND	ND	ND	ND
MB-4	UKM	7/7/10	ND	ND	0.01	ND	ND	ND	ND	ND	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 16 of 17)

Trace Parameters (Dissolved unless otherwise noted.)													
Well ID	Completion Zone	Sample Date	Fe (mg/L)		Hg (mg/L)	Mn (mg/L)		Mo (mg/L)	Ni (mg/L)	Pb (mg/L)	Se (mg/L)	V (mg/L)	Zn (mg/L)
			Dissolved	Total		Dissolved	Total						
LC17M	UKM	9/12/06	0.03	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC17M	UKM	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC17M	UKM	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC17M	UKM	5/4/07	0.05	0.05	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC20M	UKM	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC20M	UKM	11/22/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC20M	UKM	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC20M	UKM	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC23M	UKM	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND
LC23M	UKM	11/26/06	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND
LC23M	UKM	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC23M	UKM	5/3/07	ND	ND	ND	ND	ND	ND	ND	0.002	0.005	ND	ND
LC24M	UKM	9/21/06	**0.32**	**0.32**	ND	ND	ND	ND	ND	ND	0.002	ND	ND
LC24M	UKM	11/26/06	0.16	0.16	ND	ND	ND	ND	ND	ND	0.002	ND	ND
LC24M	UKM	3/1/07	0.06	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC24M	UKM	5/4/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC27M	UKM	9/26/06	0.15	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC27M	UKM	11/16/06	0.08	0.08	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC27M	UKM	3/1/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC27M	UKM	5/3/07	0.04	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC28M	UKM	9/21/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC28M	UKM	11/26/06	0.04	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND
LC28M	UKM	2/28/07	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND
LC28M	UKM	5/3/07	0.05	0.05	ND	ND	0.01	ND	ND	ND	0.002	ND	ND
MB-4	UKM	8/31/09	0.30	ND	ND	ND	ND	ND	ND	ND	0.016	ND	ND
MB-4	UKM	12/14/09	ND	ND	ND	ND	ND	ND	ND	ND	0.014	ND	ND
MB-4	UKM	3/30/10	ND	0.12	ND	ND	ND	ND	ND	ND	0.015	ND	ND
MB-4	UKM	7/7/10	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND

Table D6-15a Analytical Results of Baseline Monitoring (Page 17 of 17)

ND - Concentration was below the laboratory detection limit.

Blank - Sample not analyzed for this parameter.

WQD and EPA criteria listed in Table D6-15b.

Bold	Concentration exceeds WQD Domestic Class-of-Use (Class I).
Bold	Concentration exceeds WQD Agricuture Class-of-Use (Class II).
Bold	Concentration exceeds WQD Livestock Class-of-Use (Class III).
Bold	Concentration exceeds EPA criteria.

Highlight for concentration exceeding WQD criteria is based on the lowest criteria exceeded.

Blank and duplicate samples were ommitted from this table and are presented in Attachment D6-4

Table D6-16 Distribution of Samples Exceeding EPA MCL for Radium 226+228

Monitored Aquifer	Number of Samples	Number of Samples Exceeding EPA MCL	Percent of Exceedances
DE	16	4	25.00
LFG	28	14	50.00
HJ	28	23	82.14
UKM	28	18	64.29
Total	100	59	59.00

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LOST CREEK PERMIT AREA

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