Department of Environmental Quality

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

Matt Mead, Governor

John Corra, Director

August 11, 2011

Mr. Steven J. Pratt, P.E.
Director
Ground Water Program
US EPA Region 8
1595 Wynkoop Street
Denver, CO 80202

Re: Lost Creek ISR, LLC, Lost Creek Project
Groundwater Reclassification-Revision

Dear Mr. Pratt:

In accordance with the 1983 Underground Injection Control (UIC) program Memorandum of Agreement (MOA) between the State of Wyoming and the United States Environmental Protection Agency (US EPA), the Wyoming Department of Environmental Quality (WDEQ) provided the following materials related to the above-referenced in-situ mining project for your review: definition of the permit area and map, description of regional and site specific geology, including the mineralized zone, description of the groundwater within the permitted area, including map and description of groundwater used, and mine plan, including extraction techniques and process detail. This original document was provided on April 27, 2011. By letter dated June 8, 2011, the USEPA responded to the original request stating that the US EPA "cannot at this time approve WDEQ's proposed reclassification …" Subsequent meetings between the US EPA, WDEQ, and Lost Creek ISR, LLC were held, and an agreement in principle was reached regarding an acceptable scientific approach to demonstrating an additional area outside the monitoring ring that would be acceptable for inclusion in the aquifer reclassification boundary. Documents reflecting and supporting that agreement are enclosed.

Attached to this letter is a copy of the Revised Statement of Basis (SOB) for the Water Quality Division's (WQD) proposed reclassification of groundwater within the mine units to Class V (Mineral Commercial) containing WQD's findings regarding the current use of the affected aquifer as a drinking water source and the presence of commercially producible minerals within that aquifer. Please note that there have been several changes made to the attachments provided for the Revised Statement of Basis. These revisions are listed in the attached Index Sheet which indicates where they are to be added into the previously provided 3-Ring binder.

As the revised aquifer reclassification boundary is substantially smaller than the previously proposed and published boundary, WDEQ's Land Quality Division is not requiring republication of the public notice.

In accordance with the MOA and Wyoming's UIC program description as accepted for program delegation by US EPA, please review these materials for conformance with Wyoming's groundwater classification criteria and the US EPA's regulations at 40 CFR 146.4.

You may contact Kevin Frederick, Groundwater Section Manager, at (307)777-5985 if you have any questions. We look forward to your review and response.

Sincerely,

Bill DiRienzo (for)

John Wagner
Wyoming Department of Environmental Quality
Administrator
Water Quality Division

JFW/KDF/DH/rm/11-0735

Attachments: *Revised Statement of Basis* including enclosures

cc: Mr. John Cash, Lost Creek ISR, LLC, 5880 Enterprise Dr., Ste. 200
Casper, WY 82609 (w/o enclosures)
John Corra, WDEQ Director (w/o enclosures)
Nancy Nuttbrock, LQD Administrator (w/ enclosures)
Alan Bjornsen, NRC, Env. Project Manager, Mail Stop T-8F5, Washington, DC 20555-0001 (w/o enclosures)
Kevin Frederick, Groundwater Section Manager, WQD/Cheyenne (w/o enclosures)
Deborah Harris, WQD/GPC District Supervisor, Lander (w/ enclosures)
Amy Boyle and Melissa Bautz, LQD Geologists, Lander→Mark Moxley, LQD District Supervisor, Lander (w/ enclosures)
Mark Newman, BLM Geologist, POB 2407, Rawlins, WY 82301-2407 (w/o enclosures)

Revised
Statement of Basis
Groundwater Reclassification
Class V Mineral Commercial

Project:	Class III UIC Permit: Lost Creek ISR Project
Operator:	Lost Creek ISR, LLC 5880 Enterprise Drive, Suite 200 Casper, WY 82609
Operator Contact:	John Cash Manager EHS and Regulatory Affairs Telephone (307) 265-2373
Aquifer Names:	HJ Horizon within the Battle Spring Aquifer
Aquifer Locations:	Red Desert, Sweetwater County, Wyoming (See Section II below)
Review Officials:	LQD, Melissa Bautz, WY P.G. #3690 Land Quality Division, Natural Resources Analyst WQD, Deborah Harris, WY P.G. #1331, West District Groundwater Section Supervisor 8/17/2011 LQD, Amy Boyle, WY P.G. #3376, Land Quality Division, Project Geologist 8/12/11
Date:	April 26, 2011, revised August 9, 2011
Action:	Groundwater Reclassification from Class IV to Class V Mineral-Commercial

I. Groundwater Reclassification Justification:

The Consolidated Permits Regulations (40 CFR §146.04 and §144.7) allow EPA, or approved State programs with Environmental Protection Agency (EPA) concurrence, to exempt underground sources of drinking water from protection under certain circumstances. An underground source of drinking water may be exempted if:

A. It does not currently serve as a source of drinking water and;

B. It cannot now and will not in the future serve as a source of drinking water because:

1) It is mineral, hydrocarbon, or geothermal energy producing, or it can be demonstrated by a permit applicant as a part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;

2) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

3) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

4) It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

C. The Total Dissolved Solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

Lost Creek ISR, LLC has submitted an application to the Wyoming Department of Environmental Quality (WDEQ) to operate an in-situ uranium mine in Sweetwater County, Wyoming. Pursuant to Wyoming Water Quality Rules and Regulations (WQRR) Chapter VIII, Section 4(d)(viii): Groundwater of the State found closely associated with commercial deposits of hydrocarbons and/or other minerals, or which is considered a geothermal resource, is Class V (Hydrocarbon Commercial), Class V (Mineral Commercial) or Class V (Geothermal) Groundwater of the State.

WQRR, Chapter 8, Section 4(d) (viii) (B) further states: A discharge into a Class V (Mineral Commercial) Groundwater of the State shall be for the purpose of mineral production and shall not result in the degradation or pollution of the associated or other groundwater and, at a minimum, be returned to a condition and quality consistent with the pre-discharge use suitability of the water.

II. Geographic Extent of Aquifer

The Lost Creek project consists of an area located in Sections 13, 14, and 25, Township 25N., R. 93W. and Sections 16 – 20, and 30, in T. 25 N., R. 92 W., Sweetwater County, Wyoming (see Figure II-1).

Lost Creek ISR, LLC currently proposes to inject fluids into the aquifer referenced in the Mine Plan application as the HJ Horizon of the Battle Spring Formation. The vertical extent of the HJ horizon is

described in greater detail in "Section VI – Aquifer Properties" (below). The horizontal boundary of the aquifer proposed to be reclassified to Class V (mineral-commercial) is depicted on the attached map (Figure II-1) The basis for the horizontal/lateral boundary of the aquifer proposed to be reclassified is based upon the following five (5) considerations:

1) The operation's ability to control fluids, as demonstrated in Attachment II-1 (enclosed);
2) An acknowledgement of the spatial relationship between the known economic mineralization (Figure II-1) ;
3) An acknowledgement for the need to have room to operate and monitor outside the monitor well rings, currently planned and future (see *Note below);
4) The fact that the entire region (**Figure II-2) is managed by BLM and can, therefore, be held under mining claims as provided for in the 1872 Mining Law; and
5) The fact that uranium mineralization and deposits are ubiquitous across the entire region (Figure II-2).

*Note about Figure (II-1) This figure was developed from the recently published Canadian Instrument 43-101 report for the Lost Creek Project and considers all drill hole information collected to date. Figure II-1 encompasses the known uranium mineralization of grade and quality that it is expected to be commercially producible in the Permit Area. The area of the aquifer proposed to be exempted beyond the commercially producible zone is the 500 foot distance for the monitoring well ring and an additional 120.0 ft. buffer (119.3 ft, rounded up).

This buffer beyond the monitor well ring was calculated based on three components:

ΔT: The potential extent of contamination beyond the monitor ring boundary when first detected at the monitor ring well, based on trigonometry and radial flow. This component is 59.0 ft.

Δd: The distance of excursion migration between time of detection and initiation of recovery. This component is 4.0 ft.

DF: Distance of excursion migration due to dispersivity factor (0.1 times the total travel distance of the excursion) This component is 56.3 ft.

The scientific theory behind each of these components and the related calculations are discussed in greater detail in Attachment II-2, Technical Memorandum from Petrotek Engineering Corporation, dated July 27, 2011. The proposed aquifer reclassification boundary of 120 ft. beyond the monitoring well ring is significantly more conservative than the April 2011 proposal. The acreage encompassing the boundary which was based on ¼ ¼ sections totaled 1,970.7 acres, whereas this revised approach encompasses 1,070.8 acres.

**Note about Figure II-2: This figure shows the regional uranium leasing activity around the Lost Creek Project. The majority of the land in this region is managed by the Bureau of Land Management and can therefore be held under mining claims as provided for in the 1872 Mining Law. Uranium mineralization and deposits are ubiquitous throughout the region. Known deposits include the Kennecott Sweetwater Mine, Lost Creek Project, Jab Project, Antelope Project, Green Mountain, Big Eagle, Lost Soldier, and Sheep Mountain. Countless additional areas of significant mineralization are also known to exist as a

result of extensive exploration performed from the 1960's through the 1980's. In 2008 LC ISR drilled a deep exploration hole in an effort to better understand the regional stratigraphy. A downhole geophysical log of the hole showed that nearly every sand horizon from surface to 6,000 feet below ground surface contains radioactive elements. It is likely that much of the groundwater in this region contains significant quantities of uranium and its radioactive daughter products thus rendering the water unfit for human and possibly livestock consumption.

The description of the polygon which provides the boundary of the aquifer reclassification area is provided as a series of 78 state plane coordinates in Attachment II-3.

III. Commercial Producibility of the Ore Deposits

Estimated uranium oxide (U_3O_8) or "yellow cake" reserves at the Lost Creek Project are 10,900,000 pounds. The plant at the Lost Creek Project will have a flow rate of approximately 6,000 gpm and a designed annual production of 1,000,000 pounds of U_3O_8. The enclosed map entitled "Uranium Mineralization within the HJ Horizon" (Figure III-1) as well as a copy of "Technical Report NI 43-101" (Attachment III-1) are presented to demonstrate the reserves in the project area.

IV. Geologic Properties

A. Regional Geology

The proposed facility will be located in the Great Divide Basin of south central Wyoming (Figure IV-1). The Great Divide Basin is an asymmetrical oval-shaped structural depression whose axis trends roughly west-northwest to east-southeast. The basin is bounded by the Wind River and Granite Mountains to the north, the Rawlins uplift to the east, the Wamsutter Arch to the south, and to the West by the Rock Springs uplift. There are several anticlines and synclines within the Great Divide Basin. In the location of the proposed Lost Creek Project area, which is located on the distal southern flank of the Lost Soldier Anticline (about 15 miles to the northeast), the beds dip gently to the west at about three degrees (3°).

The 6,200 foot thick Eocene aged Battle Spring Formation crops out across the northern and eastern portion of the Great Divide Basin. The Battle Spring Formation contains fine-to coarse-grained arkosic sandstones and conglomerates, a typical alluvial fan complex. The Battle Spring Formation inter-tongues with the time-equivalent Wasatch Group into the south and west portions of the Great Divide Basin. Large portions of the Great Divide Basin are covered with Quaternary alluvium and Pliocene pediments. However, at the proposed Lost Creek ISR site, the Battle Spring Formation outcrops at the surface.

B. Site Geology

The Battle Spring Formation was deposited in a high energy multi-channel fluvial environment interpreted as an alluvial fan derived from the south flank of the Granite Mountains to the north. The Battle Spring Formation outcrops at the surface at the proposed location for the Lost Creek ISR project (Figures IV-1 and IV-2). The uranium mineralization is found in the top 700 feet of the Battle Spring Formation (Figures IV-3 and IV-4).

Stratigraphy
In the project area, the top 700 feet of the Battle Spring Formation is divided into five (5) mineralized sandstone units, referred to (from top to bottom) as BC, DE, FG, HJ, and KM. Separating the mineralized sand units are horizons composed of siltstones, mudstones, and shales, ranging in thickness from four (4) to 40 feet (Figure IV-4).

The Lost Creek Project is a typical Great Divide Basin type roll front deposit. Uranium ore is found at the interface of a naturally occurring chemical boundary between reduced sandstone facies and oxidized sandstone facies.

Within the Lost Creek Project's Permit Area, the mineralization being proposed for in-situ recovery in this Permit is found in a 120-foot thick sandstone body known as the HJ sand. The HJ sand is bound on the top by the Lost Creek Shale and the bottom by the Sagebrush Shale (Figure IV-4). Both the Lost Creek Shale and the Sagebrush Shale are interpreted as leaky aquitards, and the HJ sand is interpreted as a semi confined aquifer (refer to Section VI-D below).

Structure
The Lost Creek project area is bisected by a near-vertical fault system comprised of three faults. The fault system trends generally parallel to the trend of the mineralization, roughly east-west. The most significant of the three faults in the fault system is referred to as the Lost Creek Fault (Figure IV-5). The portion of the Lost Creek Fault in the central and western portion of the site has a downward displacement on the south block of approximately 70 – 80 feet. The Lost Creek fault has a splay (referred to as a splinter fault) at the east edge of the property that has led to the formation of a (subsurface) graben in that portion of the project area. The displacement in the graben is no greater than 20 feet. Displacement along the subsidiary faults in the fault system are closer to 50 feet or less.

The displacement on the Lost Creek Fault juxtaposes portions of the HJ sand horizon with the overlying FG and underlying KM sands (Figure IV-6). Because of that juxtaposition, Lost Creek ISR has committed to monitoring all cross-fault locations where fluids from the HJ could come in contact with the overlying FG or underlying KM horizons. Refer to Section VII-B-2 of this document for details on the Ground Water Monitoring Plan for the Lost Creek Project.

V. WDEQ Groundwater Classifications

A. WDEQ Groundwater Classification Based on Use (Current Use of Aquifer)

Currently, the applicant has numerous monitoring wells and three water supply wells within the proposed permit area for the baseline analysis and studies required to permit the site (Figures V-1 and V-2). The nearest wells within a mile of the permit area are four BLM wells which supply water to stock ponds. Two of those four wells are within a ¼ mile of the permit boundary.

Water supply wells within ¼ mile of the Permit boundary
The BLM Battle Springs Draw Well No. 4451 is located in the NW ¼ NE ¼ NE¼ of Section 21, T25N, R92W (Figure V-1). It was originally drilled in 1968 as a 900 ft.

exploration drill hole for Uranium. It was then completed as a water supply well and is permitted to produce up to 19 gpm. The screened interval is unknown though the water was analyzed in 2009 and 2010 and found to have a TDS of 700 ppm, but an average gross alpha of 1,210 pCi/l, and average Uranium of 1.01 mg/l. Ra-226 + Ra-228 measured an average of 16.2 pCi/l. This well was permitted with the State Engineer's Office (SEO) by the Rawlins BLM office.

The BLM Battle Springs Well No. 4777, SE¼ NW¼ of Section 30, T25N, R92W, (Figure V-1) was drilled as a stock well in 1981. It is 280 feet deep (Total Depth) and is permitted for 25 gpm use. This well was permitted with the SEO by the Rawlins BLM office.

Water supply wells beyond ¼ mile (but within 1 mile) of the Permit Boundary
BLM Boundary Well No. 4775, SE¼ NE¼ SW¼ of Section 10, T25N, R92W (Figure V-1) was drilled as a stock well in 1981. It is 220 feet (Total Depth) and is permitted for 25 gpm use. This well was permitted with the SEO by the Rawlins BLM office.

An unpermitted stock well, East Eagle Nest Draw Well is located in the NW¼ NW¼ NW¼ of Section 13, T. 25 N., R. 93 W. (Figure V-1). This well pumps water at 5 gpm for 6-8 hours per day from mid-May to mid-September each year.

Monitoring Wells between a 1 and 3 mile radius from the Permit Boundary
Beyond a one mile radius of the permit area and within three miles of the permit area (Figure V-3) there are a number of monitoring wells associated with the Rio Tinto Sweetwater Mill and Uranium Mine (WDEQ/LQD Permit #481). These wells are associated with the dewatering and monitoring of the groundwater for the open pit operation and surface operations (1979-1983). This mine is now reclaimed.

B. WDEQ Groundwater Classification Based on Ambient (Background) Quality

The aquifer referenced as the HJ Formation aquifer of the Battle Spring Formation (Figure IV-4) contains uranium mineralization and is the production zone for the Lost Creek Project. Pages 9 – 12 of Table V-1 presents data on the HJ Horizon aquifer. 112 groundwater samples have been collected in the HJ aquifer (Pages 9 – 12 of Table V-1). Based on the elevated Radium, Gross Alpha, Uranium, and Arsenic concentrations, the WDEQ, Groundwater Section classifies the ambient (pre-mining) groundwater as a Class IV (industrial) quality. The summaries below utilize data presented in Table V-1 as well as Figures V-4 through V-13.

The Radium (226+228) values range from below 5.0 to 706 picocuries/liter (pCi/L), with an average value of 105.4 pCi/L. The Wyoming standard for Radium (226+228) in Class I (domestic), Class II (Agriculture) and Class III (Livestock) groundwaters is 5.0 pCi/L. The EPA MCL for Radium (226+228) is also 5.0 pCi/L.

The Gross Alpha (α) values range from below 20.9 to 1722.5 picocuries/liter (pCi/L), with an average value of 346 pCi/L. The Wyoming standard for Gross α in Class I (domestic), Class II (Agriculture) and Class III (Livestock) groundwaters is 15.0 pCi/L. The EPA MCL for Gross Alpha (α) is also 15.0 pCi/L.

The Uranium values range from below 0.030 to 0.594 miligrams/liter (mg/l), with an average value of 0.149 mg/l. The EPA MCL for Uranium is 0.030 mg/l.

The Arsenic values range from below 0.000 to 0.026 miligrams/liter (mg/l), with an average value of 0.003 mg/l. The Wyoming standard for Arsenic in Class I (domestic) ground water is 0.05 mg/l; the standard for Class II (Agriculture) and Class III (Livestock) ground waters is 0.02 mg/l. The EPA MCL for Arsenic is 0.010 mg/l.

The Selenium values range from 0.000 to 0.037 mg/l, with an average value of 0.003 mg/l. The Wyoming standard for Selenium in Class I (domestic) is 0.05 mg/l; the standard for Class II (Agriculture) is 0.02 mg/l and the Class III (Livestock) ground water standard is 0.05 mg/l. The EPA MCL for Selenium is 0.05 mg/l.

The Total Dissolved Solids TDS for the HJ Formation aquifer range from 236 ppm to 706 ppm milligrams/Liter (mg/L) with an average value of 366 ppm.

VI. Aquifer Properties

A. Name of Formation

The aquifer referenced as the HJ Formation aquifer contains uranium mineralization and is the proposed production zone.

B. Aquifer Elevations

Within the mine permit area the elevation of the top of the shallowest portion of the HJ aquifer/horizon is approximately 6,650 feet MSL, while the bottom of the deepest portion of the HJ aquifer/horizon is approximately 6,295 feet MSL. Figure VI-1 depicts the elevations of the top of the HJ formation across the Mine Unit 1 area.

C. Aquifer Thickness

The thickness of the HJ horizon/aquifer ranges from 100 – 160 feet averaging approximately 120 feet thick. However, the HJ's range elevations (from top of formation to bottom of formation) is greater than 120 feet because of the displacement caused by the Lost Creek Fault.

D. Confining Formations

The HJ aquifer is overlain by the Lost Creek Shale (LCS) and underlain by the Sagebrush Shale (SBS). The HJ aquifer is interpreted as semi-confined, the details of which are discussed below.

Figure IV-3 presents the (leaky) aquitard thickness for the shale, referred to as the Lost Creek Shale, between the HJ and overlying FG sand. The Lost Creek Shale (LCS) varies from 5 to 25 feet thick (see Figure VI-2). The overlying aquitard therefore should be adequate for confinement between the HJ sand and overlying FG sand in the proposed reclassification area.

Figure IV-3 presents the (leaky) aquitard thickness for the shale, referred to as the Sagebrush Shale, between the HJ sand and the underlying KM sand. The Sagebrush Shale (SBS) varies from 5 – 40 feet thick (see Figure VI-3). The underlying aquitard

therefore should be adequate for confinement between the HJ sand and underlying KM sand in the proposed reclassification area.

(Semi)-confinement of the HJ horizon is demonstrated by the 1) 2007 and 2008 pump test results for the project, 2) the vertical hydraulic conductivity of the Lost Creek and Sagebrush Shales, and 3) the different potentiometric surfaces demonstrated by the overlying FG aquifer and underlying KM aquifer (Figures VI-4, VI-5, and VI-6). Specifically, during the 2007 and 2008 pump tests, the drawdown observed in the overlying and underlying (FG and KM, respectively) aquifers was an order of magnitude less than what was observed in the HJ aquifer (Figures VI-7, VI-8, and VI-9).

E. Hydraulic Properties

The table below summarizes the aquifer properties for Mine Unit 1, the only mine unit (of the three proposed for the Lost Creek Project) for which pump tests have been completed.

The data in this table are derived from Table VI-1 (attached).

Aquifer	*Transmissivity	*Hydraulic Conductivity	Storativity
FG	4 – 40 ft^2/d	0.08 - 0.24 ft/day	n/a
HJ	29 – 361 ft^2/d	0.2 – 3.0 ft/day	3.5E-05 to 9.1E-04
KM	26 – 115 ft^2/d	0.5 – 1.9 ft/day	n/a

*Transmissivity and Conductivity values are "effective".

The range of transmissivity and conductivity values presented above are a reflection of the range of properties of the aquifers both north and south of the Lost Creek fault, which bisects Mine Unit 1. As an example, as indicated on Table VI-1 (attached), the range of transmissivity values for the FG aquifer is 4 – 12 ft^2/d north of the fault and 15 - 40 ft^2/d south of the fault.

Also included in Table VI-1 is the vertical hydraulic conductivity of the confining layers above and below the HJ horizon; the Lost Creek and Sagebrush Shales. The vertical hydraulic conductivity for the overlying Lost Creek Shale is 0.016 – 0.15 ft/day and for the underlying Sagebrush Shale is 0.0009 – 0.004 ft/day. Those values support the interpretation of the shales as leaky aquitards.

VII. Mine Plan Considerations

A. Description of Mineral Zone

1) Mineralogy

The ore bodies are generally in the (C-shaped) form of a typical Wyoming-type roll front; however there are some tabular deposits as well. The ore body occurs at the interface between oxidizing and reducing conditions (redox boundary). The uranium mineralogy of the ore zone consists of mostly uraninite and possibly coffinite on the surfaces of sand grains and in the voids between grains. The altered sandstone where the ore occurs contains iron oxide staining and kaolinitized feldspar. As described on Page D5-6a of Volume 2 of the

Permit Application, the grade of the ore body ranges from 0.03% to 0.2% equivalent uranium oxide (eU_3O_8). Economic uranium mineralization is associated with fine- to coarse-grained poorly sorted arkosic sandstone.

2) Geochemistry

As described in the Operations Plan of the Permit, the uranium recovery solution or lixiviant will consist of varying concentrations and combinations of sodium carbonate, sodium bicarbonate, carbon dioxide, oxygen, and/or hydrogen peroxide and antiscalent added to the native groundwater. The combined carbonate/bicarbonate concentration in the injected solution will typically be maintained at less than five (5) grams per liter (g/L) and the hydrogen peroxide and /or oxygen concentration will typically less than one (1) g/L. This will promote the dissolution of uranium as a uranyl carbonate complex. The primary chemical reactions expected in the aquifer are described on Figure VII-1 (attached).

B. Process Description

1) Well Field

a) Well Construction and Completion

Well construction and completion methods are depicted in the attached Figures VII-2 through VII-5. Typical well casings will be polyvinyl chloride (PVC) SDR-17, and cemented into holes with about 1.7 inches of annular spacing (4.5" diameter casing within a 7 7/8" diameter hole). Casing joints will be spline-locking connections to avoid the use of screws. PVC well screens will be used along with sand and gravel packs. To ensure the casing is centered in the hole, casing centralizers will be placed every 40 feet.

b) Mechanical Integrity Testing

Mechanical integrity testing (MIT) procedures can be found on Page OP-39 of Volume 5 of the Permit Application. MIT will be required on all Class III wells after they are completed and before the wells are used and every five (5) years. The results of MIT will be reported to the Land Quality Division at the end of each quarter. The MIT method is based on pressuring the water-filled well casings and monitoring the pressure drop-off over time. For Production Wells, MITs are performed at the same pressure as the injection wells within the same header house. For Injection Wells, MITs will be performed at 125% of the maximum injection pressure.

c) Hydraulic Containment

Hydraulic containment in the mining zone is accomplished by maintaining a cone of depression in the vicinity of the well fields. A "bleed" for the well field will be maintained by pumping more water from the well field than is injected into it, causing groundwater

movement toward the well field. The HJ sand horizon is in a semi-confined aquifer and will require a bleed rate ranging from 0.5% to 1.5%, or about 20 - 60 gpm. The section at the end of Attachment II-1 entitled "Operational Controls" is provided to demonstrate with specificity how Lost Creek plans to control mining fluids in the HJ.

2. Groundwater Monitoring Plan

a) Ore Zone

Potential movement of the mining solution (lixiviant) out of the ore zone aquifer will be monitored by the means of perimeter monitor wells (Figure VII-7) installed at an approximate distance of 500 feet from the outer edge of the well field at distances no more than 500 feet apart. The monitor wells will be sampled twice per month (and no less than 10 days apart) for the excursion parameters of chloride, total alkalinity and conductivity. The groundwater elevation or potentiometric surface will be also measured prior to sampling of each well. The pH will also be measured in the field. Excursion verification and Corrective Action procedures are discussed in detail in Section OP 3.6.4.3 on Pages OP-64 and OP-65 in Volume 5 of the Main Permit. The groundwater monitoring plan is presented as Attachment VII-1.

b) Underlying and Overlying Aquifers

Monitor wells will be installed in the overlying and underlying aquifers at a minimum density of one well per every four (4) acres of well field as described. As described in the groundwater monitoring plan (Attachment VII-1), the monitor wells will be sampled twice per month (and no less than 10 days apart) for the excursion parameters of chloride, total alkalinity and conductivity. The groundwater elevation or potentiometric surface will be also measured prior to sampling of each well. The pH will also be measured in the field. Excursion verification and Corrective Action procedures are discussed in Section OP 3.6.4.3 on Pages OP-64 and OP-65 in Volume 5.

Given the existence of the Lost Creek fault, and its tendency to juxtapose portions of the production zone (the HJ aquifer) with over- and underlying aquifers, Lost Creek has installed (in Mine Unit 1) cross fault monitoring wells to ensure that any excursions across the fault are detected. Figures MU1 5-1 through 5-4 are provided to depict in map view the potential juxtapositions of concern; that is, areas where there is a production zone on one side of the fault in contact with an over- or underlying sand on the opposite side of the fault. In conjunction with Figures VII-8 through VII-12, Table VII-1 and Figures VII-13a and 13b are provided to demonstrate that all instances of potential cross-fault communication will be adequately monitored.

VIII. Notification for Public Participation (Public Notice)

The first Public Notice comment period ended on June 24, 2011, and due to a written objection on June 24, 2011, from the Wyoming Outdoor Council a hearing was held before the Environmental Quality Council on August 3-4, 2011. A second Public Notice will not be made due to the fact that the revised aquifer reclassification boundary is a continuation from the first submittal, and a more conservative approach, reducing the acreage to exempt from 1,970.7 acres to 1,070.8 acres.

End of Document

Enclosures:
1) Figures - Provided in enclosed stand-alone binder (Figures Table of Contents below)
2) Copy of the April 12, 2011 original reclassification request letter from Lost Creek ISR, LLC to WDEQ/LQD
3) CD with Pertinent text from the WDEQ/LQD Permit Application (Appendices D5 and D6, Operations Plan, and Reclamation Plan)