

*Volume 5 of 5*  
*Cover and Table of Contents*  
*Replacement Pages*

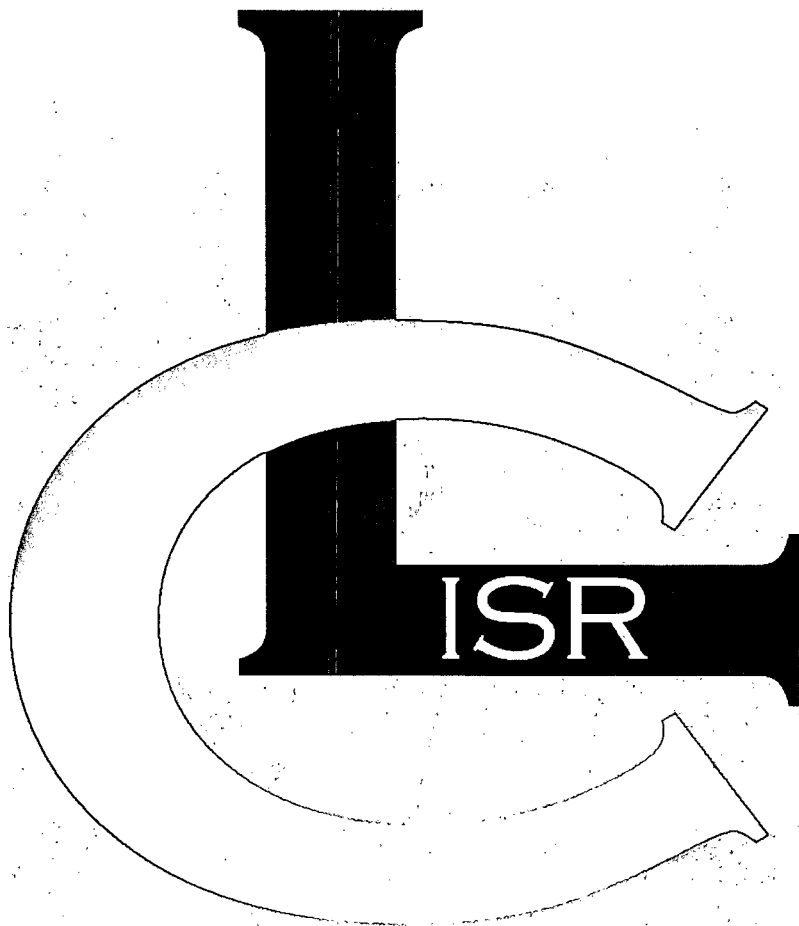
# LOST CREEK ISR, LLC

## Lost Creek Project

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Volume 5 of 5

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Application for  
WDEQ Permit to Mine

Operations Plan  
Reclamation Plan

Original Dec07, Rev4 Oct09

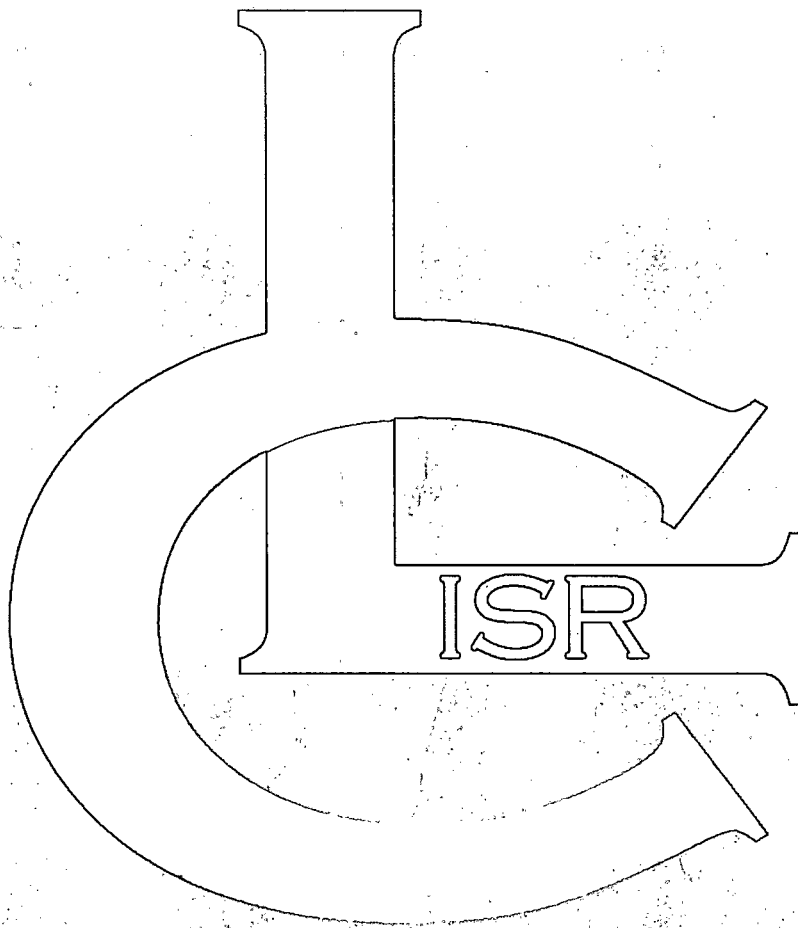


# LOST CREEK ISR, LLC Lost Creek Project

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WYOMING  
PROJECTS

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Application for  
WDEQ Permit to Mine  
Original Dec07, Rev4 Oct09

Operations Plan  
Reclamation Plan

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Attachment OP-6 Wildlife Protection and Monitoring Plans  
Attachment OP-7 Specifications for Storage Ponds  
Attachment OP-8 Groundwater Monitoring Program

## ABBREVIATIONS AND ACRONYMS

$[\text{UO}_2(\text{CO}_3)_2]^{-2}$	uranyl dicarbonate ion
$[\text{UO}_2(\text{CO}_3)_3]^{-4}$	uranyl tricarbate ion
$^{\circ}\text{F}$	degrees Fahrenheit
BLM	Bureau of Land Management
DOT	Department of Transportation
EPA	Environmental Protection Agency
ft	feet
ft bgs	feet below ground surface
FWS	Fish and Wildlife Service
g/L	grams per liter
gpm	gallons per minute
GPS	Global Positioning System
HDPE	high-density polyethylene
ISR	In Situ Recovery
LC ISR, LLC	Lost Creek ISR, LLC
LQD	Land Quality Division
MIT	mechanical integrity test
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
Permit Area	Lost Creek Permit Area
Plant	Lost Creek Plant
PPE	personal protective equipment
ppm	parts per million
Project	Lost Creek Project
psi	pounds per square inch
psig	pound-force per square inch gauge
RO	reverse osmosis
ROW	right of way
RWP	Radiation Work Permit
SDR	standard dimension ratio
SOP	standard operating procedure
SWPPP	Storm Water Pollution Prevention Plan
$\text{U}_3\text{O}_8$	uranium oxide
UCL	Upper Control Limit
UIC	Underground Injection Control
US	United States
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WSEO	Wyoming State Engineer's Office
WQD	Water Quality Division
WYPDES	Wyoming Pollution Discharge Elimination System

# OPERATIONS PLAN

Lost Creek ISR, LLC (LC ISR, LLC) has prepared this Operations Plan (OP) for the Wyoming Department of Environmental Quality (WDEQ) in support of a permit to conduct In Situ Recovery (ISR) of uranium in Sweetwater County, Wyoming. The Lost Creek Project (Project) will use existing ISR technology and best industry practices to extract uranium from permeable, uranium-bearing sandstones, located at depths ranging from 300 to 700 feet below surface, through a series of mine units. Each mine unit consists of a “pattern” of production and injection wells, ringed by monitor wells. Once extracted from a mine unit, the uranium will be recovered by means of ion exchange, using commercially available anionic resin, and prepared for shipment as uranium oxide ( $U_3O_8$ ) “yellowcake” slurry to a facility licensed to process the slurry into dry yellowcake.

## OP 1.0 OVERVIEW OF PROPOSED OPERATION

The Lost Creek Permit Area (Permit Area) contains approximately 4,254 acres (**Figure OP-1**). Within that area, the surface to be affected by the ISR operation will total approximately 324 acres (**Figure OP-2a**), following the ore trend which extends east-west through the Permit Area (**Figure OP-2b**). The mine units, the Lost Creek Plant (Plant), the Storage Ponds, and the disposal wells, which are described in more detail below, are the significant surface features associated with the ISR operation. An illustration of a typical ISR operation, such as the Lost Creek Project, is shown on **Figure OP-3a**, and an illustration of a mine unit is shown on **Figure OP-3b**.

The Project requires the preparation, construction, and operation of the following:

- the access roads/utility corridors, including pipelines connecting the mine units to the Plant;
- the Plant, which includes the ion exchange facility and other processing circuits, the shop, the laboratory, storage areas, fuel tanks, the offices, possible living quarters, and parking;
- the Storage Ponds, which will be used in conjunction with the Underground Injection Control (UIC) Class I wells for waste water disposal, located adjacent to the Plant;
- UIC Class I wells; and
- the mine units, which include the header houses, through which fluids are routed to/from the injection/production well patterns, and the monitor wells, including those which ring the pattern area and those in overlying and underlying aquifers.

Site preparation, construction, and operations of the Project will be conducted such that potential environmental effects will be minimized to the greatest extent possible. The measures that will be taken during initial site development and for general maintenance throughout the Project are described in **Section OP 2.0**.

The details of the mine units, well construction, and instrumentation and control are provided in **Section OP 3.0**. The ISR process will be conducted using a carbonate lixiviant, which is pumped from the Plant through buried pipelines to the injection wells in the operational mine unit(s). After circulation through the production zone from the injection wells to the production wells, the lixiviant recovered from the production wells will be pumped from the mine unit(s) through buried pipelines to the ion exchange circuit in the Plant. There, the uranium will be removed by solid resin ion exchange. The carbonate lixiviant will then be regenerated and pumped back to the mine units to recover additional uranium.

Information on the Plant is provided in **Section OP 4.0**. The Plant will house three distinct process circuits: the ion exchange circuit (also called the resin-loading circuit), the elution circuit, and the precipitation/filtration circuit. The final product will be yellowcake slurry with about 40 percent of water by volume. The slurry will be transported from the site via United States (US) Department of Transportation (DOT) approved containers to a facility licensed by the US Nuclear Regulatory Commission (NRC) or an Agreement State for processing the slurry into dry yellowcake.

Effluent control measures that will be used during the Project are described in **Section OP 5.0**. Surface reclamation and groundwater restoration are described in the Reclamation Plan (RP), which is a separate portion of this application.

## **OP 1.1 Site Facilities Layout**

The approximate location of the Permit Area within the general region is shown in **Figure OP-1**. The Plant will be located in the north-central portion of the Permit Area in Section 18, Township 25 North, Range 92 West. It will include all the process circuits, the groundwater restoration facility, administration offices, and shop facilities. A plan view of the Plant is included in **Plate OP-1**. The Storage Ponds are adjacent to the Plant, as shown on **Plate OP-1**. The mine units will be along an east-west trend through the Permit Area (**Figures OP-2a** and **OP-2b**). The locations of the five UIC Class I wells are widely scattered, as shown on **Plate OP-1**, to accommodate regulatory requirements and meet the necessary injection criteria.

The Plant will be one of the first features constructed in the Permit Area. The primary access road and associated culverts will be constructed when the Plant is built; and the

secondary access roads and associated culverts for each mine unit will be constructed prior to and during installation of that mine unit. Secondary access roads and associated culverts for the UIC Class I wells will be constructed prior to installation of those wells. Road design features are shown on **Figure OP-3c** and discussed in more detail in **Section OP 2.6**.

Electrical power will be brought into the site, through an overhead line, from the transmission line located directly west of the site. The overhead line will branch out to transformer poles located throughout the mine units and at the Plant. The overhead power lines will continue from the transformer poles to the service point at the header houses. From the header houses to the production wells, power will be transmitted through underground lines that will be located along the same corridors as the pipelines for fluid transmission to and from the wells.

Six mine units are currently planned for the Lost Creek Project, as shown on **Figure OP-2a**. Each mine unit will consist of a reserve block covering about 50 acres, with about nine header houses. Each header house will be designed to accommodate the well controls and distribution plumbing for approximately twenty production wells and the associated injection wells (usually about 40 injection wells). Therefore, each mine unit will consist of about 540 wells. Typically, two or three mine units may be in production at any one time with additional mine units in various states of development and/or restoration.

## **OP 1.2 Ore Deposits**

As described in **Appendix D5** of this permit, the ore deposits in the Permit Area generally occur at depths of 300 to 700 feet below ground surface (ft bgs) in long narrow trends varying from a few hundred to several thousand feet long and 50 to 250 feet wide (**Figure OP-2b**). The depth depends on the local topography, the dip of the formation, and the stratigraphic horizon. The available geologic and hydrologic data presented in **Appendices D5 and D6**, respectively, identify uranium mineralization in several sandstone layers (e.g., from shallow to deeper, the FG, HJ, and KM Horizons).

The three mineralized sandstone layers (Sands) in the HJ Horizon, from 350 to 500 ft bgs, are targeted for this permit application. The richest mineralized zone, locally designated as the Middle HJ (MHJ) Sand, is about 30 feet thick at 400 to 450 ft bgs, and is believed to contain over 50 percent of the total resource. Depending on the location within the Permit Area, only one, two, or three of the mineralized Sands may be present in the HJ Horizon.

The KM Horizon underlies the HJ Horizon and the Upper KM (UKM) Sand is a potential production zone within the Permit Area. The decision to proceed with a permit revision for production of the UKM Sand will depend on the results of future delineation drilling and characterization.

The mineralized Sands in the Permit Area are fine- to coarse-grained, poorly sorted arkose. The uranium mineralization is of sub-microscopic size. Main uranium minerals are uraninite, a uranium oxide, and coffinite, a uranium silicate. They are mostly associated and at times intergrown with round pyrite particles. The uranium also occurs as a coating around sand grains, as filling of voids between grains, and as minute particles within larger clay particles.

## **OP 2.0 PROJECT DEVELOPMENT, MAINTENANCE, AND MONITORING**

Initial project development is generally limited to facilities, such as the Plant and access road, which are needed throughout the life of the Project. Development of the mine units is progressive, so some mine units may be in operation while others are being developed. This section describes activities that occur for both initial project development and mine unit development, and those maintenance and monitoring activities that are applicable throughout the Project. More detailed information on the mine unit operations is provided in **Section OP 3.0**. The monitoring that will take place throughout the life of the Project is summarized on **Tables OP-1a, OP-1b, and OP-1c**, which are separated by monitoring that will take place during construction, operations, and reclamation, and described in more detail below.

### **OP 2.1 Project Schedule**

At this time, LC ISR, LLC is planning to develop the mine units shown on **Figure OP-2a** in numerical sequence. **Figures OP-4a and 4b** provide the current estimated schedule of operational activities at Lost Creek for the first nine years of operation. The projected mining schedule is based on an annual production rate of 1,000,000 pounds  $U_3O_8$ .

The projected ISR operation schedule for each of the mine units, along with the anticipated groundwater restoration schedule, is also provided in **Figure OP-4a**. The schedule generally provides two years for development of a mine unit, including provisions for drilling restrictions to protect wildlife and for submittal of the Hydrologic Test Plan and Report for the mine unit to WDEQ-Land Quality Division (LQD) for review and approval.

The schedule also provides for two years for uranium production. All the necessary processing and disposal facilities, including ion exchange columns, storage ponds, and UIC Class I disposal well(s) will be installed prior to mining. The schedule on **Figure 4b** includes five UIC Class I wells. The criteria for determining when the transition from production to restoration should occur in a given mine unit are discussed in **Section RP 1.0**.

In addition, the schedule includes two years for aquifer restoration in each mine unit. The groundwater restoration infrastructure shown in **Figure OP-4b** will be purchased and installed before commercial operations begin, so the timeline for restoration is not delayed. The time provided for aquifer restoration includes approximately: two months for each header house to serve as a buffer area between impacts of production and restoration; nine months for groundwater sweep; twelve months for reverse osmosis (RO); and one month for recirculation. Stability monitoring will follow restoration and is not included in the total time (**Section RP 2.4** of this report). The monitoring that will take place during restoration and prior to transition from restoration to stability is described in the last paragraph of **Section RP 2.3.2** and in **Section RP 2.5**, respectively. Development of the restoration criteria is discussed in **Section RP 2.2**.

The water balance variations for the Project are included in **Figures OP-5a, b, c, d, e** and **f**. The various water balance scenarios presented contemplate the possible operational modes that a typical ISR facility may encounter over the life of the project. By analyzing each scenario, it can be demonstrated that the facility is designed to manage the water flow variations from maximum Plant utilization (**Figure OP-5c**) to minimum Plant utilization (**Figure OP-5f**).

The development schedule will be affected by various factors. These factors typically involve adjustments as necessary to meet production schedules and contractual agreements, longer (or shorter) than predicted mining or restoration times or delays in mine unit installations. In addition, if an area designated as undergoing restoration is directly adjacent to an area undergoing mining, all or a portion of the restoration unit could be serving as a buffer zone, or could be in stability monitoring. The development schedule may also be affected by restrictions to protect wildlife such as exclusion from specific areas during nesting seasons. The current schedule reflects existing restrictions on drilling, and LC ISR, LLC will keep in contact with the US Bureau of Land Management (BLM) and WGFD for updated guidance.

To account for such changes, LC ISR, LLC will include in the Annual Report to WDEQ and NRC a map of the Permit Area showing: the mine units that are being developed, in production, and in restoration; and areas where restoration has been completed. New



areas where production or restoration is expected to begin in the subsequent year will also be identified in the Annual Report. The schedule will be compared with that in **Figure OP-4a**, and if it becomes evident that LC ISR, LLC cannot comply with the approved schedule, a request for revision of the schedule will be made, including explanation of the reason(s) for the changes from the approved schedule.

Additional resources are known to exist within the Permit Area, but are not yet adequately characterized for inclusion in the permit application at this time. These resources have the potential to extend the ultimate Project life beyond this initial period. If LC ISR, LLC submits a revision to include these additional resources in the Permit-to-Mine, the operations schedule will be updated as part of the revision to the permit.

## **OP 2.2 Additional Regulatory Requirements**

A list of the necessary permits and licenses for the Project at the federal, state, and local levels is provided in the Adjudication File in **Table ADJ-1**. At the federal level, NRC, EPA, and BLM are involved in permitting the Project. In October 2007, LC ISR, LLC applied for a Source and Byproduct Material License from the NRC (Docket No. 40-9068, Technical Assignment Control No. LU0142). An EPA requirement that must be addressed prior to the commencement of operations is aquifer exemptions (one for injection into the aquifer to be produced and the other for injection into a deeper formation for water disposal). Other EPA requirements are covered by WDEQ permits as the State of Wyoming has primacy for the applicable EPA programs (**Table ADJ-1**). BLM administers the federal land on which the Permit Area is located, and NRC is the federal licensing agency for a Source and Byproduct Material License.

At the State level, Lost Creek must obtain an Air Quality Permit, a UIC Class 1 well permit, and a Storm Water Discharge Permit from the respective WDEQ divisions, in addition to the WDEQ-LQD Permit to Mine and License to Mine. Once the Air Permit is obtained, a copy of the permit will be incorporated into **Attachment OP-1** of this document. Similarly, a copy of the UIC Class 1 well permit, when it is obtained, will be incorporated into **Attachment OP-2** of this document.

During site construction and operation, the storm water discharge permits applicable per the Wyoming Pollution Discharge Elimination System (WYPDES) will be maintained (**Table ADJ-1**). The associated Storm Water Pollution Prevention Plan (SWPPP) will be designed and implemented as part of LC ISR, LLC's compliance with applicable WDEQ-Water Quality Division (WQD) rules. A copy of the SWPPP is included as **Attachment OP-3** of this document, and a copy will be kept in an accessible area of the Project. The SWPPP will focus on protecting waters of the state through prevention and mitigation of chemical spills and topsoil erosion and will contain provisions for routine inspections and

audits to ensure the plan is being properly implemented and all employees, and contractors as necessary, are familiar with applicable portions of the plan. Specific commitments in the SWPPP related to this Operations Plan will include:

- Protection of topsoil and vegetation (Sections 2.5 and 2.7 of this Operations Plan);
- Road construction techniques (Section 2.6); and
- Prevention and remediation of accidental releases (Section 2.9).

A copy of the Drainage Plan for the Plant is included as **Attachment OP-4**.

To help ensure the appropriate regulatory requirements are addressed, LC ISR, LLC has maintained consistent contact with federal and state agencies. Since the beginning of the Project, quarterly meetings have been conducted with NRC, BLM, and WDEQ.

Representatives from LC ISR, LLC met with the Sweetwater County commissioners on October 16, 2007. LC ISR, LLC described the operations and schedule of the Project to the commissioners and answered related questions. Additional public consultation is planned.

## **OP 2.3 Land Use**

During the life of the Project, a total of approximately 324 acres of the land surface could potentially be disturbed; approximately eight percent of the total Permit Area. While some of the disturbances, such as the Plant and main access roads, are long-term (through the life of the Project), most are temporary, and will be reclaimed within months or years of disturbance. It should be noted that this disturbance acreage is for maximum vegetation disturbance and does not equate with acreage of topsoil removal, which will be less than the vegetation disturbance as discussed in more detail in Sections OP 2.5 and OP 2.7. Ultimately, all disturbed areas will be reclaimed to support the post-operational land uses of the Permit Area, as discussed in the Reclamation Plan.

The existing land uses of the Permit Area are livestock grazing and wildlife habitat, with other uses such as hunting and off-highway vehicle recreation. To control access and to prevent livestock damage, the Plant and Storage Ponds will be fenced for the duration of the Project. Mine units will be fenced as they are constructed and brought on-line. All fences will be constructed according to BLM fencing specifications. For safety reasons, hunting and other recreation will also be restricted to the extent allowable under BLM guidelines, within the Permit Area.

## OP 2.4 Cultural Resources Mitigation Program

Potential impacts on cultural resources may occur mainly during the site preparation and construction phases, especially when vegetation and topsoil removal is involved. Class I and III cultural resource surveys have been performed over the Permit Area and are submitted in **Appendix D3** (confidential).

Three sites were identified in the Permit Area as meeting the eligibility criteria of the National Register of Historic Places (NRHP). LC ISR, LLC will make every effort to avoid disturbing any of the potential NRHP sites. Site boundaries will be clearly marked and a buffer around the sites will be maintained. Construction and operation activities that occur near significant properties will be monitored by an archaeologist. In the event that significant sites cannot be avoided, LC ISR, LLC will prepare site-specific treatment plans to guide data recovery excavations. Prior to implementation, the treatment plan(s) will be subject to review and approval by BLM and the Wyoming State Historic Preservation Office (SHPO), and will be subject to review and comment by concerned Native American groups.

The possibility exists that, despite precautions, previously unrecorded subsurface artifacts or unmarked graves could be exposed during the course of the Project. LC ISR, LLC will halt work in the immediate area of any such discovery and stabilize the location, so that further degradation will not occur. An archaeologist will examine and evaluate the discovery for significance in accordance with applicable laws and regulations including the Archaeological Resources Protection Act, National Historic Preservation Act, American Indian Religious Freedom Act, and Native American Graves Protection and Repatriation Act.

Based on current projections of areas of disturbance, a mitigation plan for one of the NRHP eligible sites has been prepared. It has been reviewed and approved by BLM and SHPO, pending Project approval. A copy of this mitigation plan has been added to the confidential Appendix D3. Future requirements and protocol for protection of archeological sites will also be incorporated, through a permit revision, into Appendix D3 (confidential), and referenced in this section of the Operations Plan.

## OP 2.5 Topsoil Management

Topsoil management practices will include both short-term and long-term protection measures. The short-term measures are needed primarily for delineation drilling and installation of the mine units, and the long-term measures are needed primarily for those facilities that will be present while a given mine unit is in operation or during the life of the Project, such as the Plant and main access road. Vehicular traffic will be minimized during operations and restricted to specific routes. In particular, traffic routes will be established within mine units. This will reduce the occurrence of compacted soils. The SWPPP (**Attachment OP-3**) also addresses topsoil protection measures.

The results from the Order 3 survey of the Permit Area are presented in **Appendix D7 (Plate D7-1)**. The results from the more detailed Order 1 surveys of those areas that will be disturbed for the life of the Project are included in **Attachments OP-5a and 5b**. Once the layouts of the individual mine units have been prepared, Order 1 surveys of those areas will also be completed and submitted with the mine unit report. **Table OP-2** shows the total acreage of expected disturbance associated with the various facilities at the Lost Creek Project. The table also includes the disturbance acreage by vegetation type and projected topsoil salvage. As discussed below, vegetation and topsoil disturbance are not considered to be equal. The assumptions about the extent of vegetation and topsoil disturbance for each type of project facility are included in **Table OP-2**, with additional detail for the mine units on **Figures OP-6a and OP-6b**. **Table OP-3** shows the acreage of expected disturbance, by township, range, and section, at any given time during the operations, i.e., it shows a 'running total' of disturbance which takes into account acres disturbed and reclaimed each year.

Topsoil removal will be supervised by a qualified person using the existing data and the detailed soil survey data. Per WDEQ-LQD requirements, topsoil will not be stripped from areas where there is minor disturbance, such as light-use-roads, monitoring stations, fences, and drill sites (except for the mud pits); however, topsoil will be removed in situations where it cannot be protected from erosion or loss of soil resource, such as trenches, mud pits, buildings. Topsoil will be stripped from a monitor well road (or portion of the road) if the road must be upgraded to maintain its integrity.

Stripping topsoil will result in the removal of 100% of the vegetation cover and associated root systems. By leaving topsoil in place where possible, even if the vegetation is disturbed, at least some of the vegetation is expected to survive, and the root system will help maintain the soils integrity thereby minimizing wind and water erosion. The subsoil at the site is composed of generally unconsolidated fines. When exposed to wind and rain this subsoil easily erodes and may contribute to increased sediment load in ephemeral drainages and decreased air quality. In addition, a particular concern at the

Lost Creek site is the preservation of sagebrush. In this case, retaining as much sagebrush as possible should help with respect to wildlife habitat.

## **OP 2.5.1 Short-Term Topsoil Protection**

LC ISR, LLC will continue the topsoil protection measures, currently in use for exploration drilling during the mine unit delineation drilling (generally on closer spacing than exploration drilling) and well installation. Those measures include topsoil removal and replacement from specific locations (e.g., mud pits), minimizing traffic routes, and general maintenance.

At drilling sites topsoil will be protected by:

- stripping topsoil from the mud pit locations;
- stockpiling that topsoil, separate from the stockpile of the deeper material excavated for the mud pit;
- using one mud pit at nested well locations, if possible;
- after drilling, allowing the mud pit to dry and replacing the deeper excavated material;
- replacing topsoil;
- surface preparation;
- reseedling with the permanent seed mix (**Table RP-3**) at the next appropriate season, or if necessary to prevent erosion prior to the next appropriate season, with a temporary seed mix (rigorous certified weed free annual cover crop such as sterile rye grass or millet).

For better protection, topsoil stripped from several adjacent locations, such as mud pits in a portion of a mine unit, may be consolidated into one stockpile rather than several smaller stockpiles. In addition, care will be taken to prevent drilling mud from flowing out of mud pits and to keep rig and support vehicle traffic to a minimum number of routes so topsoil compaction, tire ruts, and similar problems are minimized. All but the deep well drilling sites will be in use for only a few days. The deep well drilling sites may be in use for several weeks or a few months.

At staging areas (also called field lay-down areas) for construction equipment and materials, which may be in use for a few months, topsoil will be stripped and stockpiled in a manner to protect it from wind and water erosion. Traffic patterns to and from these areas will also be designated to reduce the risk of topsoil compaction. Once a staging area is no longer needed, all construction materials will be removed and the surface prepared for re-application of topsoil. The topsoil will then be replaced and the area

reseeded. For the purposes of estimating disturbance acreage, three staging areas are included in the estimate. The location of the staging area that will be in use for the life of the mine is shown on **Plate OP-2**. Two temporary staging areas may be needed in the future, each of which would be in use for a few months. Specific locations for these temporary staging areas will be included in the mine unit package for which they are needed.

Pipeline installation, such as the pipelines to and from wells and header houses, will require on the order of a few days or weeks for a given route. Topsoil will be windrowed to the side of the pipeline route during installation of the pipeline and then replaced and reseeded.

## **OP 2.5.2 Long-Term Topsoil Protection**

Topsoil will be stripped and stockpiled from those areas on which buildings or other facilities will be located for several months or the life of the Project, such as the Plant. The total area of the Plant and related facilities is expected to be about ten acres, including the two Storage Ponds. Up to five UIC Class I wells will be completed; and the total area for those wells and associated roads is expected to be about five acres. In total, the header house disturbance is projected to occupy less than one acre. Because topsoil removed from these locations will be stockpiled for some time, particular care will be used to ensure the stockpiles are protected from wind and water erosion, using measures such as toe ditches, temporary seeding, or other appropriate measures.

### ***OP 2.5.2.1 Topsoil Stockpiles***

All long-term topsoil stockpiles will be labeled and inspected periodically. The stockpiles will be sloped on all sides to a slope of no greater than 3:1 and will be reseeded with the approved permanent seed mixture (**Table RP-3**), minus shrub specie(s), at the next appropriate season after the stockpile is created. As an alternative, the topsoil pile may be seeded with a rigorous certified weed free annual cover crop such as sterile rye grass or millet in order to establish a cover on the topsoil pile. The approved native seed mixture will be planted before the next growing season. A seed drill will be used to the extent possible, however, when slopes dictate, seed may be broadcast and raked in by hand. Topsoil piles will generally be located north or east of roads so they do not serve as snow fences. Locations of the long-term stockpiles are noted in **Table OP-2a**.

### **OP 2.5.2.2 Facility Siting Criteria**

Site selection for permanent facilities will take account the protection of environmental features, such as vegetation and topsoil, as well as safety, cost, and efficiency of operation.

#### **Plant and Staging Area**

A full geotechnical engineering report will be performed prior to the construction of the Plant. This report will include engineering analyses on the representative site soils to determine the bearing capacity and potential settlement. The report will be used to determine the foundation type, depth, and allowable bearing capacity as well as provide guidance on preparation, earthwork, and cement type. The staging area will be located to minimize impacts to ephemeral drainages and the associated Lowland Sagebrush habitat .

#### **Mine Units**

The layout of each mine unit will take into account the protection of environmental features such as vegetation and topsoil. General design considerations include minimization of:

- the footprint of the mine unit structures;
- topsoil disturbance and compaction;
- disturbance of vegetation (especially varieties of vegetation with greater value to wildlife); and
- impacts to ephemeral drainages.

Safety, cost, and efficiency of operation will also be taken into account. The following specific criteria will be considered in mine unit layouts:

Header Houses – These will generally be located within the pattern area and on a gentle slope to minimize the amount of disturbance. Header houses will not be placed within a drainage channel or located such that a drainage channel must be altered. When possible, header houses will not be placed in areas with large sagebrush. Header houses will also be painted a neutral color that blends into the background.

Header House Roads – Roads will be designed with minimal width while maintaining safety. The road to header houses will generally be a drive-by roads, or will have a small cul de sac for vehicle turn-around, and will follow the shortest path possible through the mine unit or along the edge of the mine unit to minimize disturbance and ease future inspections and operations. Roads to header houses will

be stripped of topsoil with the soil placed in long-term stockpiles. The roads will be surfaced with gravel or other acceptable material with culverts placed as needed to ensure proper drainage.

Pipelines – When possible, pipelines will be located either through or along the edge of mine units. In order to make pipeline inspections easier, the pipelines will be placed near roadways to the extent possible. During construction, topsoil will be temporarily stockpiled. Upon completion of construction, topsoil will be laid back down and revegetated at the proper season. Lateral pipelines will be placed in a common trench to the extent possible to minimize the total amount of trenching required.

Power Lines – Like pipelines, power lines will generally be located near the edge of the mine unit to minimize disturbance and ease inspections and maintenance.

## **OP 2.6 Roads**

On-site access will be restricted through roads with appropriate signage, fences, gates, and security. Wherever possible, roads will follow existing two-track routes to minimize additional disturbance as much as possible. The primary access road will extend from the Sooner Road and the Wamsutter-Crooks Gap Road to the Plant. Secondary access roads will connect the mine units to the Plant and the deep wells to the Plant. Primary and secondary roads (as defined in WDEQ-LQD Guideline 4 Attachment III Section III(B)) will be stripped of topsoil. The topsoil depth has been determined by Order 1-2 soil surveys as presented in **Attachments OP-5a and 5b**.

The planned network of on-site primary and secondary roads is portrayed in **Figure OP-2a** and **Plate OP-1**. Roads will be constructed in accordance with BLM guidance found in “BLM Pocket Field Guide, Engineering Road Standards Excerpts from BLM Manual Section 9113.” **Figure OP-3c** illustrates general road designs based on BLM guidance. Specific secondary road locations will be included with each mine unit package when the precise locations for each road will be known. The SWPPP will also address mitigation of erosion potential due to road construction and use.

New roads may require culvert crossings to convey runoff to the native channels. Culvert design criteria will be based on WDEQ/LQD Guideline No.8 which factors the design life of the planned facility along with hydrologic return period or flood frequency probability. Culvert design for the main access roads will incorporate the 25-year, 6-hour flood event. Culvert design for the secondary roads, including the mine unit access roads will incorporate the 10-year, 6-hour flood event. The culvert sizing design criteria are presented in **Table OP-4**.



To minimize erosion potential at the culvert outlets, rock riprap aprons will be installed where appropriate. The culvert installations will generally be designed and approved by a Professional Engineer in accordance with current applicable design standards. Records of on-site road and culvert maintenance will be kept at the LC ISR, LLC office.

There will also be two-track (tertiary) access roads within the mine units during field construction and operation to access header houses and monitor wells. As noted in **Section OP 2.5**, these two-track roads will not be improved roads because of the limited traffic on them. However, specific travel routes will be designated within the mine units to reduce the potential for topsoil compaction and erosion.

The off-site transportation routes will be comprised of pre-existing BLM, county, state, and federal roads. If improvements to off-site roads are needed, permits will be obtained from the BLM or other appropriate agency, and all relevant guidelines will be followed.

## **OP 2.7    Vegetation Protection and Weed Control**

Vegetation will be temporarily impacted during the construction and operation of the Project. During construction, vegetation will be removed at some areas of the mine units, supporting facilities, and roads, although vegetation removal will be minimized whenever possible to protect topsoil, preserve wildlife habitat, and improve re-vegetation success. The acreages of the two vegetation communities identified on-site, and the percentage of disturbance of those communities are listed in **Table OP-2**. To stabilize soils and support the ecosystem, vegetation will be established at disturbed areas as soon as conditions allow, using the methods described in the Reclamation Plan (**Section RP 4.5**).

During operations, mine units and supporting facilities will be accessed using a defined road network. Employees will be trained to minimize the impact to vegetation by staying on defined roadways and reducing the amount of vehicle traffic to the extent possible. **Figure OP-6b** illustrates the area of potential topsoil and therefore vegetation disturbance. SWPPP inspections will include a check of active work areas to insure employees are minimizing impacts to vegetation, and any problems noted during inspections will be brought to the attention of the area supervisor for correction.

Weed prevention measures following BLM guidelines and recommendations will be implemented (BLM, 1996 and 2004c).

## OP 2.8 Wildlife Protection and Monitoring

LC ISR, LLC will implement protection and monitoring plans to avoid, minimize, rectify, and better understand Project-related impacts to wildlife. LC ISR, LLC's Wildlife Protection Plan and Wildlife Monitoring Plan are included in **Attachment OP-6**. Approval letters from the United States Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department (WGFD) are included in **Attachment OP-6**.

Wildlife protection measures described in **Attachment OP-6** include surface activity restrictions during certain times of year in the areas surrounding sage grouse leks and raptor nests. Additional protection measures include: the siting of roads and utility rights of way; speed limits; use of fencing that allows or prevents passage of wildlife, as appropriate; screening and/or deterrents to prevent wildlife injury or mortality; transmission line design and/or burial; employee education and awareness training; and habitat reclamation, including use of native seed mixes.

Sage grouse, raptors, and Migratory Birds of High Federal Interest (MBHFI) are the primary wildlife groups of concern in the Permit Area. Mitigation measures planned for sage grouse, raptors, and MBHFI are described in detail in **Attachment OP-6**. Sage grouse mitigation measures were adapted from the Core Population Area Stipulations (WGFD, 2008) to be practical in an ISR environment. Sage grouse mitigation measures include, but are not limited to: project siting; minimizing/clustering areas of disturbance; activity restrictions; and minimizing noise disturbance. Raptor mitigation measures include: limiting access to areas surrounding active raptor nests; activity restrictions; and construction specifications. MBHFI mitigation measures include: the consideration of breeding habitat when siting project disturbance; minimizing disturbance during nesting and breeding season; and the use of netting and/or deterrents for large fluid-holding structures, if necessary, to prevent mortality.

Wildlife monitoring within and near the Permit Area will occur on an annual basis for the life of the Project. The monitoring results will be reported annually, unless circumstances warrant contacting agencies with new information (e.g., new raptor nesting location). Monitoring for big game, sage grouse, raptors, lagomorphs, MBHFI, non-game birds, non-game animals, and threatened and endangered species is described in detail in **Attachment OP-6**.

## **OP 2.9 Prevention and Remediation of Accidental Releases**

The significant criteria to reduce the potential for accidental releases are: appropriate engineering design, construction, and maintenance; development and implementation of the SWPPP, covering topics such as inspections, notification procedures, and response actions; and on-going employee training in the SWPPP and general health and safety procedures. The facilities which will require specific attention are outlined below.

### **OP 2.9.1 Pipelines, Fittings, Valves, and Tanks**

The most common accidental release from ISR operations is from breaks, leaks, or separations in the piping that transfers the lixiviant solutions between the Plant and the mine units. Failures of fittings and valves at the wellheads, in the header houses, at tanks, and other junctions are also a common cause of accidental releases at ISR operations. All the Plant equipment is specified and designed for the life of the Project, and equipment for the mine units is similarly designed. Routine review of functional data for pumps by operational staff will determine the need for maintenance. Visual inspection of pipelines, valve stations, powerlines, header houses, wellheads, fences, roads and culverts is the daily responsibility of all mine site staff. Particularly, it is the responsibility of the mine unit operators to inspect these items on a routine basis.

Pipelines will generally be buried from 48 to 72 inches below surface, minimizing the possibility of freezing in adverse weather and of being damaged by surface traffic. In general, piping to and from the Plant and the mine units and within the mine units will be constructed of high density polyethylene (HDPE) with butt-welded joints or the equivalent.

All pipelines, associated fittings and valves, and any tanks that will be under pressure during operations will be pressure tested before use. Flow through the pipelines will be monitored and will be at a relatively low pressure. Pressurized tanks will also be monitored for performance within specified limits. Sensors wired to automatic alarms and pipeline shutoffs will be installed to detect significant changes in flow rates or pressures in the pipelines and tanks to help prevent significant releases. Section OP 3.6.4 contains additional information about leak detection measures in the mine units.

As per standard industry practice, any spill of mining solution greater than 420 gallons or any spill of mining solution which enters a water of the state will be verbally reported to the WDEQ-LQD and WDEQ-WQD within 24 hours. A written report to both agencies

will follow within seven days and explain the size, location, cause of the spill and steps taken to prevent reoccurrence.

Within 24 hours of the discovery of a lixiviant spill, the Radiation Safety Officer, or their trained designee, will characterize the location, size, and potential radiological dose. The lateral extent of the spill will be mapped with the aid of a Global Positioning System (GPS) unit or by hand using reference points if the GPS unit is unavailable. If a spill is mapped by hand it will be remapped using a GPS unit as soon as possible. The GPS map, due to its high level of accuracy, will be used as the permanent record. The vertical extent of the spill will be measured by probe or by digging. The depths will be recorded on the map. The Radiation Safety Officer, or their trained designee, will determine the potential radiological dose to the maximally exposed individual by either taking actual radiological measurements or by performing calculations based on the known radiological content of the lixiviant. The potential dose will be compared against Nuclear Regulatory Commission regulations to determine if site remediation is necessary.

If site remediation is required due to elevated potential radiological dose, the affected soil will be removed and sent to a landfill licensed to receive such material. The Radiation Safety Officer, or their trained designee, will be consulted before any remediation efforts to determine what, if any, radiological issues must be mitigated to ensure protection of the public and employees. Before backfilling the site with soil, the Radiation Safety Officer, or their trained designee, will ensure remediation efforts have been successful. Topsoil will be applied to the area and the area will be smoothed and revegetated.

If SAR values dictate soil remediation, an evaluation will be performed to see if soil amendments can be added to correct the problem. If soil amendments cannot be used to correct the problem then the soil will be removed and sent to a landfill licensed to receive such material. Measurements of the remaining soil will be taken to ensure the remediation was adequate. Upon determining that soil removal is sufficient, the resulting hole will be backfilled with clean soil, covered with topsoil, and revegetated.

Each spill report will be documented in a spill file that will be maintained until the facility is decommissioned and the permit to mine is cancelled. Each annual report submitted to the WDEQ-LQD will contain a map showing the location and date of each reportable spill along with a table characterizing the date, volume, area, depth, contamination level, sampling locations and remediation efforts for each reportable spill.

## **OP 2.9.2 Wells**

Casing and coupling failures in wells, either at the surface or in the subsurface, may release production or injection fluid. Monitoring of well construction, pressures in the

ISR system, and appropriate mine unit balancing, as well as routine mechanical integrity tests (MITs) of wells, will help prevent casing and coupling failures. Down-hole casing repair (with follow-up MIT) is generally sufficient to correct the problem; but well abandonment and replacement and delineation drilling may be necessary to address more serious situations.

### **OP 2.9.3 Buildings**

The buildings of most concern with respect to accidental releases include the header houses, the Plant, and the pumphouse(s) for the UIC Class I well(s). Header houses and the pumphouse(s) are not considered as potential sources of pollutants during normal operations, as there will be no liquids stored within them. However, in the event of a pipeline or pump failure in a header house or pumphouse, the impact of that failure will be reduced by sumps equipped with fluid detection sensors wired to automatic alarms and shutoffs. Similarly, the Plant will be constructed with concrete containment curbing and sumps to allow for containment and recovery of any releases within the Plant.

### **OP 2.9.4 Storage Ponds**

Two 160 foot by 260 foot storage ponds are proposed for the facility, as shown in **Plate OP-1**. The ponds will be constructed at the site, in accordance with standards of the NRC and the Wyoming State Engineer's Office (WSEO), and equipped with leak detection systems. The primary purpose of the ponds is to allow for shut down of the UIC Class I wells for maintenance, such as Mechanical Integrity Tests (MITs), or repair while the Plant remains in operation. The total pond capacity will be designed to accommodate two weeks of Plant operation, which would generate 60 gallons per minute (gpm) of liquid waste at nominal operating capacity. The ponds are also redundant in capacity allowing for maintenance of the ponds in the event of a liner problem.

A permit from the State Engineer is required prior to construction of the ponds. Maps and plans will be submitted with the application including detailed cross sections of the embankment, liner and leak detection system. The proposed pond designs will comply with the WSEO Safety of Dams program.

The estimated water quality in the ponds is included in **Table OP-5**. The pond water quality will be analyzed for pH, alkalinity, conductivity, TDS, chloride, sodium, sulfate, radium-226, selenium, arsenic, and natural uranium quarterly (four times a year) and whenever a process change may result in a significant change in water quality.

Pond specifications are included in **Attachment OP-7**. The specifications will; submitted to the WSEO for construction approval. After receipt of approval, approximately 5000 cubic yards of topsoil will be stripped and stockpiled followed by excavation and construction of the embankment. Road base will be deposited and compacted next as the pond base. The base will then be covered by an impermeable liner. The liner thickness will be about 40 mils, depending on final geotechnical information and engineering design. A leak detection system consisting of 4-inch slotted pipe and sand is installed next. The slotted pipe will be tied into "dry" wells around the perimeter of the ponds which will be routinely monitored to determine if the liner is leaking. Another liner, of similar thickness as the lower liner, is then placed over the leak detection layer and "keyed" in to the ground surrounding the embankments.

The maximum fluid depth is proposed to be four feet with three feet of freeboard. Two ponds will be constructed measuring 160 feet by 260 feet each. The purpose of two ponds is to allow for complete removal of fluid from one pond to the other in the event of a leaking liner.

It is possible that a storage pond could fail, either in a catastrophic fashion or as a result of a slow leak. In addition, a pond could overflow due to excess inflow from the Plant or excessive precipitation. All of these possibilities will be addressed through periodic monitoring, including daily, weekly, quarterly, and annual inspections required by NRC.

To help maintain the integrity of the ponds by reducing liner exposure to sun, wind, and freezing temperatures, water will be kept in the ponds at all times by diverting a portion of the water that would normally go to the UIC Class I wells. During operations, the leak detection standpipes will be checked for evidence of leakage. Visual inspection of the pond embankments, fences and liners and the measurement of pond freeboard will also be performed during normal operations. The criteria for determining if a leak has been detected include both water level and water quality criteria. If there is an abrupt increase in the water level in one of the leak detection standpipes or if six or more inches of water are present in one of the standpipes, the water in that standpipe will be analyzed for specific conductance. If the specific conductance is more than half the specific conductance of the water in the pond, the water will be further sampled for chloride, alkalinity, sodium, and sulfate. In addition, the liner will be immediately inspected for damage and the appropriate agencies will be notified. Upon verification of a liner leak in one of the ponds, the water level in that pond will be lowered by transferring the contents to the other pond and/or to the UIC Class I wells.

With respect to pond overflow, SOPs will be such that neither pond is allowed to fill to a point where overflow is considered a realistic possibility. Since the primary disposal method will be the UIC Class I wells, the flow rates to the pond are expected to be minimal; and there will be sufficient time to reroute the flow to another pond, or to

modify Plant operations to reduce flow for the critical period. If precipitation is excessive, the freeboard allowance of the ponds will be designed to contain significant quantities of precipitation before an overflow occurs. The freeboard allowance will also reduce the possibility of water blowing over the pond walls during high winds.

## **OP 2.9.5 Fuel Storage Areas**

Fuel storage areas will be above ground and will be checked weekly for evidence of spills, leakage, or other problems.

## **OP 2.10 Air Monitoring**

Climate data collection from the on-site air monitoring station will continue. A separate application to the WDEQ-Air Quality Division has been submitted for an Air Quality Permit. Once approved, a copy of the AQD permit will be included as **Attachment OP-1** of this document.

## **OP 2.11 Groundwater Monitoring**

The groundwater monitoring critical to each mine unit operation is discussed in detail in **Section OP 3.6.4**. In addition, monitoring of select wells will be conducted in order to provide information on the effects for the Permit Area as a whole. The groundwater monitoring program is described in more detail in **Attachment OP-8** to this document.

### **OP 2.11.1 On-Site Wells**

Water level measurements will be taken quarterly in the 27 wells that were used to establish baseline conditions within the Permit Area as described in **Appendix D6**. Other samples may be collected from these wells depending on the development of mine units near or encompassing the wells.

### **OP 2.11.2 Off-Site Wells**

The operational BLM stock wells near the Permit Area (**Appendix D6**) will be sampled on a quarterly basis with BLM's consent. Groundwater samples will be collected in accordance with the protocols contained in LC ISR, LLC's Environmental Manual. At a minimum, the samples will be analyzed for natural uranium and radium-226.

## OP 2.12 Exploration and Delineation Drilling

Exploration drilling will be carried out to locate additional mineral reserves throughout the property. A systematic effort to locate all mineable mineralization will optimize the mining process and prevent resources from being stranded at the end of mining. Approximately 470 exploration holes will be drilled throughout the site over the life of the mine. However, the bulk of the exploration drilling will likely occur during the first three years so the mining can efficiently recover all known resources.

Exploration drilling will be conducted by truck-mounted water well-type rotary drill rigs with accompanying water trucks, pipe trucks, logging trucks and personnel vehicle. General specifications for the drill rig(s) and support vehicles are as follows:

1. Three - drill rigs Truck mounted (rubber tired), mud-rotary water well rig; 1500 rating; GVW: approx. 60,000 lbs;
2. Three - Water Trucks: 70-95 bbl capacity (3,000-4,000 gal) GVW: approx. 55,000 lbs (loaded);
3. Three - pipe trucks: GVW: approx. 25,000 (loaded);
4. One - backhoe: rubber-tired;
5. Three - personnel vehicles: 4x4 Pickup; and
6. One - logging truck: Ford F550

Due to the low relief of the project area and the use of a drilling rig with hydraulic leveling jacks, little or no leveling or alteration of surface topography will be required during drilling operations. Therefore, leveling for rig location pads will be rare and minor. Significant surface disturbance will be limited to the digging of a mud-pit for each drill hole. 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. Measurements of past similar drilling activities on the project have shown the surface disturbance per drill hole to average 0.025 acre (approximately 33' x 33'). Disturbance due to mud pits and drill pads is therefore estimated at 11.75 acres [470 sites x 0.025 acres/site]. Surface disturbance will be reclaimed as soon as possible in order to minimize the total amount of land disturbed at any given time. All mud-pits will be fenced while they are open and contain drilling liquid.

During exploration drilling an effort is made to stay on existing two track roads. However, depending on the availability of pre-existing roads and the location of the drill sites, some new two track roads may be generated. Assuming 0.5 acres of new roads are



generated per year per section of drilling approximately seven (7) acres of new two track roads will be created. These roads will be reclaimed using the methods described in the Permit to Mine Application as soon as their useful life has ended.

Drill rigs will use native groundwater supplied from wells within the permit area. Drilling fluids may consist of bentonite based muds, polymers, inert lost circulation material, and minor amounts of soda ash to soften drill water. No hazardous chemicals will be used during exploration drilling.

Exploration holes will be backfilled using in a grout mixture which meets WDEQ requirements. The grout will be tremmied into the bottom of the hole to prevent bridging. The grout level will be brought to the ground surface and allowed to settle for at least two days before topping off to approximately 17 feet below the ground surface. Next, two bags of bentonite chips will be added to the hole followed by a spider plug and then a bag of cement or concrete. The final two feet of the hole will be backfilled with native soil.

## **OP 3.0 MINE UNIT PROCESSES, INSTRUMENTATION, AND CONTROL**

The portion of the Permit Area underlain by uranium ore, that is economic to recover, has been divided into mine units for scheduling purposes and for establishing baseline data, monitoring requirements, and restoration criteria. Each mine unit will consist of a reserve block covering about 50 acres and represents an area LC ISR, LLC expects to develop, produce, and restore as a unit. Six mine units are currently planned in the Permit Area. Typically, two or three mine units may be in production at any one time with additional mine units in various states of development and/or restoration.

The mine units will be subdivided into operational areas referred to as header houses; and each mine unit may include as many as ten header houses. Each header house will be designed to accommodate the well controls and distribution plumbing for approximately twenty production wells and the associated injection wells (usually about 40 injection wells). With the Plant operating at a nominal flow rate of 6,000 gpm, approximately 180 production wells and 360 injection wells will be in operation.

## OP 3.1 Mine Unit Chemistry

During operations, barren lixiviant will enter the formation through the injection wells and flow to the production wells. The carbonate lixiviant will be made from varying concentrations and combinations of sodium carbonate, sodium bicarbonate, carbon dioxide, oxygen, and/or hydrogen peroxide and antiscalant added to the native groundwater. The combined carbonate/bicarbonate concentration in the injected solution typically will be maintained at less than five grams per liter (g/L), and the hydrogen peroxide and/or oxygen concentration typically will be less than one g/L. These limits help reduce the possibility of “gas lock” in the formation, which reduces ISR efficiency.

The carbonate/bicarbonate lixiviant is used because of its selectivity for uranium and minor reaction with the gangue minerals. The primary chemical reactions expected in the aquifer are provided in **Figure OP-7**. When the lixiviant is injected into the production zone, the dissolved oxidant reacts with the uranium mineral and brings the uranium to the  $U^{+6}$  oxidation state. The uranium then complexes with some of the carbonates in the lixiviant to form a uranyl dicarbonate ion  $UO_2(CO_3)_2^{-2}$  and/or a uranyl tr carbonate ion  $UO_2(CO_3)_3^{-4}$ , both of which are soluble and stable in solution. A small portion of the radium content will also be mobilized along with the uranium. Depending on the conditions within a given Sand, other metals such as arsenic, molybdenum, selenium, and/or vanadium, may also be mobilized.

The chemical reactions which mobilize the uranium will continue as long as the lixiviant is being injected into the orebody. Injection and production at each header house, and eventually each mine unit, will be discontinued once uranium recovery is no longer deemed economical, and restoration will be started (**Section RP 1.0**).

## OP 3.2 Mine Unit Design

Continued delineation drilling in the Permit Area will better define ore resources for design of mine units. A mine unit will consist of patterns of production and injection wells (e.g., the pattern area) within a ring of monitor wells to detect horizontal excursions of lixiviant away from the mineralized zone. Monitor wells will also be completed in overlying and underlying aquifers as necessary to detect vertical excursions. Inside the pattern area, monitor wells (which may double as production or injection wells) will also be completed in the mineralized zone to provide information on the mining process.

The Project proposes relatively small mine unit areas, each containing approximately 1.2 million pounds of resources, within the HJ Horizon. In the simplest scenario, where only one ore quality sand is present in a Horizon, the production, injection, and monitor wells will be installed in that sand. Where more than one ore quality sand is present in the Horizon, e.g., the MHJ and LHJ Sands, the sands will be produced concurrently, with each Sand having its own set of production and injection wells.

The wells in the perimeter monitor ring are designed so the open intervals correspond to the depths of all the ore Sands planned for mining in the area adjacent to that monitor well. Observation wells may be installed between the pattern wells and the perimeter monitor wells for early detection of solution migration. The observation wells would be recompleted to track the specific sand layer being mined adjacent to that well. The observation wells installed will be used only for internal tracking and control and will not be considered as points of compliance for water quality purposes. Section OP 3.6.4 contains additional details regarding mitigation of excursions.

The mine units as currently projected are shown in **Figure OP-2a**. The size and location of the mine units will be modified as needed based on final delineation of the ore deposit, performance of any prior mine units, and development requirements. Prior to installation and operation of any new mine unit, a Hydrologic Test Proposal will be submitted to WDEQ-LQD for review and approval. Following completion of the activities described in the proposal, a Hydrologic Test Report will be submitted to WDEQ-LQD for review and approval. These documents will detail:

- Aquifer conditions in the mine unit, including factors such as ore sand thickness and horizontal and vertical transmissivity;
- Monitor well locations and depths;
- Pattern areas and depths;
- Baseline water quality data for the mine unit, including the WDEQ-Water Quality Division (WQD) water use classification for the pattern area and the monitor wells;
- The impact of any faulting on the mine unit operation, including information on the magnitude of displacement along the section of the Fault within or near the mine unit, because the displacement varies across the Permit Area, and the degree of hydrologic connection along that section of the Fault;
- The potential interference, and measures that will be taken to reduce any adverse impacts from interference, between the new mine unit and any mine units that are in development, operation, and restoration; and
- Other information necessary for efficient operation of the mine unit.

In addition, prior to operation of any new mine unit, LC ISR, LLC will obtain an aquifer exemption from the US Environmental Protection Agency (EPA) for the proposed mine unit, along with a water use reclassification by WDEQ-WQD. The request to EPA for the aquifer exemption must come from WDEQ; however, LC ISR, LLC will provide the supporting information for the request if asked to do so by WDEQ.

Drilling practices, including site preparation/reclamation and drill hole abandonment, currently in use by LC ISR, LLC will continue to be used. Widely adopted industrial practices are followed, and agency consultations were made on drilling site preparation/reclamation and proper drill hole abandonment. LC ISR, LLC has made an effort to research existing information on historic drilling operations in the Permit Area and, if necessary, properly abandon remnant drill holes or wells. If previously unknown drill holes or wells are detected during the mine unit installation and testing, the newly found drill hole or well will be abandoned in accordance with the procedures currently in use, which are outlined in **Section RP 3.1**, respectively.

### **OP 3.2.1 Injection and Production Well Patterns**

The injection and production well pattern design will be based on conventional five-spot patterns, modified as necessary to fit the characteristics of the orebody. The conventional five-spot pattern is four injection wells surrounding a central production well. The cell dimensions will vary depending on the characteristics of the formation and the orebody; but the injection wells are expected to be between 75 and 150 feet apart. An illustration of a typical solution flow pattern is included as **Figure OP-3b**.

The pattern wells will be constructed, so they can be used as either an injection well or a production well. This design allows changes in the solution flow paths to improve uranium recovery and to restore the groundwater in the most efficient manner. Typical injection and production well completions are illustrated in **Figures OP-8a** and **OP-8b**. (**Figure OP-9** displays a typical monitor well construction, as discussed below.)

Where more than one ore quality sand is present in the Horizon, e.g., the MHJ and LHJ Sands, the sands will be produced and restored concurrently, with each Sand having its own set of production and injection wells. Wells will not be completed into multiple Horizons (FG, HJ and KM). Separate pattern and monitor wells will be installed for each Horizon if/when they overlap, provided a Permit is granted to mine in Horizons other than the HJ. The well completion technique is described further in **Section OP 3.3**.

## **OP 3.2.2 Monitor Well Locations**

Monitor wells will be completed within the Horizon containing the ore-bearing Sands to be mined (e.g., the HJ Horizon) and in overlying and underlying Horizons, if aquifers occur in those Horizons. The monitor wells in the Horizon containing the ore-bearing Sands will include perimeter monitor wells around each mine unit and monitor wells within the production zone of each mine unit. **Figure OP-3b** illustrates a generic mine unit layout and includes the spatial distribution of the monitor well ring.

### ***OP 3.2.2.1 Perimeter Monitor Wells***

When only one ore Sand is present, perimeter monitor wells will be installed for the detection of excursions. In more complex scenarios, where more than one ore-bearing Sand is present and the lateral extents of the Sands differ, the perimeter monitor wells may be supplemented with observation wells. These observation wells are in-house tools to assist in pattern balance and will not be points of compliance.

These monitor wells will be located in a perimeter ring around the mine unit. Distances from the perimeter monitor wells to the injection/production pattern wells in each mine unit are anticipated to be on the order of 500 feet. The distance between each of the monitor wells in the ring is also anticipated to be on the order of 500 feet. The actual distances will be based on the aquifer characteristics of that mine unit to ensure any excursion can be detected in a timely manner.

The completion interval of each monitor well will target the production zone adjacent to that well. Where there are adjacent pattern wells in more than one ore-bearing sand (UHJ, MHJ, LHJ), the corresponding monitor wells will be completed to monitor all of the targeted sands and will encompass all of the ore-bearing Sands in the production horizon.

The sampling frequency and parameters to establish baseline conditions and Upper Control Limits (UCLs) for these wells and to detect excursions are described in **Section OP 3.6.4**.

### **OP 3.2.2.2    *Observation Wells***

Where two or more ore-bearing Sands will be mined in a Horizon, observation wells may be installed between the pattern area and the perimeter monitor wells for enhanced control of the production zone and possible early detection of solution migration. The number, location, and depths of any observation wells will be based on the characteristics of each mine unit. These wells may be completed sequentially as mining progresses from the deepest to the shallowest Sand in the Horizon. The observation wells installed will be used only for internal tracking and control and will not be considered as points of compliance for water quality purposes. Monitoring parameters and frequency will depend on the purpose for which the observation well was installed.

### **OP 3.2.2.3    *Production Zone Monitor Wells***

Production zone monitor wells will be installed inside the pattern area to provide information on baseline conditions and on progress of recovery and restoration. The completion interval of a production zone monitor well will target the mineralized zone(s) adjacent to that well. The number of production zone monitor wells in a given mine unit will be based on the size of that pattern area and the density of production and injection wells in the pattern area. Most production zone monitor wells will also be used as injection and/or production wells. Sampling occurs only during baseline to aid in determining baseline parameters of the mine unit. The wells will be utilized again after mining is complete to monitor restoration progress.

### **OP 3.2.2.4    *Overlying and Underlying Monitor Wells***

Overlying and underlying monitor wells will also be completed in the aquifers immediately above and below the uppermost and lowermost mineralized zone, respectively. Overlying and underlying wells will be installed at a density of about one well for each four acres of mine unit area. The actual density will be based on the aquifer characteristics of the mineralized zone and the overlying or underlying aquifer; and specific locations may be targeted depending on the thickness and continuity of the shale separating the mineralized zone from the overlying or underlying aquifer.

If conditions are encountered at a prospective mine unit, such that vertical confining layers are very thin or absent, then the local stratigraphy will be evaluated and the mine unit operations and monitoring will be adjusted for the situation. These adjustments may include placement of the overlying or underlying monitor wells in different stratigraphic horizons within the mine unit, rather than in the separate overlying or underlying aquifer.

Other adjustments could include additional operational controls, such as localized higher production rates, to help ensure none of the mining fluids migrate from the mineralized zone.

Installation of monitor wells into the shallowest water table in areas located immediately adjacent and down gradient of header houses and other similar mine unit facilities was considered. Such wells could be used to establish ambient groundwater quality and to monitor for mining related impacts. The shallowest water table is approximately 123 feet below surface and is overlain by alternating very fine to coarse grain sandstones, mudstone and siltstone layers (see **Figure D5-2b**). Considering the geologic environment, it is highly improbable that any surface activities could impact the shallowest water table. Consequently, no monitoring is proposed at that level.

### **OP 3.3 Well Completion**

Monitor, production, and injection wells will be drilled to the target completion interval with a rotary drilling unit using native mud and a small amount of commercial drilling fluid additive for viscosity control. The well will then be cased and cemented to isolate the completion interval from all other aquifers. The cement will be placed by pumping it down the casing and forcing it out the bottom of the casing and back up the casing-drill hole annulus.

The well casing will be polyvinyl chloride (PVC) pipe. 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 PVC casing joints normally have a length of 20 feet each. Each connection is sealed with an o-ring and spline lock. This configuration provides a seal without the installation of screws to hold each joint together and has been proven effective at other ISR facilities. Casing centralizers, located every 40 feet, are run on the casing to ensure it is centered in the drill hole and that an effective cement seal is provided.

The purpose of the cement is to stabilize and strengthen the casing and seal the well annulus to prevent vertical migration of solutions. The volume of cement used is the calculated volume required to fill the annulus and return cement to the surface. In most cases, the cement returns to the surface, at least initially. However, in some cases, the drilling may result in a larger annulus volume than anticipated and cement may not return to the surface. In these cases, the upper portion of the annulus will be cemented from the surface. In the majority of cases, where the cement fails to return to surface, the reason will be a washout or a casing failure. In the event of a casing problem, the well will not

pass the MIT. In all cases, wells are required to pass an MIT before operations approval. This will ensure that there is sufficient integrity to allow the use of the well in handling lixiviant.

After the cement has set, the well will be completed. This involves under-reaming the desired completion interval to a diameter of 9.5 to 11 inches, depending on the tool configuration and the diameter of the original annulus. The well is then air-lifted for about one hour to remove any remaining drilling mud and/or cuttings. A swabbing tool is frequently run in the well for final clean-up and sampling. If sand production or hole stability problems are expected, a slotted liner, wire-wrapped screen or similar device may be installed across the completion interval to minimize the problem.

Typical well completions are illustrated in **Figures OP-8a, OP-8b, and OP-9**. Completion data for installed wells will be submitted to NRC and WDEQ in the next Annual Report following the completion of the wells.

## **OP 3.4 Well Integrity Testing**

After a well (injection, production, or monitor) has been completed and before it is made operational, an MIT of the well casing will be conducted. An MIT will also be conducted on any injection well that has been damaged by surface or subsurface activity or that has had a drill bit or cutting tool inserted in the well. Any well with evidence of suspected subsurface damage will require an MIT prior to the well being returned to service. In addition, an MIT of each injection well will be done once every five years unless an alternate schedule has been reviewed and approved by WDEQ-LQD.

In the integrity test, the bottom of the casing adjacent to or below the confining layer above the zone of interest is sealed with an inflatable packer or other suitable device. The top of the casing is then sealed in a similar manner or with a cap, and a pressure gauge is installed to monitor the pressure inside the casing. The pressure in the sealed casing is then increased to a specified test pressure and will maintain 95 percent of this pressure for ten minutes to pass the test. If any well casing that fails the test cannot be repaired, the well shall be plugged and abandoned.

If there are obvious leaks or the pressure drops by more than five percent during the ten-minute period, the seals and fittings will be reset and/or checked and another test will be conducted. If the pressure drops less than five percent, the well casing is considered to have demonstrated acceptable mechanical integrity.

If a well casing does not meet the mechanical integrity criteria, the casing will be repaired and the well re-tested or the well will be properly plugged within 120 days of the failed



test. If a repaired well passes the MIT, it will be employed in its intended service. Also, if the well defect occurs at depth, the well may be plugged back and re-completed, within 120 days of the failed test, for use in a shallower zone, provided it passes an MIT after re-completion. If an acceptable test cannot be obtained after repairs, the well will be plugged within 120 days of the failed post-repair test. The documentation for the MITs will include the well designation, date of the test, test duration, beginning and ending pressures, and the signature of the individual responsible for conducting the test. Results of the integrity tests shall be maintained on-site and will be available for inspection by NRC and WDEQ. A list of wells receiving an MIT, the dates of those MITs, and the designation of whether those wells passed or failed will be reported as part of the Quarterly Report to WDEQ.

### **OP 3.5 Mine Unit Piping and Instrumentation**

Each injection well and production well will be connected to a specified injection or production manifold in a header house. The manifolds will route the injection solutions and production fluids to and from the Plant. Flow meters and control valves will be installed in the individual well lines to monitor and control the individual well flow rates and pressures.

Mine unit piping will be HDPE, PVC, stainless steel, or equivalent. The mine unit piping will typically be designed for an operating pressure of 150 pound force per square inch gauge (psig); and it will be operated at pressures equal to or less than the design pressure. The typical pressure rating, for both the PVC and HDPE piping materials used, is between 160 and 200 psig. If a higher design pressure is needed, the pressure rating of the materials will be evaluated and, if necessary, materials with a higher pressure rating will be used.

The individual well lines and trunk lines to the Plant will be buried to prevent freezing. The use of header houses and buried lines has been proven an effective method of protecting the pipelines at other ISR facilities with similar weather conditions to those at the Permit Area.

Instrumentation systems will be key to monitoring and maintaining the multiple processes in the field (e.g., the mine units) and in the Plant. Plant and Field Operators will use the data and information provided by the instrumentation systems to better manage the work areas. Operator control of key elements will be maintained; and instrumentation will assist in controlling pump operating levels and valve operation. When operating parameters move outside a specified normal operating range, it will cause an alarm that notifies the operator to initiate corrective action to alleviate the

problem. Indication of abnormal operational conditions will initiate automatic shutdown of the related equipment. The key design component of the system will be to minimize the risk of uncontrolled releases of leaching solutions or other solutions and provide maximum safety and protection to the operators, other site personnel and the environment.

## **OP 3.6 Mine Unit Control**

The techniques, that will be employed to ensure each mine unit is operating as efficiently as possible, will include monitoring of: production and injection rates and volumes, manifold pressures, water levels, and water quality. These criteria may be evaluated at more than one level (e.g., by mine unit, by header house, by pattern, or by well) depending on the specific criteria.

The most basic aspect of mine unit control is the bleed system, e.g., overproduction. The bleed system will be used so the volume of injection fluid will be less than the volume of production fluid in a mine unit. The overproduction will result in an inflow of groundwater into the pattern area and help reduce the possibility of an excursion. The anticipated bleed rate is 0.5 to 1.5 percent. Overproduction will be adjusted as necessary to control the distribution of the lixiviant within the production zone.

### **OP 3.6.1 Header House Control**

Within each mine unit, injection and production balance will be monitored in well groupings related to header houses. 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.

The hydrologic balance is determined by summing the flow rates of the injection and production wells separately and controlling the rates such that each header house is receiving the same injection volume per unit time as is being produced, minus the bleed volume. In a stable operating mine unit, the well flows observed will only fluctuate minimally from day to day. Appropriately designed flow meters will be used to measure the individual flow rates of each well. As a redundant control measure, flow meters will also be installed on the main pipelines entering and exiting each header house. The

individual well flows will be monitored and adjusted daily and the pipeline meter will be monitored continuously with the instrumentation system.

All production and injection headers will have pressure gauges; and the pressures will be recorded daily. Pressure switches will be installed on the production wells and injection header in each header house. These switches will be designed to detect a piping failure and to shut down power to the production wells. In normal operation, when one header house has an event that trips the power to that house, the pressure change is noticeable throughout the system and other header houses will alarm the operator and subsequently shutdown.

The pressure information on the injection well headers is necessary to help ensure that the injection pressures do not exceed the formation fracture pressure or the rated pressure for the well casing. Regional information and historical operational practices indicate that the minimum pressure that could initiate hydraulic fracturing is 0.70 psi per foot of well depth. Further, injection pressures also will be limited to the pressure at which the well was integrity tested. During mine unit operations, injection pressures shall not exceed the MIT pressures (see **Section OP 3.4**) at the injection wellheads. Notwithstanding this restriction, the maximum injection operating wellhead pressures shall not exceed 90 percent of the production zone fracture pressure or 95 percent of the American Society for Testing and Materials maximum recommended operating pressure at 75°F for the well casing, whichever is less.

The oxygen system in each header house will have solenoid operated valves that will close in the event of a power loss or injection flow shutdown. This will prevent the continued delivery of oxygen to the pipeline when the field is not operating. Other operational safety features include, but are not limited to, a set of wet contacts or a conductivity probe installed in the sump in each header house to detect fluids on the floor of the house. If fluids are detected, the shunt will be tripped and electrical power to the production wells will be turned off. An audible and visual alarm system will be activated. Remote shutoff of the well pump power supply will also be available at each of the header houses.

### **OP 3.6.2 Pattern Control**

Balanced patterns are necessary to achieve optimum production and to minimize flare of the lixiviant from the pattern areas. Increased flare from the patterns reduces production efficiencies and increases the effort required to restore the groundwater after production is concluded. Balanced patterns are also necessary to prevent excursions of production fluids from the mine units.

Patterns will be balanced by adjusting the injection and production flow rates to maintain production flow rates equal to injection rates plus the bleed rate. There are two types of operational constraints encountered in mine unit balancing: injection limitations and production limitations. Injection-limited patterns have more available production capacity than the injection wells can accept. This situation usually arises due to plugging of injection wells and can be remediated by servicing the injection wells. Production-limited patterns have a greater injection capacity than the production well can effectively produce.

### **OP 3.6.3 Projected Water Balance and Water Level Changes**

In addition to evaluating the operation of each mine unit individually, the overall water balance and water level changes will be taken into account to ensure all aspects of the operation (e.g., ISR and restoration) are being conducted as efficiently as possible. The overall water balance is based on the potential pumping and injection rates at the mine units and the capacity of the Plant and Class III UIC wells for production and for restoration. The water level changes, including both drawdown and mounding from production and injection, respectively, will be evaluated to minimize interference among the mine units and to determine cumulative drawdown.

#### ***OP 3.6.3.1 Water Balance***

The water balance requirements for the facility over various life-of-project operational modes are presented in this section for the purpose of discussing the correlation of the capacity requirements of the production and restoration schedules with the water/waste water treatment and disposal systems. The water balance discussion, figures and tables included in this section consider the production and restoration phases to be operating at maximum flow capacity so, the full potential contribution of each unit operation to the water balance can be analyzed.

Full production plant capacity is planned for a nominal maximum flow rate of 6,000 gpm. This capacity is determined by the pump and pipeline system design along with the flow rate design capacity of the ion-exchange system. Process plant facilities downstream of the ion exchange circuit have little to no impact on the water balance requirements. A 200 gpm reverse osmosis (RO) treatment unit is incorporated into the production system design. The RO system output will be adjustable to produce concentrated brine at a rate equivalent to the production bleed requirement of 0.5 to 1.5 percent of the production flow. When operating at maximum capacity, the bleed stream will be at or near 60 GPM. The RO permeate produced (140 gpm) will be returned to the injection lixiviant stream. Incorporating a RO unit into the production stream throughout the operating life will

result in lower concentrations of contaminants building up in the lixiviant circuit. The design is expected to ultimately reduce the time and volume requirements for groundwater restoration without altering the production water balance inputs and outputs.

The restoration circuit is designed to process produced water from both the ground water sweep (GWS) and the RO treatment phases of restoration. The circuit will be installed within a designated area of the plant facility. The restoration circuit will be designed to treat a nominal maximum flow of 600 gpm. The capacity of the circuit is determined by the sizing of the ion-exchange and primary RO systems. The primary restoration RO units will be designed to produce a 75/25 split of permeate/brine. The permeate stream will be treated for injection into the active restoration areas while the brine is managed as waste water or treated with a secondary reverse osmosis unit.

A secondary reverse osmosis system will be installed to re-treat the combined brine streams of the primary restoration and production RO units. The unit will have a designed feed capacity of 250 gpm. The secondary RO unit will be operated as a water management tool whenever the combined flow rate of the two primary brine streams exceeds the objective for net consumptive removal of the operating areas. Permeate from the secondary RO will be beneficially used in the restoration circuit to reduce the rate of consumptive removal from the process. The brine produced by the secondary RO will be managed as waste water. This type of system has been demonstrated as technically viable during the groundwater restoration operations of the Christensen Ranch ISR facility and incorporation of the secondary RO unit into the process is considered BPT.

The capacity (flow rate) of the mine unit injection wells will determine the number of wells required in operation to arrive at the plant flow rate capacities for production and injection. LC ISR, LLC has used transmissivity and storativity data determined from aquifer characterization tests (Appendix D6) to arrive at an expected average flow rate of 32 gpm per recovery well. Since injection well efficiency approximates production well efficiency and the transmissivity of the formation ultimately defines the rate that water moves through the pore space, the number of injection wells should be expected to closely approximate the number of production wells. However, other factors including ore geometry and effective pattern design often result in injector to producer well ratios of 2:1 or greater. 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 ( $32 \times 180 = 5,760$  gpm) production wells and 360 (2:1) injection wells. The capacity of the mine unit injection wells is not expected to be diminished during the restoration operations. Therefore, full restoration activities will only occur in a portion of a given mine unit at any point in time.

The process liquid waste will be managed through a UIC Class I well system. LC ISR LLC has applied to the WDEQ-WQD for approval of up to five Class I wells to serve the

waste water disposal needs of the Project. The application, if approved, would authorize the operation of each well at a rate not exceeding 50 gpm (250 gpm total). LC ISR, LLC anticipates that the installation and operation of three Class I wells will capably exceed the maximum rate of waste water production (gross consumptive use) throughout the planned life of the Project. LC ISR, LLC will install additional disposal wells (up to five in total) as required to meet the disposal needs. The maximum rate of waste water production is further discussed in the remainder of this section.

LC ISR, LLC intends to install two waste water storage ponds at the Lost Creek plant site. Each pond will have the capacity to store 2.3 acre-foot (approximately 750,000 gallons) of water. While the ponds will naturally create a net annual loss of water via evaporation, the primary purpose and function of the ponds is to provide an outlet for flow surges during brief periods of process adjustments. The water balance does not take into account any requirement for water disposal via evaporation at the waste water storage ponds.

The plant processes occasionally require fresh water for chemical solution make-up, cooling, cleaning and other general uses. A well will be installed for the purpose of supplying plant process water. The well will not be completed in the uranium mineralization host formation (HJ Horizon) and thus will not contribute to the net consumptive removal and cumulative draw down of the HJ Horizon. LC ISR, LLC estimates that a facility of this type and capacity will require on average 10 gpm of process water. Once used for process purposes, the water is assumed to require disposal via the waste water management system.

The water balance for the Lost Creek Project is presented for six representative operational modes in **Table OP-6** (Water Balance Summary) and **Table OP-7** (Water Balance – Calculation Details). The water balance for the same six operational modes is illustrated in **Figures OP-5a, b, c, d, e and f**. The following discussion presents the correlation of the capacity requirements of the production and restoration schedules with the water/waste water treatment and disposal systems for each of the six representative operational modes.

Initially, the project should be ramped up to the nominal maximum production rate while no mine units are available for restoration activities. **Figure OP-4a** indicates this operational mode to occur during the first 26 months of operation. **Figure OP-5a** illustrates the “Production Only” project water balance representing early stage operations at the project. The net consumptive removal would be limited to the level of bleed required to control the flow of fluids within the mine unit(s) in production (1% of 6000 gpm = 60 gpm). The plant process water supply well contributes an additional 10 gpm to the water balance (in and out). The restoration plant is idle while waiting for the first mine unit to become available for groundwater restoration activities. There is

insufficient flow available to operate a secondary RO unit. The gross consumptive use of groundwater is 70 GPM (60 + 10). It will be necessary to have an operational waste water disposal capacity of 70 GPM during this operational mode. Two disposal wells will be required. The net consumptive removal from the mine unit(s) contributing to the cumulative drawdown of the aquifer is 60 gpm (see **Table OP-6**).

As the project matures, the first mine unit will be determined to be depleted and ready for groundwater restoration operations. Groundwater restoration will be initiated with the GWS phase to prepare a portion of the unit (one or more header house areas) for reverse osmosis treatment. The second operational mode (**Figure OP-5b**) is projected to last for only two-months (see **Figure OP-4a**). Plant inflows (see **Table OP-6**) will consist of 6,000 gpm of production, 30 gpm of GWS and 10 gpm of process water. Plant outflows will consist of 5940 gpm of injection, and 100 gpm of waste water. The restoration plant primary and secondary RO units will be idle due to insufficient available feed. The gross consumptive use of groundwater is 100 GPM (60 brine + 30 GWS + 10 process bleed). It will be necessary to have an operational waste water disposal capacity of 100 GPM during this operational mode. Three disposal wells will be required. The net consumptive removal from the mine unit(s) contributing to the cumulative drawdown of the aquifer is 90 gpm (see **Table OP-6**).

As GWS is completed in a large enough portion of the first mine unit, the third operational mode as depicted in **Figure OP-5c** will be initiated. It is anticipated that production operations, restoration sweep and groundwater treatment (RO) will all occur contemporaneously for an extended period during the life of the project. In this operational mode, plant inflows (see **Table OP-6**) will total 6610 gpm; consisting 6000 gpm of production, 30 gpm of GWS, 570 gpm of RO phase recovery and 10 gpm of process water. Plant outflows will also total 6610 gpm; consisting of 5940 gpm of injection to the production mine units, 555 gpm of permeate going to the restoration mine unit and 115 gpm of waste water. The gross consumptive use of groundwater is 115 GPM (105 brine + 10 process bleed). Three disposal wells will be required. The net consumptive removal from the mine unit(s) contributing to the cumulative drawdown of the aquifer is 105 gpm (see **Table OP-6**).

Although not presently projected, production operations could occur with RO restoration but not GWS restoration as depicted in **Figure OP-5d**. This mode could occur if GWS was deemed complete in all available mine units but RO restoration requirements are ongoing. The water balance as a whole is not significantly changed by the shifting of the source of restoration recovered water from GWS to RO. The waste water requirements for this mode are unchanged from the operational mode illustrated previously.

Restoration operations will continue for a period of time after production operations are completed. **Figure OP-5e** illustrates the post-production mode when both GWS and RO

restoration are active. The 200 GPM production RO Unit will be tied in to the restoration circuit to increase the rate of active restoration. In this operational mode, plant inflows (**Table OP-6**) will total 810 gpm; consisting of 40 gpm of GWS, 760 gpm of RO phase recovery and 10 gpm of process water. Plant outflows will also total 810 gpm; consisting of 700 gpm of permeate going to the restoration mine unit and 110 gpm of waste water. The gross consumptive use of groundwater is 110 GPM (100 brine + 10 process bleed). Three disposal wells will be required. The net consumptive removal from the mine unit(s) contributing to the cumulative drawdown of the aquifer is 100 gpm (see **Table OP-6**).

As restoration operations are nearing completion, GWS will be deemed complete and the only restoration activity remaining that impacts the water balance will be RO treatment. **Figure OP-5f** illustrates the post-production mode when only RO restoration is active. The water balance as a whole is not significantly changed by the shifting of the source of restoration recovered water from GWS to RO. The waste water requirements for this mode are unchanged from the operational mode illustrated previously.

Incorporating the water balance design parameters discussed above into the schedule presented in **Figure OP-4a**, an average net consumptive removal flow (gpm) from the mine units over the life-of project was determined to be 89 gpm. The impact of this consumptive removal on the cumulative drawdown of the aquifer is discussed in Section **OP 3.6.3.3**.

### **OP 3.6.3.2    Mine Unit Interference**

Decisions about the order in which mine units will be brought on line and the rates at which they will be developed and restored will depend, in part, on the potential for interference among the mine units. As noted in **Section OP 3.2**, any particular concerns about interference will be addressed in the Hydrologic Test Proposal and Report.

### **OP 3.6.3.3    Cumulative Drawdown**

As discussed in **Appendix D6**, a regional pump test has been conducted to assess the hydraulic characteristics of the HJ Horizon and overlying and underlying confining units. Pump tests also will be performed for each mine unit in order to demonstrate hydraulic containment above and below the production zone, demonstrate communication between the pattern area and perimeter monitor wells, and to further evaluate the hydrologic properties of the HJ Horizon.

Because the HJ Horizon is a deep confined aquifer, no surface water impacts are expected; and there are no perennial streams in the vicinity of the Permit Area. As



discussed in **Section OP 2.11** of this report, the nearest use of water from the Battle Spring Formation, other than for the Project, is wells located outside the Permit Area. Based on a map measurement, the wells are approximately two to three miles distant from the center of the Permit Area.

Based on a bleed of 0.5 to 1.5 percent, the potential impact from consumptive use of groundwater is expected to be minimal. In this regard, the vast majority (e.g., on the order of 98 percent) of groundwater used in the ISR process will be treated and re-injected (**Table OP-6**).

To generally quantify the potential impact of drawdown due to ISR and restoration operations, the following assumptions were used:

- mining/restoration life: eight years;
- average net consumptive use: 154 gpm (including contributions from ISR bleed, groundwater sweep; and RO);
- location of pumping centroid: center of Section 18;
- observation radius: two and three miles radially from centroid of pumping;
- formation transmissivity: 70 ft<sup>2</sup>/d (preliminary pump test results);
- formation thickness: 120 feet;
- formation hydraulic conductivity: 0.58 ft/d; and
- formation storativity: 1.1 x 10<sup>-4</sup> (preliminary pump test results).

The data were used to predict drawdown over time with a Theis semi-steady state analytical solution, which includes the following assumptions.

- The aquifer is confined and has an apparent infinite extent.
- The aquifer is homogeneous and isotropic, and of uniform effective thickness over the area influenced by pumping.
- The piezometric surface is horizontal prior to pumping.
- The well is pumped at a constant rate.
- No recharge to the aquifer occurs.
- The pumping well is fully penetrating.
- The well diameter is small; so well storage is negligible.

Based on these assumptions and results from the Lost Creek Pump Test, the drawdown, after eight years of operation at two-mile and three-mile radial distances from the centroid of pumping, was estimated to be 104 and 77 feet, respectively. This amount of drawdown is approximately 35 percent of the available drawdown in the HJ Sand. While

this amounts to a significant portion of the available drawdown, there is little use of groundwater from the HJ Horizon in the immediate vicinity of the Permit Area. In addition, the calculated drawdown is very conservative because one of the assumptions is that there is no recharge to the aquifer.

These calculations also neglect the impact of the Lost Creek Fault, which as noted above, limits groundwater flow to a significant degree. The calculated drawdowns from ISR and restoration are based on the assumption of an infinite radial system, resulting in less drawdown as compared to a system bisected by the Fault. However, it is anticipated that ISR and restoration activities will progress on alternating sides of the fault to manage the impact, so the duration of ISR and restoration on each side of the Fault would be less than the eight-year period used in these calculations. In addition, it is anticipated that LC ISR, LLC will apply for a permit revision to conduct ISR in the overlying FG and underlying KM Sands, increasing the options for management of the effects of the Fault. The drilling to refine the delineation of each mine unit and the testing performed as part of the Hydrologic Testing Proposal and Report for each mine unit will provide information on the extent of the Fault and its impact on the hydrologic characteristics of each mine unit and will allow for refinement of the drawdown calculations.

The assumptions and results for the drawdown calculations in the above scenarios are summarized in **Table OP-9** and on **Figures OP-10a, 10b, and 10c**.

### **OP 3.6.4 Excursion Monitoring and Control**

Excursion monitoring and control is designed to identify any unanticipated impacts to hydrology of the Permit Area and its vicinity during ISR activities and provide measures that may be used singly or in combination to address the unanticipated impacts. The excursion monitoring augments the above information on production and injection control, such as injection rates and pattern balance, which is instrumental to efficient ISR.

#### ***OP 3.6.4.1 Mine Unit Baseline Water Quality and Upper Control Limits***

Excursion monitoring includes the monitor ring wells completed in the same sand as the pattern area and monitor wells in overlying or underlying water-bearing strata. Excursion detection is based on comparison of concentrations of specific parameters with the Upper Control Limits (UCLs) for those parameters, which are calculated from the baseline concentrations of those parameters.

After delineation of a pattern area, monitor wells will be installed around that area as described in **Section OP 3.2**. A pump test will be used to verify communication between

monitor wells in the monitor ring and the pattern area and lack of communication between the pattern area and overlying and underlying monitor wells. Baseline groundwater samples will be collected in accordance with the protocols in LC ISR, LLC's Environmental Manual.

As a part of the baseline assessment, all the mine unit monitor wells will be sampled at least four times at intervals at least 14 days apart. Water levels will be measured at the same frequency as the monitor well sampling. One round of samples will be analyzed for the parameters listed in **Table OP-8** and three rounds will be analyzed for just the UCL parameters. UCLs will be set for parameters that would be indicative of a migration of lixiviant from the mine unit, and it is anticipated that these parameters will be chloride, conductivity, and total alkalinity. Chloride is a common UCL in Wyoming due to its low natural levels in the native groundwater and because chloride is introduced into the lixiviant from the ion exchange process (uranium is exchanged for chloride on the ion exchange resin). Chloride is also a very mobile constituent in the groundwater and will show up quickly in the case of a lixiviant migration to a monitor well. Conductivity is another common UCL because it is an excellent general indicator of overall groundwater quality. Total alkalinity concentrations should be affected during a potential excursion, as bicarbonate is the major constituent added to the lixiviant during mining. UCLs for each selected parameter will be set as the mean plus five standard deviations.

#### ***OP 3.6.4.2 Excursion Detection***

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. The monitor wells will be sampled as per the above schedule except in the event of certain situations. These situations include inclement weather, mechanical failure, holiday scheduling, or other factors that may result in placing an employee at risk or potentially damaging the surrounding environment. In these situations, LC ISR, LLC will document the cause and the duration of any delays. In no event shall a delay be greater than five days. Records of UCL monitoring, including chemical assays, shall be maintained until Permit termination.

Water levels will be measured at the same frequency as the monitor well sampling. Sudden changes in water levels may indicate that the mine unit flow is out of balance. Increases in water levels in the overlying or underlying aquifers may be an indication of fluid migration from the production zone. Flow rates would be adjusted to correct this situation. Adjustments to well flow rates or complete shutdown of individual wells may be required to correct this situation. Increases in water levels in the overlying or underlying aquifers may also be an indication of casing failure in a production, injection or monitor well. Isolation and shutdown of individual wells can be used to determine the

well causing the water level increases. MIT's of production and injection wells in the area of a suspected failure may also be performed to locate the failed well.

#### ***OP 3.6.4.3 Excursion Verification and Corrective Action***

During routine sampling, if two of the three UCL values are exceeded in a monitor well, or if one UCL value is exceeded by 20 percent, the well will be re-sampled within 24 hours of receipt of the results from the routine sampling and analyzed for the excursion indicators. If the second sample does not exceed the UCLs, a third sample will be taken within 24 hours of receipt of the second sample results. If neither the second or third sample results exceed the UCLs, the first sample will be considered in error.

If the second or third sample confirms an exceedance, the WDEQ-LQD Project Manager will be verbally notified within 24 hours of confirmation. If the Project Manager cannot be reached, a voice message will be left on the WDEQ-LQD Administrator's phone and an email notification will be sent to both the Administrator and the Project Manager. A written report will also be submitted to WDEQ-LQD within five days. The written report will detail: recent chemical trends of the monitor well on excursion; the reason for the excursion, and actions to be taken to recover the excursion. In addition, a monthly report will be submitted to WDEQ-LQD until the excursion is over. The monthly report will detail: concentrations of UCL parameters in the well on excursion and surrounding wells; evidence the excursion is being controlled; a review of the adequacy of the bond to cover the expense of excursion recovery; and corrective actions taken. If a well is still on excursion after 60 days, a plan and schedule will be submitted within 30 days to bring the well off excursion per WDEQ-LQD requirements.

If an excursion is confirmed, the following methods of corrective action will be instituted (not necessarily in the order given), dependent upon the circumstances.

- A preliminary investigation will be completed to determine the probable cause.
- Production and/or injection rates in the vicinity of the monitor well will be adjusted as necessary to generate an effective net process bleed, thus forming a hydraulic gradient toward the production zone.
- Individual wells will be pumped to enhance recovery of ISR solutions.
- Injection into the pattern area adjacent to the monitor well may be suspended. Recovery operations will continue, thus increasing the overall bleed rate and the recovery of the ISR solutions.

In addition to the above actions, the sampling frequency of the monitor well on excursion will be increased to weekly. If the excursion is not corrected within 30 days, a sample will be collected and analyzed for parameters in WDEQ-LQD Guideline 8 Appendix I

Sections IV and VA(1) parameters and applicable EPA MCLs. Once parameters no longer exceed the UCLs, a final sampling and analysis of the Guideline 8 parameters will be performed. An excursion will be considered over when the concentrations of excursion indicators do not exceed the criteria defining an excursion for three consecutive one-week samples, and a summary report of the sampling results and corrective actions has been submitted to WDEQ-LQD.

#### **OP 3.6.4.4 Ability to Control an Excursion**

Assuming a total mine unit flow of 6,000 gpm, with approximately 180 production wells, the groundwater extraction per production well is 30 to 35 gpm. Conversely, the injection rate for each well pattern is also approximately 30 to 35 gpm (minus the one percent bleed). Shutting off the injection from two to four well patterns near the monitor well that has a verified excursion would result in approximately 60 to 140 gpm of additional net extraction in the area of the excursion. Based on results from the 2007 pump test, corrective pumping on the order of 60 to 140 gpm would be sufficient to quickly and efficiently control an excursion.

## **OP 4.0 PLANT PROCESSES, INSTRUMENTATION, AND CONTROL**

The Plant is designed for the concentration of uranium from dilute solutions by ion exchange. The Plant will house three distinct process circuits: the ion exchange circuit (also called the resin-loading circuit), the elution circuit, and the precipitation/filtration circuit. The final product will be yellowcake slurry. The slurry will be transported from the Permit Area via DOT-approved tankers to a facility licensed by NRC or an Agreement State for processing the slurry into dry yellowcake.

The Plant will be designed to process up to 6,000 gpm of lixiviant through the ion exchange circuit. All of the uranium-laden resin will be transferred via pipe to the elution circuit. In addition to processing on-site generated resins, the elution circuit will be designed to accept truckloads of loaded resins from satellite facilities operated by LC ISR, LLC or its affiliates and/or from third-party facilities. The elution and precipitation/filtration circuits will be designed on the basis of a two million pound-per-year processing rate, with an initial nominal operating rate of one million pounds per year to match the projected production rate from the Permit Area.

The Plant building will house all auxiliary equipment and systems required to support an operation of this type. In addition, the Plant will contain equipment and facilities capable

of treating up to 1,000 gpm of groundwater from mine units that are in both production and restoration (**Figures OP-5b, c, and d**).

## **OP 4.1 Ion Exchange (Resin-Loading) Circuit**

Uranium concentrations averaging 40 to 50 parts per million (ppm)  $U_3O_8$ , are expected in the production fluid. Standard, commercially available ion exchange resins have been demonstrated to function well under conditions such as those at the Project. The ion exchange resins preferentially remove the uranyl dicarbonate or uranyl tricarbonate from the solution. The ion exchange circuit will consist of pressurized, “down-flow” vessels that are internally screened to maintain the resin in place but allow the lixiviant to flow through the vessel. Once the resin becomes loaded, the vessel is isolated from the normal process flow and the resin is transferred via piping to a separate vessel for elution.

Approximately 200 gpm of the barren lixiviant will be routed through an RO unit prior to leaving the Plant. RO, at this point, allows approximately one percent of the total flow required for bleed to exit as waste brine instead of injection fluid. The RO permeate is added back to the injection stream. The solution leaving the ion exchange circuit will normally contain less than five ppm of uranium. Sodium carbonate, sodium bicarbonate, oxidants, and carbon dioxide will be added to the barren solution, as required, prior to re-injection. The resin-loading circuit is graphically represented in **Figure OP-11a**.

## **OP 4.2 Elution Circuit**

When resin in an ion exchange vessel is fully loaded and/or removing very little additional uranium, the vessel will be isolated from the normal process flow. The loaded resin will be transferred in 500 cubic foot lots from the ion exchange vessel to the elution circuit. In this circuit, the loaded resin will first be passed over vibrating screens with wash water to remove entrained sand particles and other fine trash. The loaded resin will then move by gravity from the screens into down-flow elution vessels for uranium recovery and resin regeneration. The Plant will also have the capability to receive loaded resin from other operations via bulk transport for processing in the elution circuit.

Once in the elution vessel, the loaded resin will be contacted with an eluant composed of approximately 90 g/L sodium chloride and 20 g/L sodium carbonate (soda ash). The eluted resin is subsequently rinsed with fresh water and returned to an empty ion exchange vessel or bulk trailer (**Figure OP-11b**).

In a three-stage batch elution process, a total of 45,000 gallons of eluant contact the 500 cubic feet of resin. The process generates 15,000 gallons of rich eluate with a

concentration of 10 to 20 g/L  $U_3O_8$ . Each elution produces 30,000 gallons of eluate that is re-used in the next elution. Likewise, 15,000 gallons of fresh eluant will be required per elution. The fresh eluant is prepared by mixing the proper quantities of a saturated sodium chloride (salt) solution, a saturated sodium carbonate (soda ash) solution, and water. The saturated salt solution is generated in commercially available salt saturators (brine generators). Saturated soda ash solution is prepared by passing warm water (greater than 105° F) through a bed of soda ash.

### **OP 4.3 Precipitation/Filtration Circuit**

From the elution circuit, the uranium-rich eluate will be sent to an agitator tank for batch precipitation. To initiate the precipitation cycle, hydrochloric or sulfuric acid will be added to the eluate to breakdown the uranyl carbonate present in the solution (**Figure OP-11b**). Caustic soda solution is then added to elevate the pH. Hydrogen peroxide will then be added to the eluate to effect precipitation of the uranium as uranyl peroxide. Caustic soda solution will again be added for pH control and to promote growth of uranyl peroxide crystals and to make the slurry safer to handle in the subsequent process steps.

After precipitation, the crystalline uranyl peroxide will be washed, to remove excess chlorides and other soluble contaminants, and then de-watered and filtered to form the yellowcake slurry. This slurry will then be stored in holding tanks or in transport tanks parked in a secure area inside the fenced-in Plant site. The holding and transport tanks will be used solely for yellowcake slurry. On-site inventory of  $U_3O_8$  in the slurry form will typically be less than 100,000 pounds. However, in periods of inclement weather or other interruptions to product shipments, there will be capacity for up to 200,000 pounds of slurry within the Plant. The yellowcake slurry will be shipped by exclusive-use, authorized transport to a facility licensed by NRC or an Agreement State for processing the slurry into dry yellowcake.

### **OP 4.4 Major Process Equipment and Instrumentation**

The major process equipment in the Plant will include: ion exchange vessels; elution vessels; precipitation tanks; filter presses; slurry storage tanks; and the piping, pumps, valves, filters, and associated equipment required to control and move the solutions through the various process circuits. The process equipment will be installed as needed to meet the required flow rates and production levels. The ion exchange, elution, and precipitation/filtration circuits will have instrumentation designed to monitor key fluid levels, flow rates and pressures. In addition to monitoring, there will be varying levels of control, such as automatic shut-offs, for pumps, valves, and operating systems.

## OP 5.0 EFFLUENT CONTROL SYSTEMS

During the Project, gaseous/airborne, liquid, and solid effluents will be produced from the processes associated with ISR operations. All the effluents are typical for ISR projects currently operating in Wyoming; and existing technologies are amenable to all aspects of effluent control in the Permit Area. The waste streams are summarized in **Table OP-10**, and additional details about the types of effluents and storage, treatment, reuse/recycling, and disposal practices and their potential impacts are provided below.

Effluents will be reduced by minimizing disturbance and reusing/recycling materials whenever possible. On-site waste handling facilities will have proper storage to segregate the materials and signage to indicate the types of materials present. These areas will be routinely checked to ensure proper waste segregation and storage. All materials delivered to or transported from the facility, including wastes, will be packaged in accordance with US DOT requirements. Employees will receive training, guidance, and personal protective equipment (PPE) to safely handle, store, decontaminate, and dispose of waste materials. Employees will also be trained to recognize potential hazards and to perform assigned duties in a safe and healthy manner to help reduce the possibility of accidental release. SOPs will be accessible for guidance on routine activities, and for unusual circumstances, an approved work plan and/or approved Radiation Work Permit (RWP), as required by the NRC, will provide guidance. Spill Prevention and Response Plans will also be in place to help reduce the possibility of accidental release and provide for appropriate action in the event of a release.

### OP 5.1 Gaseous Emissions and Airborne Particulates

Non-radioactive and radioactive airborne effluents are anticipated during the Project. Non-radioactive airborne effluents will be limited to gaseous emissions and fugitive dust. The radioactive airborne effluent will be radon gas. The types of effluents and the control systems that will be in place for them are summarized below. The WDEQ-AQD permit and NRC license for the effluents and controls are listed in **Table ADJ-1** and **Section OP 2.2**. A copy of the WDEQ-AQD permit is included in **Attachment OP-1**.

#### OP 5.1.1 Non-Radioactive Emissions and Particulates

Gaseous emissions will result from the operation of internal-combustion engines. Exhaust from diesel drilling rigs and other diesel or gasoline-fueled vehicles will produce



small amounts of carbon monoxide, sulfur dioxide, and other internal-combustion engine emissions. Regular maintenance, SOPs, and pollution prevention equipment will be used to reduce gaseous emissions. Bussing of employees or credit for employee car-pooling will be considered to help reduce fuel consumption and emissions.

Most of the airborne particulates will be dust from traffic on unpaved roads and wind erosion of disturbed areas, such as during installation of wells at a mine unit. Restricted vehicular access and speed limits will be used to minimize dust from roads; and additional dust control measures may include water spraying, application of gravel, or application of organic/chemical dust suppressants. Disturbance will be minimized to the extent possible; and disturbed areas will be revegetated during the first available seeding window.

Airborne particulates may also include insignificant amounts of salt and soda ash releases during deliveries to the Plant, and drilling mud or cement dust during the installation of wells at the mine units. Construction activities may also generate airborne particulates. Examples of this might be welding fumes or dust from grinding on steel. Standardized delivery procedures that minimize material loss (and address health and safety concerns) and efficient construction practices will be used to minimize generation of such particulates.

Carbon dioxide and oxygen will be used as part of the extraction and concentration of uranium during mining; and hydrogen sulfide may be used during groundwater restoration after mining. However, use of these gases will be controlled to prevent waste and potential adverse safety conditions. Similarly, any fumes from the limited use of liquid chemicals, such as hydrochloric or sulfuric acid, will be controlled (e.g., laboratory hoods). Pressure venting at the mine units and supporting facilities will produce some non-radioactive gaseous emissions, such as carbon dioxide, oxygen, and water vapor, but the primary effluent of concern from pressure venting is radon gas, as discussed in more detail below.

### **OP 5.1.2 Radioactive Emissions**

Radioactive airborne effluents will be minimal, as compared to other ISR operations in Wyoming, because yellowcake drying and packaging will not occur within the Permit Area and because the Storage Ponds will be kept wet.

Radon will be the radioactive gaseous emission from the mining and ore processing, as it is present in the orebody and collected with the lixiviant solution. Radon will be released occasionally from the mine unit wells as gas is vented from the injection wells. Production wells will be open at the surface; however, water levels will typically be low

and radon venting will be minimal. All of the well releases will be outside of buildings and are directly vented to the atmosphere. Radon will also be released during ion exchange resin transfers and subsequent ore processing steps. The UIC Class I well pumphouses will also be vented. Potential radon exposure will be reduced or eliminated with ventilation to the outside of the buildings using high-volume exhaust fans, PPE, and limited exposure durations, in accordance with SOPs, or an RWP during non-routine work. Occupational and public exposures to radon emitted from the mine units and from the ore processing were analyzed using the MILDOS computer model to ensure the discharged amount will be within regulatory dose limits (LC ISR, LLC October 2007 Technical Report (**Section 7.1.13**) and Environmental Report (**Section 4.12.1.2**) in support of the application to NRC for a Source and Byproduct Material License, Docket No. 40-9068, Technical Assignment Control No. LU0142).

## **OP 5.2 Liquid Wastes**

The Project will generate several different types of liquid wastes, including three classified as 11(e)(2) byproduct materials by NRC. The different types of liquid wastes the Project will generate are:

- “native” groundwater generated during well development, sample collection, and pump testing;
- storm water runoff;
- waste petroleum products and chemicals;
- domestic sewage; and
- the three 11(e)(2) byproduct materials:
  - liquid process wastes, including laboratory chemicals,
  - “affected” groundwater generated during well development, and
  - groundwater generated during aquifer restoration.

### **OP 5.2.1 Liquid Non-11(e)(2) Byproduct Materials**

Appropriate storage, treatment, and disposal methods for these liquids differ, as outlined below.

#### ***OP 5.2.1.1 “Native” Groundwater Recovered during Well Development, Sample Collection, and Pump Testing***

Groundwater is recovered during well installation, sample collection, and pump testing conducted prior to mining or from portions of the Permit Area not affected by mining.

This "native" groundwater has not been exposed to any mining process or chemicals. During well development, sample collection, and pump testing, this water will be discharged to the surface under the provisions of a general WYPDES permit, in a manner that mitigates erosion, or reused in the drilling process.

#### ***OP 5.2.1.2 Storm Water Runoff***

Procedural and engineering controls will be implemented such that storm water runoff from the area of the Plant will not pose a potential source of pollution. Per the requirements of the WYPDES, the applicable permits for runoff control during construction and operation of the Plant will be obtained from WDEQ-WQD.

#### ***OP 5.2.1.3 Waste Petroleum Products and Chemicals***

These wastes will be typical for ISR facilities, and will include items such as waste oil and out-of-date reagents, none of which will have been closely associated with the processing of 11(e)(2) byproduct materials. Any of these wastes that are non-hazardous will be stored in appropriate containers, prior to disposal by a contracted waste disposal operator, at an approved off-site waste disposal facility, such as the Carbon County Landfill.

Waste petroleum products will be clearly labeled and stored in sealed containers above ground in accordance with the requirements of the Wyoming Department of Labor, State Mine Inspector, and EPA. These wastes will be periodically collected by a commercial business for recycling or energy recovery purposes. LC ISR, LLC will generate about 40 to 80 gallons of waste petroleum products per year, and will be a Conditionally Exempt Small Quantity Generator of hazardous wastes, per EPA definition.

Waste chemicals not closely associated with the processing of 11(e)(2) byproduct material will be clearly labeled and stored in sealed containers above ground in accordance with the requirements of the EPA. These wastes will be periodically collected by a commercial business for recycling or disposal in a licensed disposal facility. An estimated five to ten gallons of waste chemicals will be disposed of per year.

#### ***OP 5.2.1.4 Domestic Liquid Waste***

Domestic liquid wastes will be disposed of in an approved septic system that meets the requirements of WDEQ-WQD. A permit will be obtained for the septic system prior to construction of the system. The septic system will receive waste from restrooms, shower facilities, and miscellaneous sinks located within the office. In addition, chemical toilets

may be temporarily placed in mine units and other drilling areas. An estimated 500 to 700 gallons of domestic liquid waste will be disposed of daily; and the septic system and chemical toilets will be maintained by a licensed contractor.

## **OP 5.2.2 Sources of Liquid 11(e)(2) Byproduct Material**

The sources of the liquid 11(e)(2) byproduct materials are:

- liquid process wastes, including laboratory chemicals and water generated during decontamination of equipment;
- “affected” groundwater generated during well development and sample collection; and
- groundwater generated during aquifer restoration,

Each source is described further in this section, and the disposal methods are described in the next section.

### **OP 5.2.2.1 Liquid Process Wastes**

Ore processing produces three liquid wastes with important volumes, a production bleed, an eluate bleed, and yellowcake wash water. The volume of production bleed will be on the order of 100 gpm, depending on the on-going operations, as shown on **Figures OP-5a, b, c, d, e, and f**. The combined volume of eluate bleed and yellowcake wash water will be on the order of 5 gpm. In addition, the laboratory analyses for evaluating uranium content of the production fluid and similar operational parameters will generate liquid waste on the order of 25 gallons per day. These wastes will be collected, treated and the waste discharged to the Storage Ponds and UIC Class I well(s).

During operations, there will also be an occasional need to decontaminate equipment so it can be disposed of, sent to another NRC licensed facility, or released for unrestricted use. The first step for decontaminating equipment will be to wash the object with high pressure water to remove any potential contaminants. The RSO or Health Physics Technician (HPT) will then scan the object with the appropriate instrument to determine if release standards have been met. If the standards have not been met then an additional wash may be performed to remove residual contamination. The RSO or HPT will then perform a second scan to determine if the item can be released. Since high pressure water will typically be used to decontaminate objects, the volume of water generated is minimal; on the order of 200 gallons per week. The water resulting from decontamination will enter the waste water circuit through a sump and will ultimately be disposed of in the UIC Class I well(s).

The same process used for decontaminating plant equipment during operations will also be used for decommissioning. The bond calculation conservatively assumes that 100% of the equipment in the plant will require decontamination regardless if it is disposed of at a landfill or as byproduct material. Assuming it takes two hours to pressure wash each piece of equipment at a rate of 3.5 gpm and about 65 pieces of equipment (representative pieces and quantities listed below) must be washed, the total volume of water generated will be about 26,000 gallons:

- Fourteen IX columns;
- Two elution vessels;
- Six eluant storage vessels;
- Two waste water storage tanks;
- Six RO systems;
- Four water storage tanks;
- Two yellowcake slurry tanks;
- Two filter presses;
- Four precipitation cells;
- Four resin shakers;
- Sixteen pumps and stands.

In addition to the equipment which must be decontaminated, the surface of the concrete plant floor will also need to be decontaminated. The area of the plant floor requiring decontamination will be approximately 22,500 square feet. Assuming an employee can power wash 10 square feet in 1 minute, it will take 2,250 minutes to wash the affected plant floor. At 3.5 gpm this equates to about 8,000 gallons of water.

Therefore, the total quantity of water required to decontaminate the plant equipment and floor is about 34,000 gallons. After applying a conservative contingency factor of 100%, the total volume of water required for decontaminating at decommissioning is about 68,000 gallons. The waste water generated during final decommissioning will be disposed of in the UIC Class I well(s). Given that the deep well(s) disposal capacity will be greater than 100 gpm, all of the waste water generated during final decommissioning could be disposed of during the course of a day. It will be necessary to leave the deep well disposal system in place until the very final stages of decommissioning.

Any equipment which cannot be decontaminated during operations or decommissioning will be stored in a designated restricted area of the plant or plant yard until it can be disposed of as byproduct material at an NRC licensed disposal site or sent to another NRC licensed facility for use. The annual bond

assessment will include the cost of disposing of all byproduct material in storage and that which may be generated during decommissioning. Byproduct waste will be stored in a manner that prevents the spread of contamination. For example, openings in tanks will be sealed off if they could leak contaminated material, removable contamination will be washed from the exterior of equipment, and employees will wear appropriate PPE when handling by-product material and will survey according to procedures before exiting the restricted area.

#### ***OP 5.2.2.2 "Affected" Groundwater Generated during Well Development and Sample Collection***

It may be necessary to develop (or redevelop) wells and collect samples of groundwater that has been affected by the mining operation to the extent that surface discharge of the water is not appropriate. During well development and sample collection, this water will be collected and treated; and the waste will be discharged to the Storage Ponds and UIC Class I wells.

#### ***OP 5.2.2.3 Groundwater Generated during Aquifer Restoration***

During the various steps of aquifer restoration (Section RP 2.3), groundwater will be generated; and disposal of some or all of the water will be required. During sweep, groundwater will be pumped from the production zone, creating an area of drawdown. This will create an influx of water from outside the production zone that will replace the affected volume of water within the production zone. In most cases, the water produced during sweep will be processed for residual uranium content through the ion exchange circuit, and then disposed directly to the UIC Class I wells. In some cases, the groundwater pumped from the production zone may be treated by RO to reduce the waste volume; and the treated water (permeate) may be used in Plant processes or for makeup water in other restoration activities. To maintain the area of drawdown, the permeate will not be re-injected into the production zone, but will be transferred to other mine units for use as makeup water or injected into the UIC Class I wells. The concentrated byproduct material (brine) will also be injected into the UIC Class I wells.

During RO, groundwater will be pumped from the production zone. The pumped water will be treated by RO; and the permeate will be injected back into the production zone. To maintain an area of drawdown, an effective bleed will occur by adding additional permeate from other RO activities or by adding clean water to the permeate at a rate less than the produced rate. The brine from the RO treatment will be injected into the UIC Class I wells. Similarly, during other restoration steps, the amount of groundwater

pumped from the aquifer will exceed the amount pumped back to the aquifer; and that excess water will be disposed of in the UIC Class I wells.

### **OP 5.2.3 Disposal of Liquid 11(e)(2) Byproduct Materials**

The liquid 11(e)(2) byproduct materials generated during the Project will be managed by deep well injection in conjunction with Storage Ponds.

#### ***OP 5.2.3.1 Storage Ponds***

The two Storage Ponds described in Section OP 2.9.4 will be used to temporarily store the water that will ultimately be disposed of in the UIC Class I wells. To help maintain the integrity of the ponds by reducing liner exposure to sun, wind, and freezing temperatures, water will be kept in the ponds at all times by diverting a portion of the water that would normally go to the UIC Class I wells. The exception would be during pond maintenance or repair, at which times the liquid would be piped directly to the UIC Class I wells.

Routine pond inspections and monitoring will be conducted as specified in **Section OP 2.9** of this report. The inspection reports and monitoring results will be maintained on-site and summarized in the Annual Report submitted to NRC and WDEQ-LQD. Any maintenance issues identified during an inspection will be addressed in a timely manner to reduce the chance for damage to the pond integrity or liquid release to the environment.

#### ***OP 5.2.3.2 UIC Class I Wells***

Two to five UIC Class I wells are planned in the southern portion of the Permit Area as the primary disposal method for the liquid 11(e)(2) byproduct materials. LC ISR, LLC has submitted the UIC Class I permit application to WDEQ-WQD, which has primacy in Wyoming for the UIC program. An electronic copy of the application is located in Attachment OP-2. In addition to the liquid 11(e)(2) byproduct materials, other compatible liquid wastes will be disposed of in the wells (**Section OP 5.2.1**). The wells will be monitored in accordance with the requirements of the UIC permit; and an evaluation of the well performance will be included in the Annual Report submitted to NRC and WDEQ.

Injection for ISR will not start at the Lost Creek Project until the UIC Class I permit is obtained. When the UIC Class I permit is approved, a copy of the permit will be added to **Attachment OP-2**.

## **OP 5.3 Solid Wastes**

Solid wastes, some of which will be classified as NRC 11(e)(2) byproduct materials, will be produced during construction, operation, and reclamation activities of the Project. Appropriate storage, treatment, and disposal methods for these wastes differ, as outlined below.

### **OP 5.3.1 Solid Non-11(e)(2) Byproduct Materials**

The solid non-11(e)(2) byproduct materials will include: non-hazardous materials typical of office facilities, such as paper, wood products, plastic, steel, biodegradable items, and sewage sludge; and hazardous materials also typical of office and ISR facilities, such as waste petroleum products and used batteries. None of these materials are closely associated with ISR and ore processing.

The non-hazardous materials, with the exception of sewage sludge, will be recycled when possible or temporarily stored in commercial bins prior to disposal by a contracted waste disposal operator at an approved off-site solid waste disposal facility, such as the Carbon County Landfill. An estimated 500 to 700 cubic yards of non-11(e)(2) byproduct materials will be generated annually. An estimated three to five cubic yards of sewage sludge will be disposed of annually off-site at an approved facility by a licensed contractor.

Hazardous wastes will be clearly labeled and stored in sealed containers above ground in accordance with the requirements of the EPA. These wastes will be periodically collected by a commercial business for recycling or energy recovery purposes. LC ISR, LLC will be a Conditionally Exempt Small Quantity Generator of hazardous wastes, per EPA definition, generating about ten to 20 pounds of batteries and similar items per year.

### **OP 5.3.2 Solid 11(e)(2) Byproduct Materials**

The solid 11(e)(2) byproduct materials will include process wastes, such as spent ion exchange resin, filter media, and tank sludge, generated during ISR and ore processing, and will include equipment that becomes contaminated during ISR and ore processing. These items include tanks, vessels, PPE, and process pipe and equipment. Such wastes could also include soils contaminated from spills.



Where possible, equipment will be decontaminated for disposal as non-11(e)(2) material or for re-use. Equipment that cannot be decontaminated and process wastes will be placed in clearly labeled, covered containers and temporarily stored in restricted areas with clearly visible radioactive warning signs. The solid 11(e)(2) byproduct materials will then be disposed of at an NRC-licensed facility, typically a uranium mill tailings impoundment, by personnel qualified to dispose of radioactive wastes. An estimated 80 to 100 cubic yards of solid 11(e)(2) byproduct material will be generated annually exclusive of final reclamation material. LC ISR, LLC is in the process of negotiating a written contract with an NRC-licensed facility for disposal of this material.

## REFERENCES

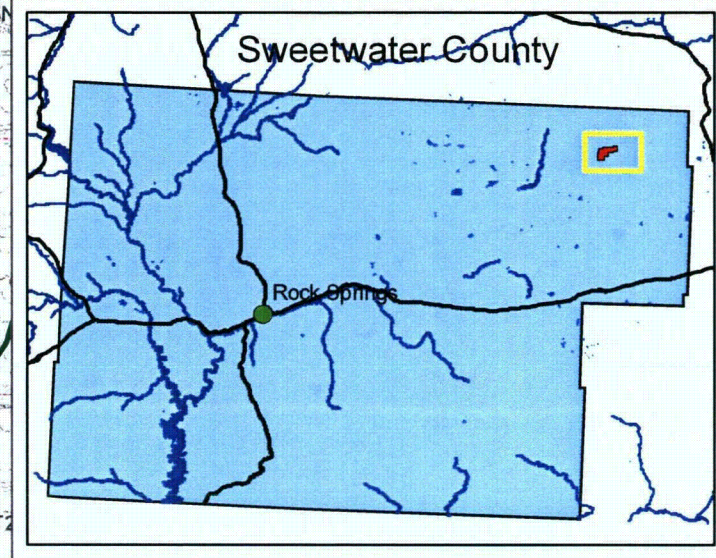
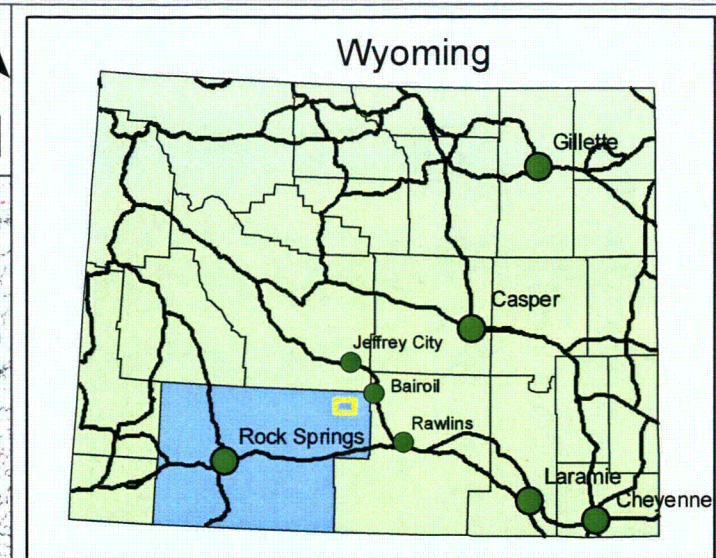
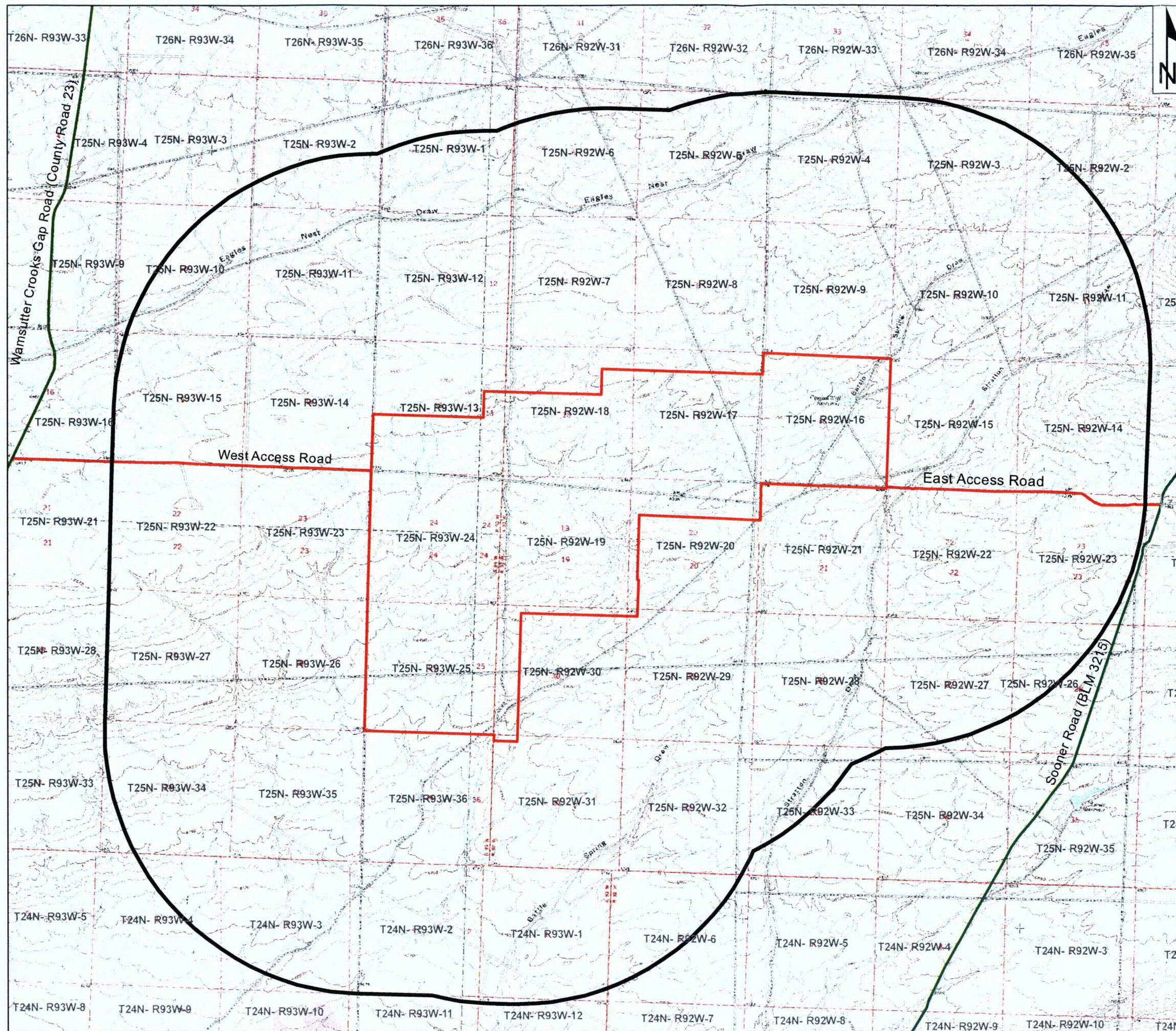
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**Lost Creek ISR, LLC**  
Littleton, Colorado USA

**AATA INTERNATIONAL, INC.**  
Fort Collins, Colorado, USA

**Legend**

- Lost Creek Permit Area
- 2 Mile Buffer Around Permit Area
- County/BLM Road
- Access Road

**FIGURE OP-1**  
**Regional Map of the Permit Area**  
Lost Creek Permit Area

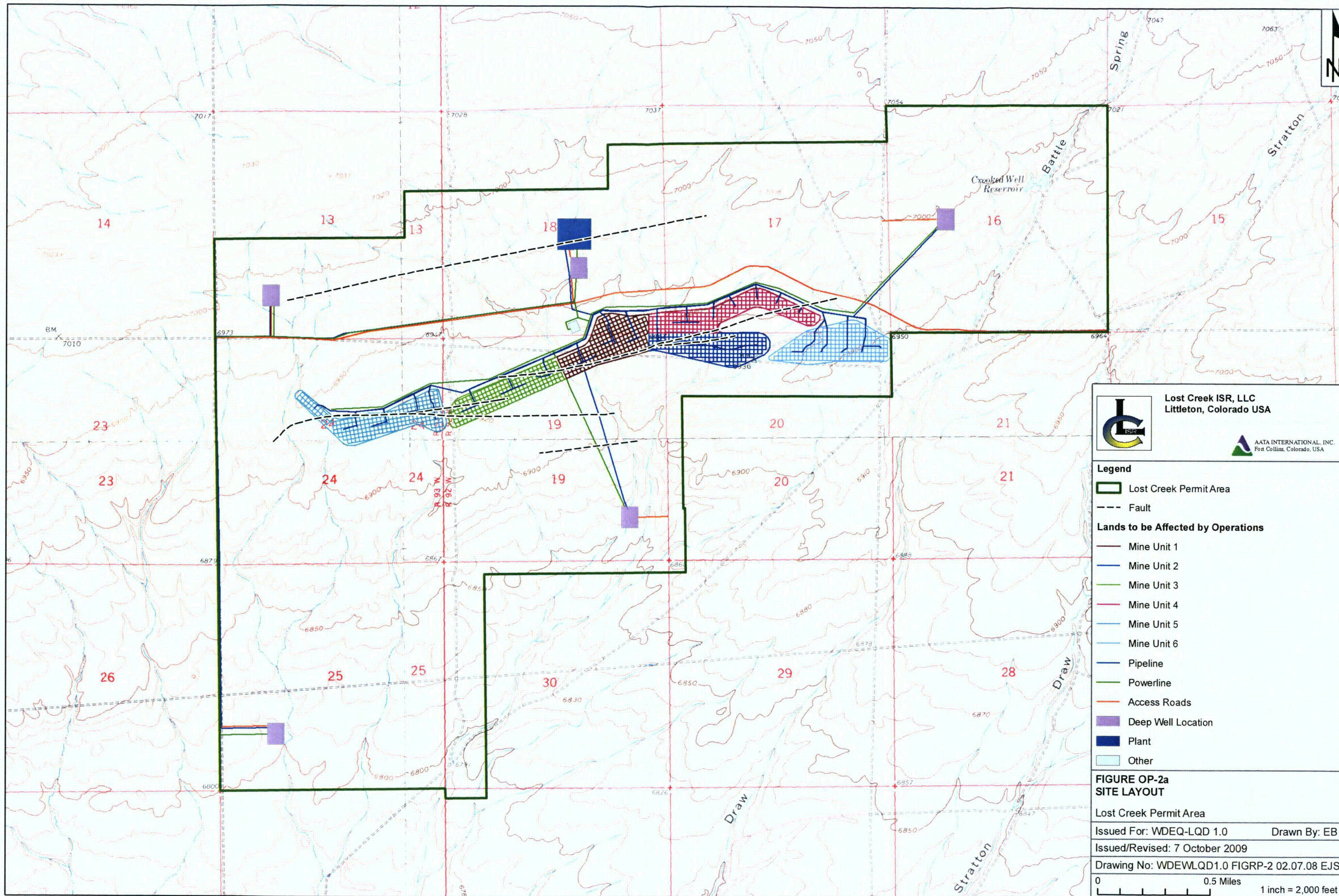
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Issued/Revised: 30 September 2009

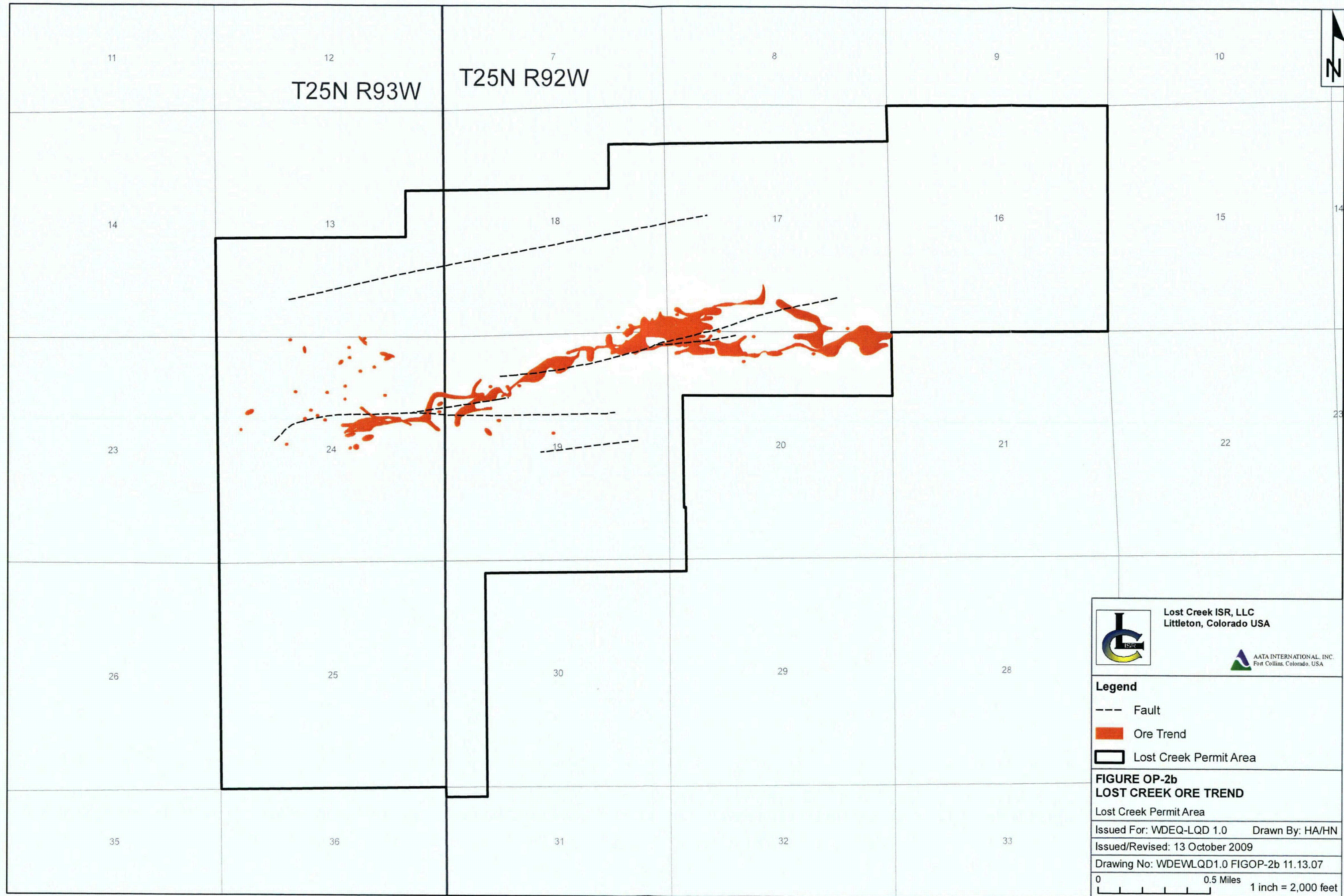
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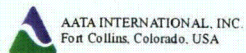








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Littleton, Colorado USA



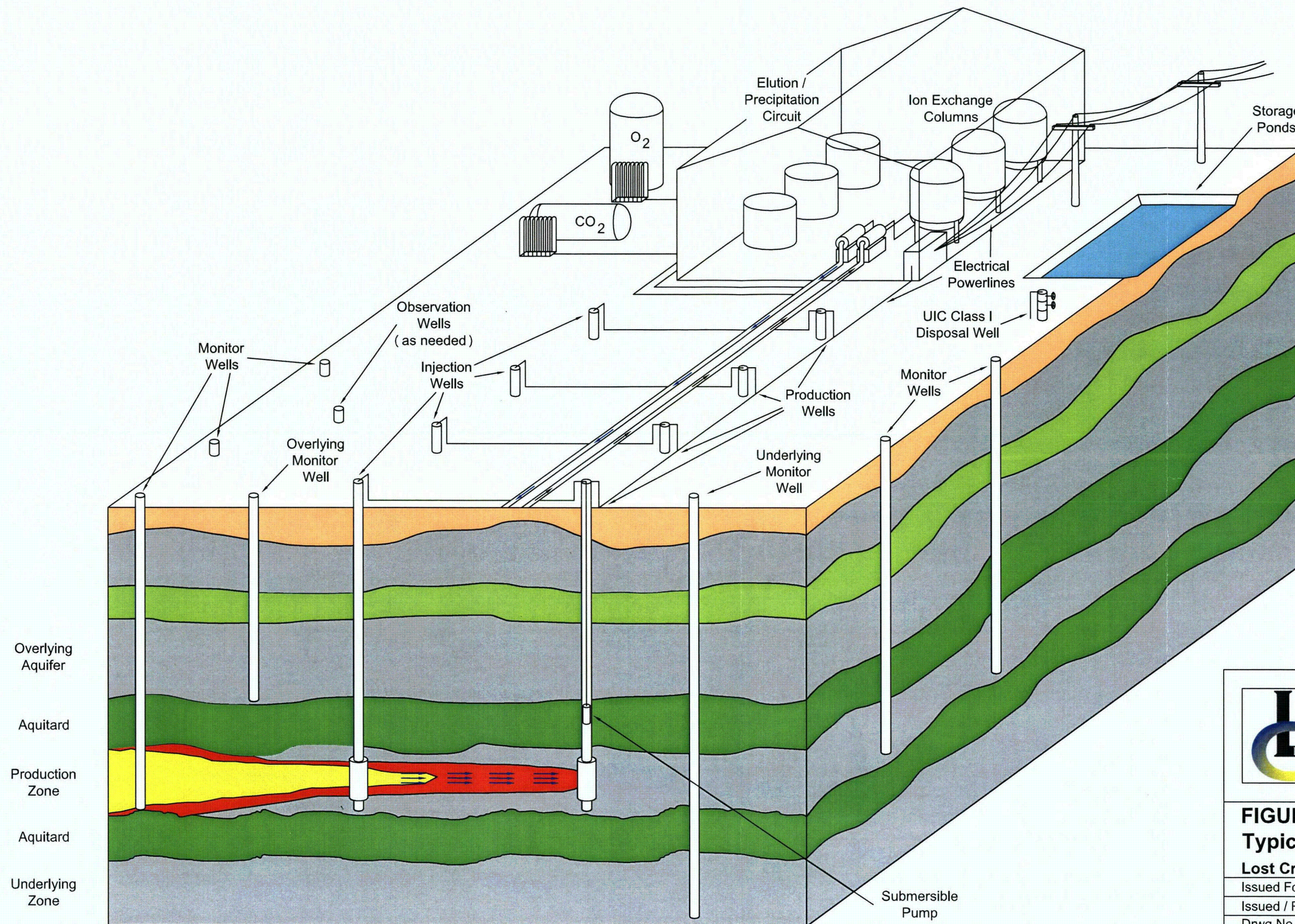
**Legend**

- Fault
- Orange Ore Trend
- Black Outline Lost Creek Permit Area

**FIGURE OP-2b  
LOST CREEK ORE TREND**

Lost Creek Permit Area  
Issued For: WDEQ-LQD 1.0 Drawn By: HA/HN  
Issued/Revised: 13 October 2009  
Drawing No: WDEWLQD1.0 FIGOP-2b 11.13.07  
0 0.5 Miles 1 inch = 2,000 feet





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# **FIGURE OP-3a** **Typical ISR Operation**

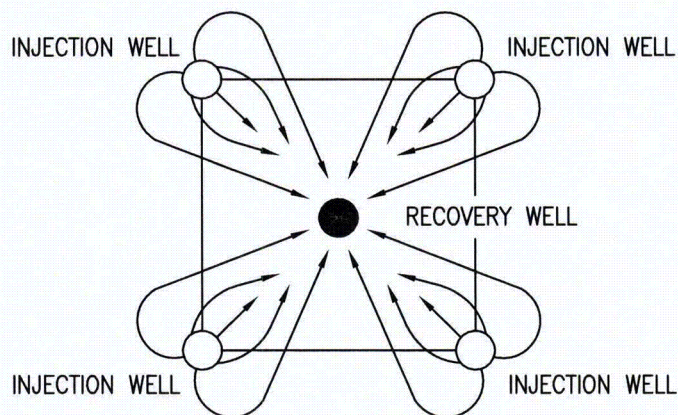
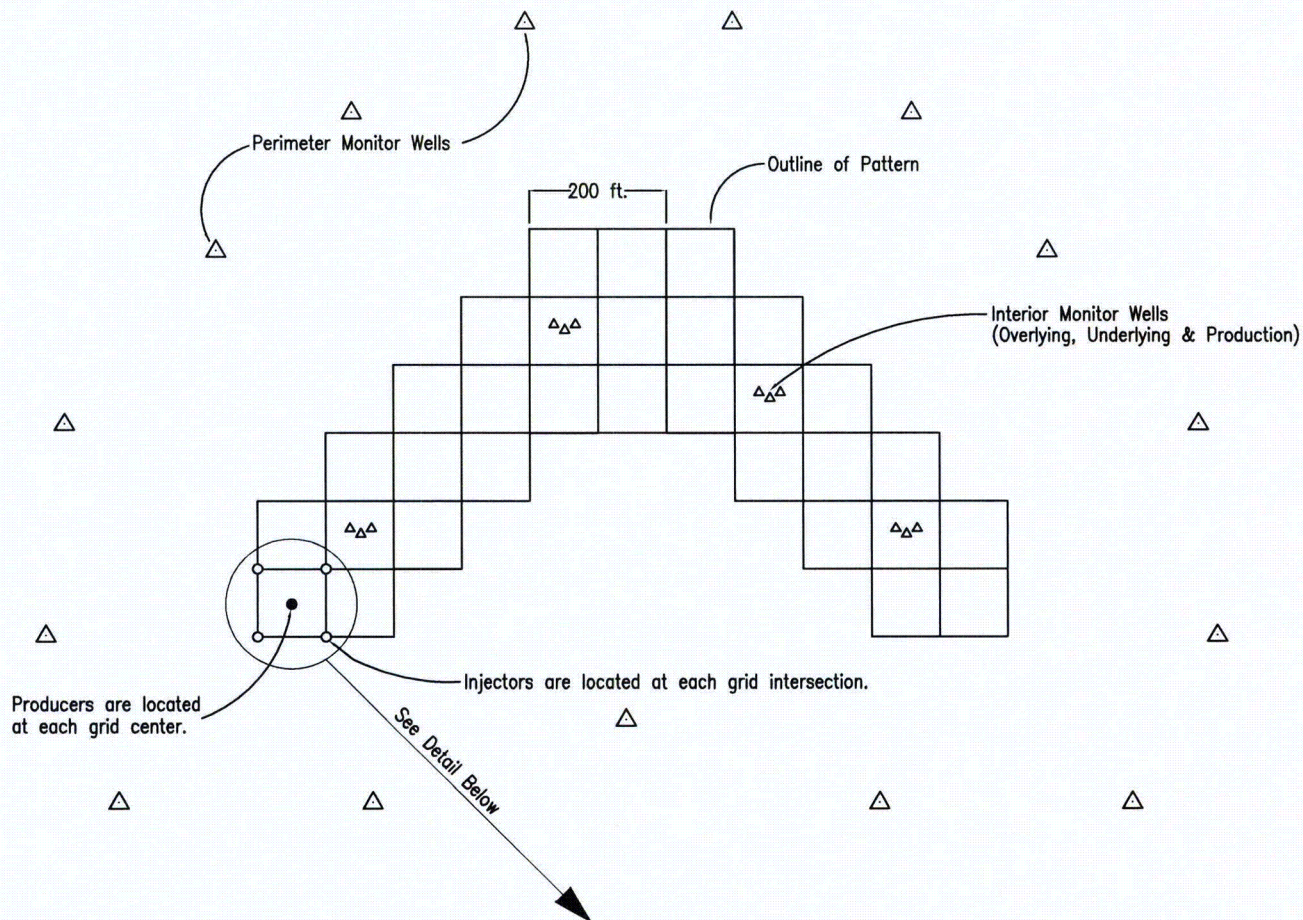
**Lost Creek Permit Area**

Issued For: WDEQ-LQD 1.0 Drawn By: SMH

Issued / Revised: 12.6.2007

Drwg No. WDEQ-LQD1.0 FIG OP-3 12.6.07 SMH





TYPICAL MINE UNIT PATTERN



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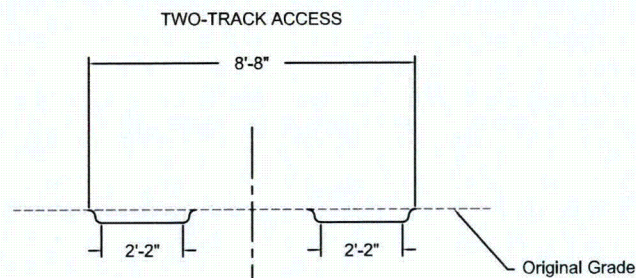
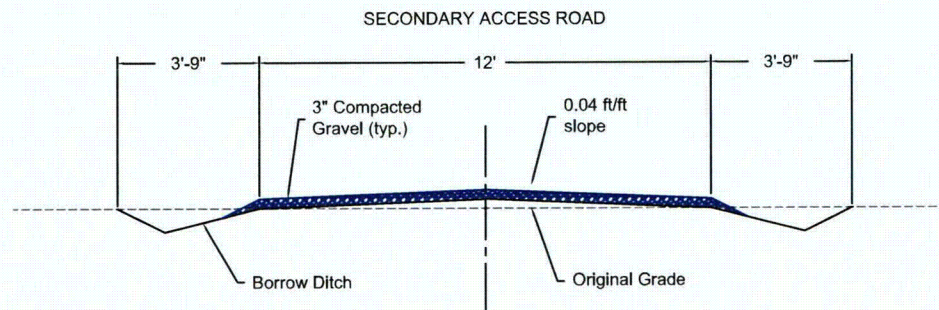
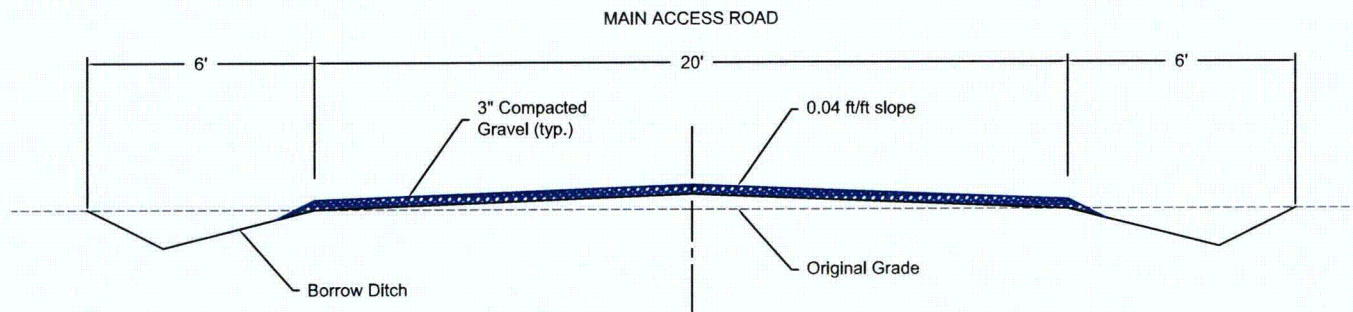
**FIGURE OP-3b**  
**Solution Flow Patterns**  
**Lost Creek Permit Area**

Issued For: WDEQ-LQD 1.0 Drawn By: SMH

Issued / Revised: 1.30.2008

Drawing No. WDEQLQD1.0 FIG OP-7a 1.30.08 SMH





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**Figure OP-3c**  
**Road Design Features**  
**Lost Creek Permit Area**

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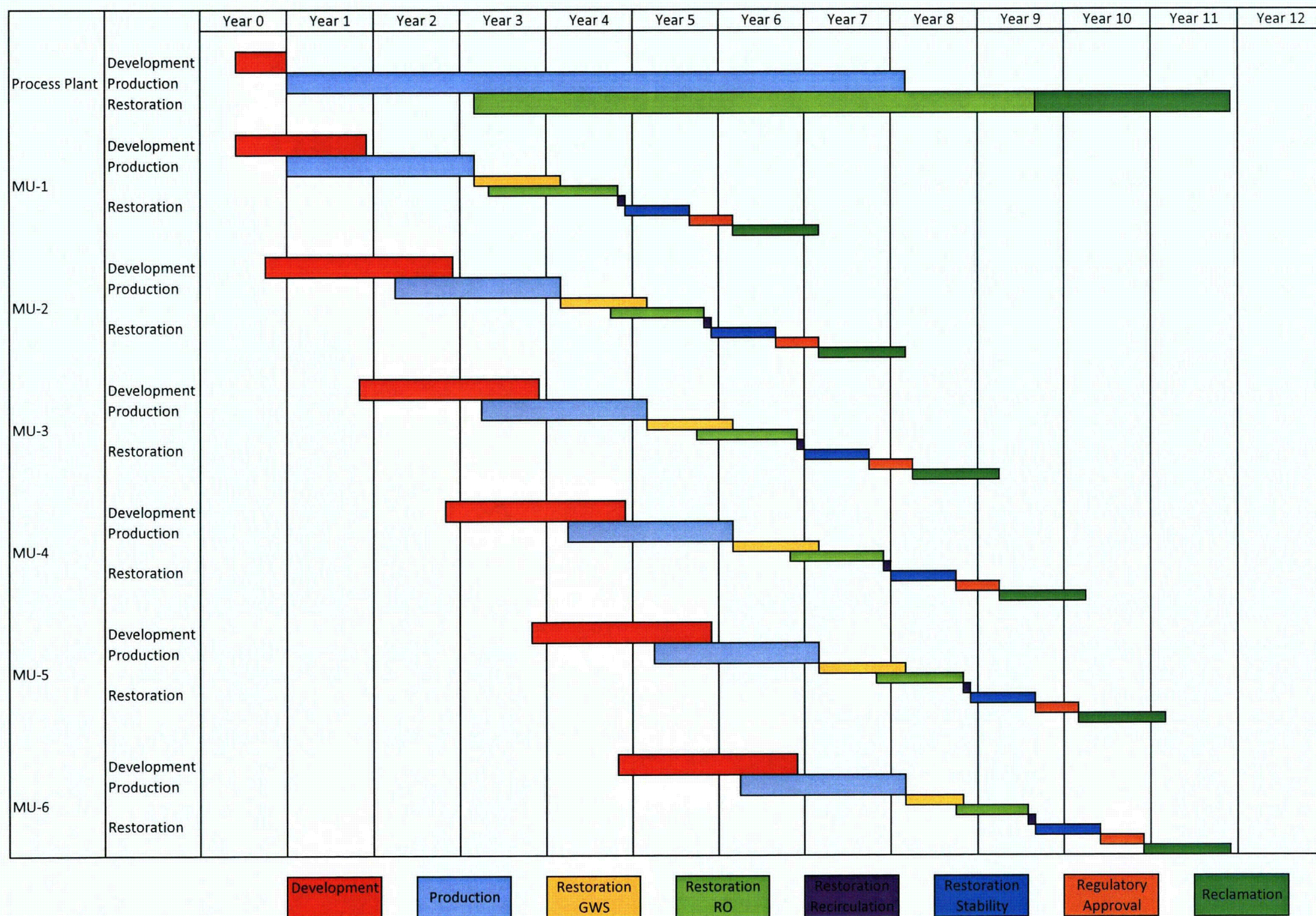
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Dwg No. WDEQLQD1.0 FIG OP-XX 2.6.08 SMH



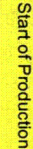
Figure 4A

## Lost Creek Project Development, Production and Restoration Schedule

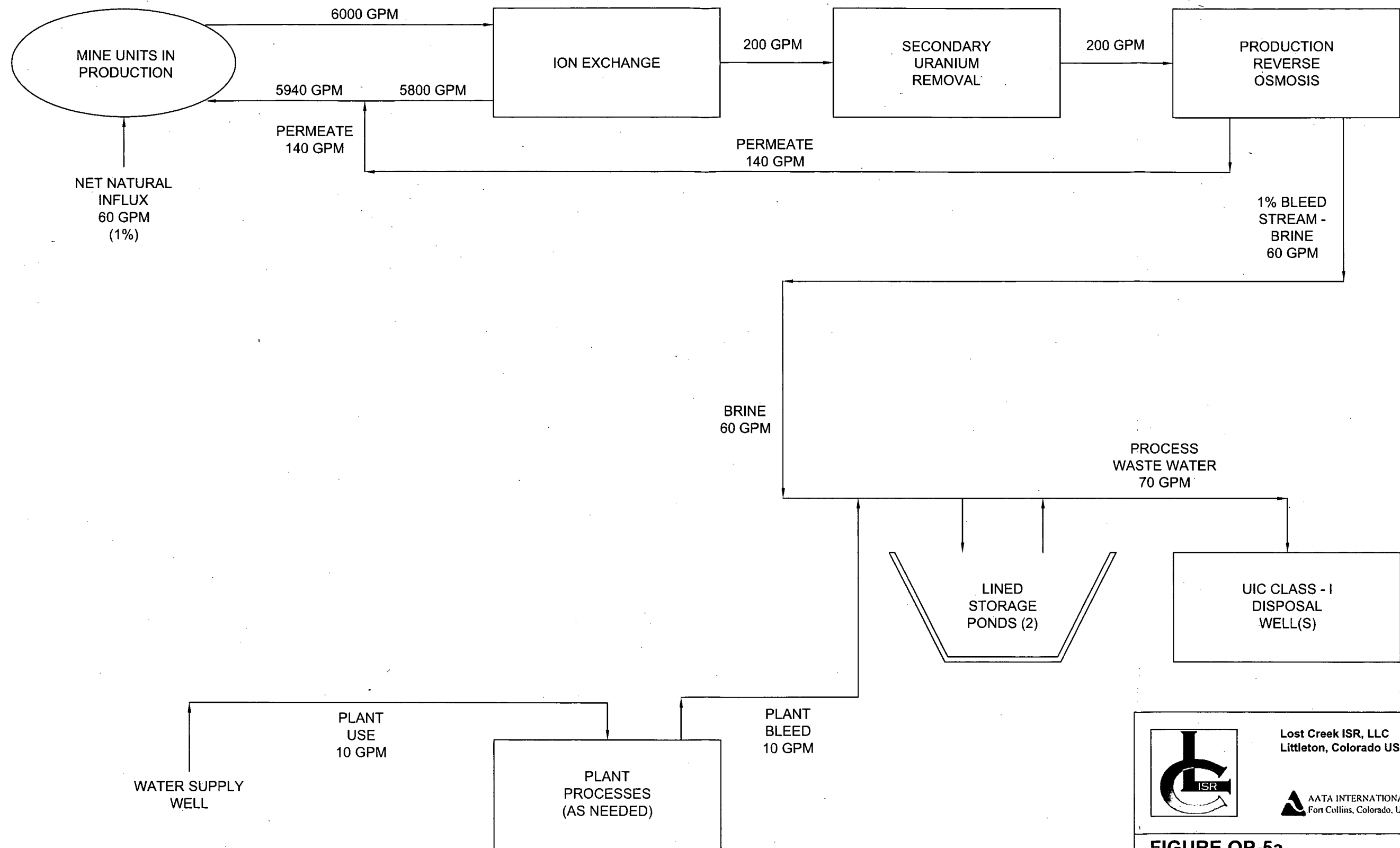




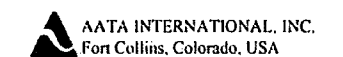
### Lost Creek Project - Proposed Restoration Equipment Installation Schedule







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Littleton, Colorado USA



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**FIGURE OP-5a**  
**Project Water Balance**  
**Production Only**

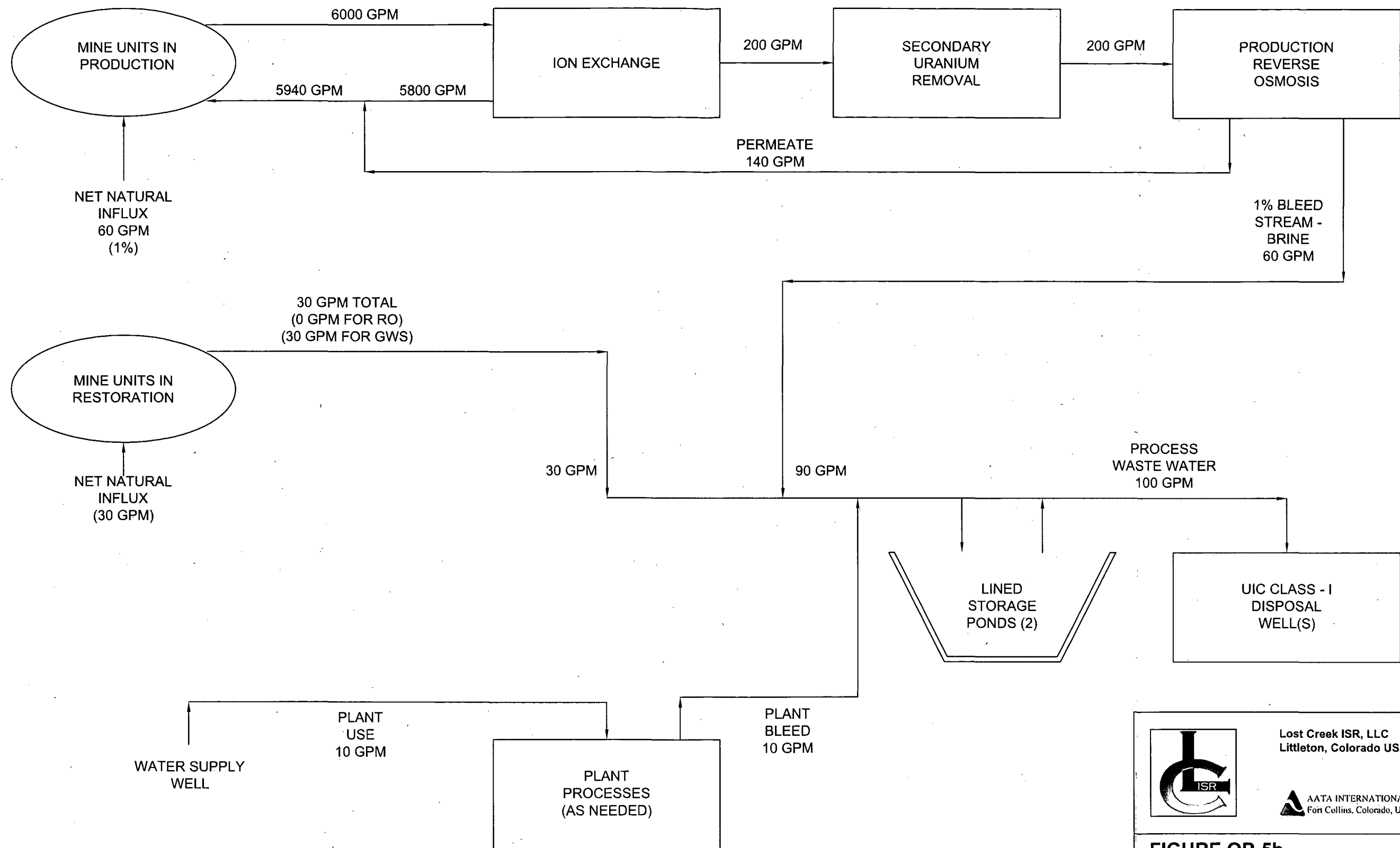
Lost Creek Permit Area


Issued For: WDEQ-LQD 1.0

Drawn By: WH


Issued / Revised: 07.20.2009

Dwg. No. WDEQLQD1.0 FIG OP-5a 7.20.09 WH





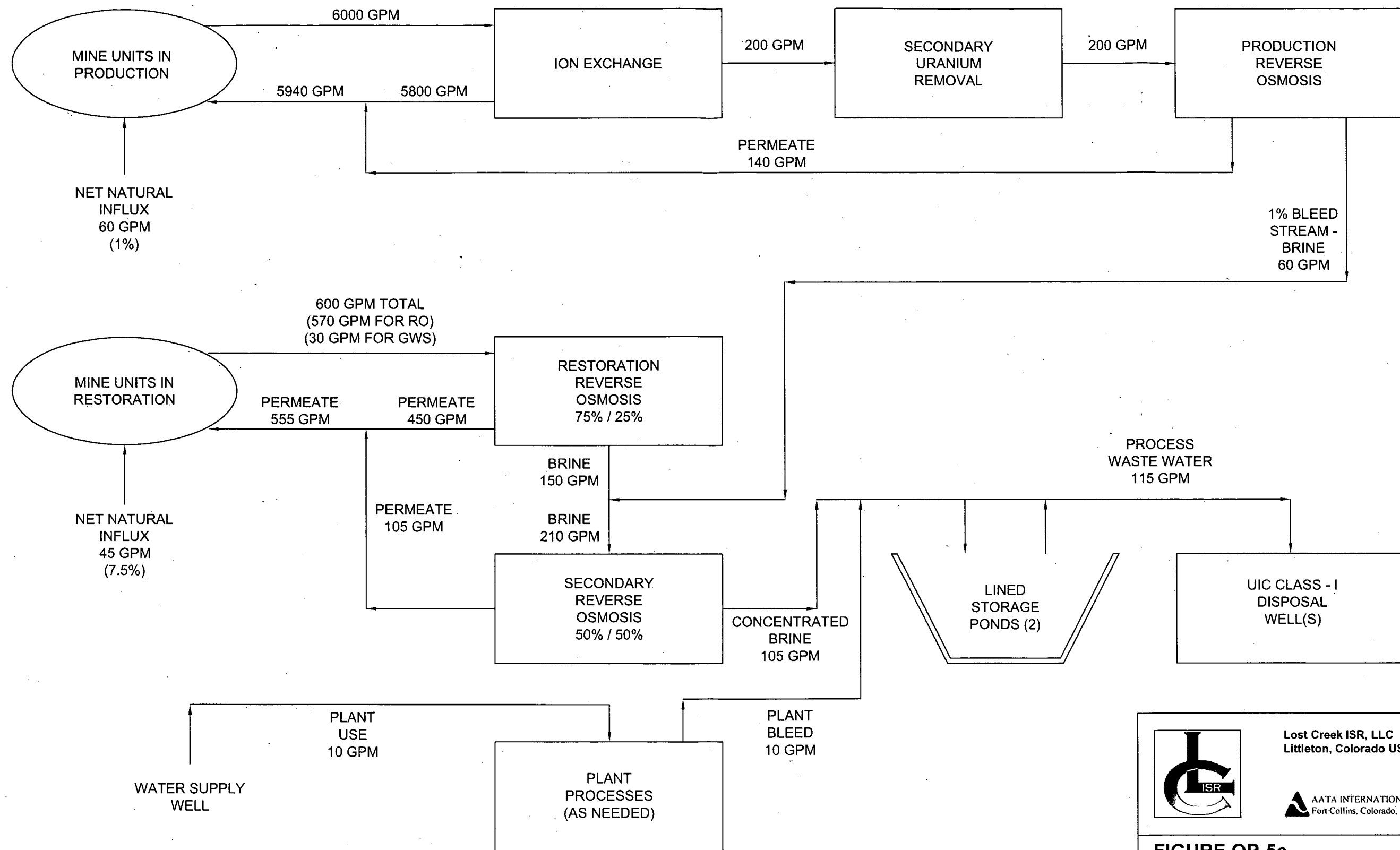
**Lost Creek ISR, LLC**  
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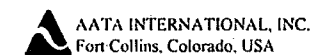
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**FIGURE OP-5b**  
**Project Water Balance**  
**Production with GWS**  
**Lost Creek Permit Area**

Issued For: WDEQ-LQD 1.0	Drawn By: WH
Issued / Revised: 07.20.2009	
Dwg. No. WDEQLQD1.0 FIG OP-5b 07.20.09 WH	



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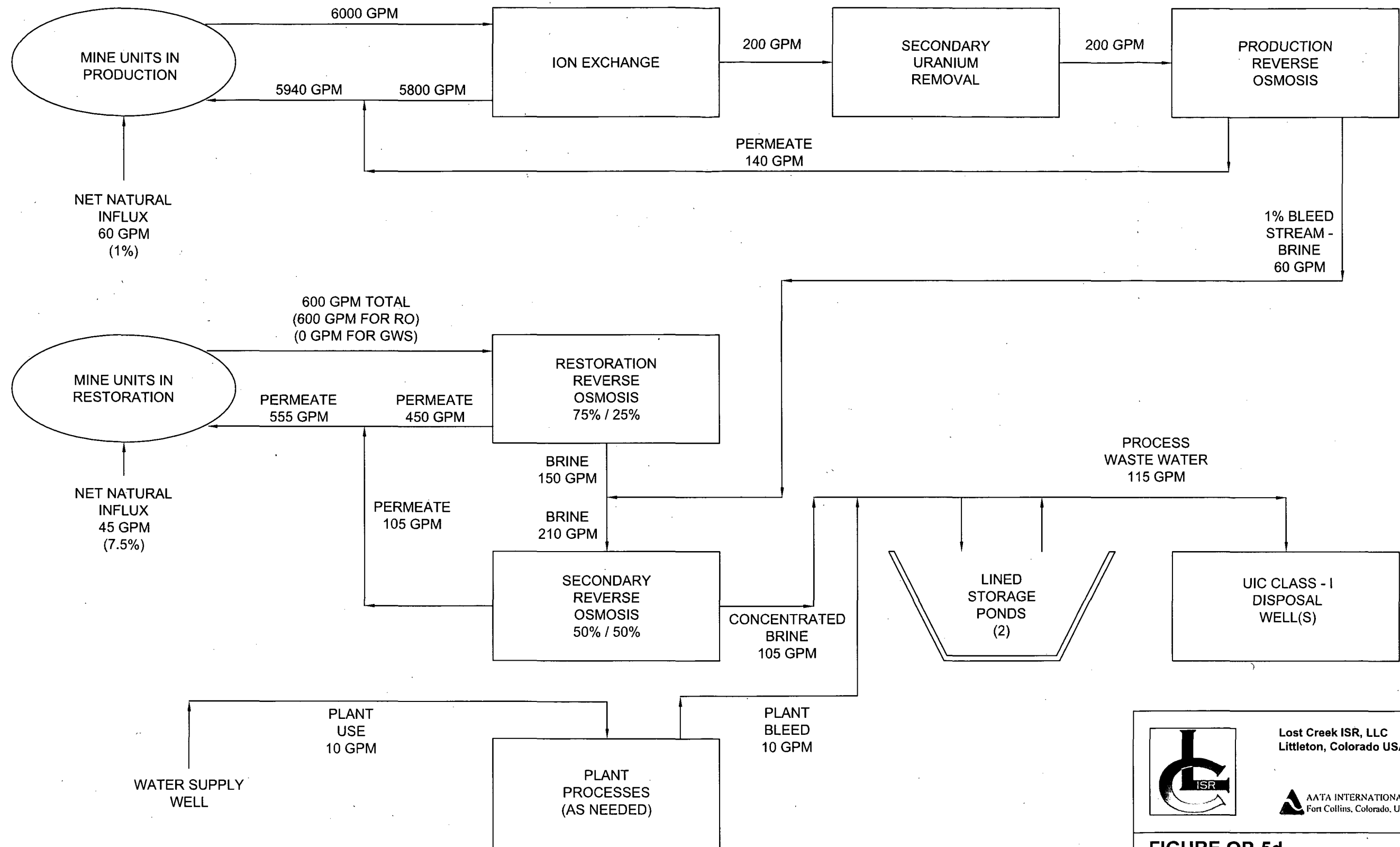


**FIGURE OP-5c**  
**Project Water Balance**  
**Production with GWS and RO**  
**Lost Creek Permit Area**

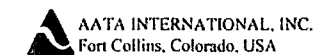
Issued For: WDEQ-LQD 1.0 Drawn By: WH

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Dwg. No. WDEQLQD1.0 FIG OP-5c 07.20.09 WH



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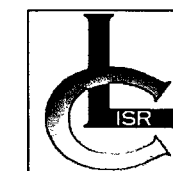
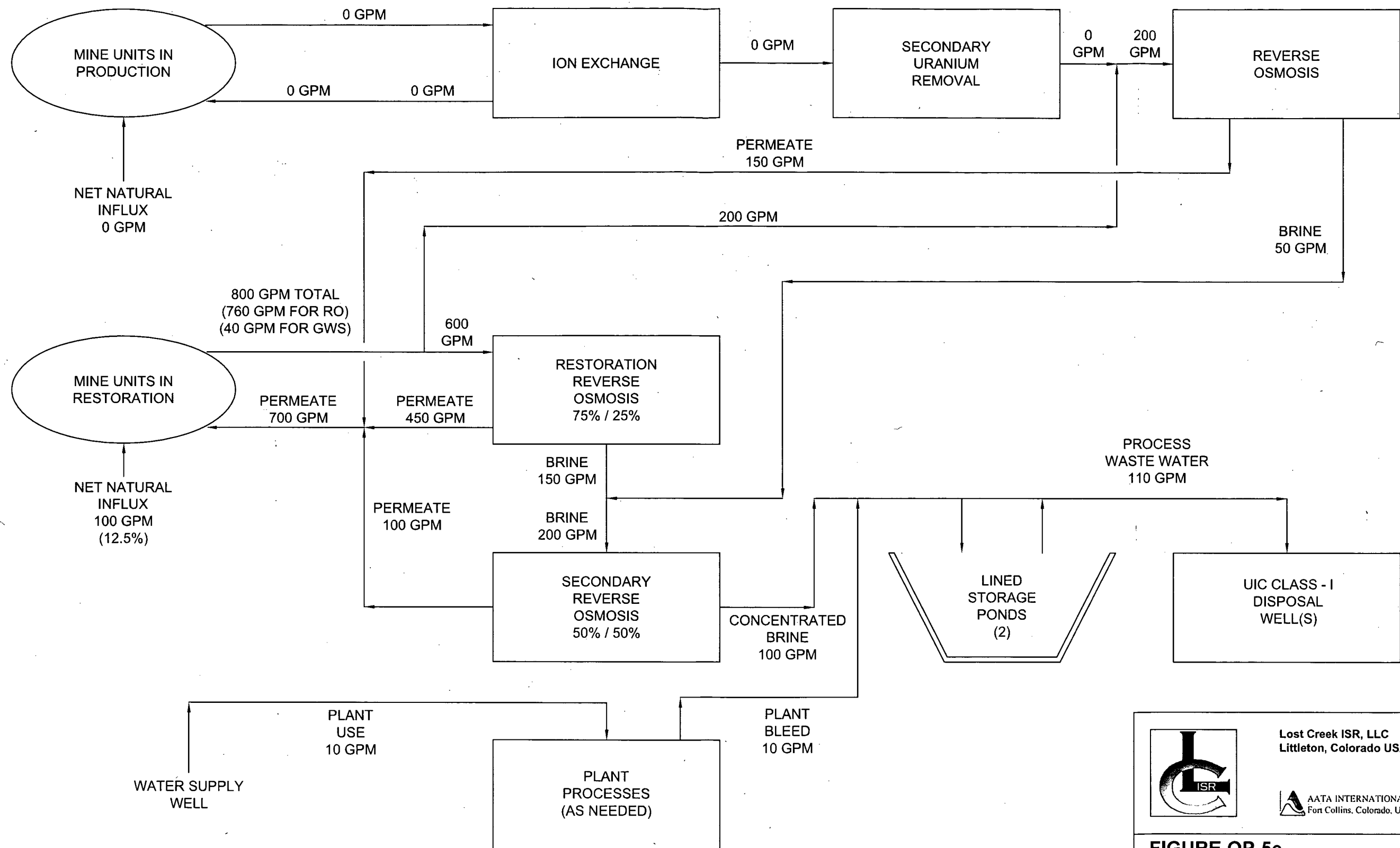
**FIGURE OP-5d**  
**Project Water Balance**  
**Production with RO**

Lost Creek Permit Area

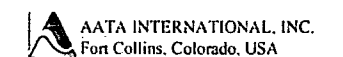
Issued For: WDEQ-LQD 1.0 Drawn By: WH

Issued / Revised: 07.20.2009

Dwg. No. WDEQLQD1.0 FIG OP-5d 07.20.09 WH



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**FIGURE OP-5e**  
**Project Water Balance**  
**GWS and RO, No Production**

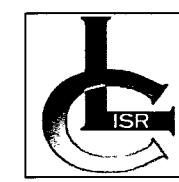
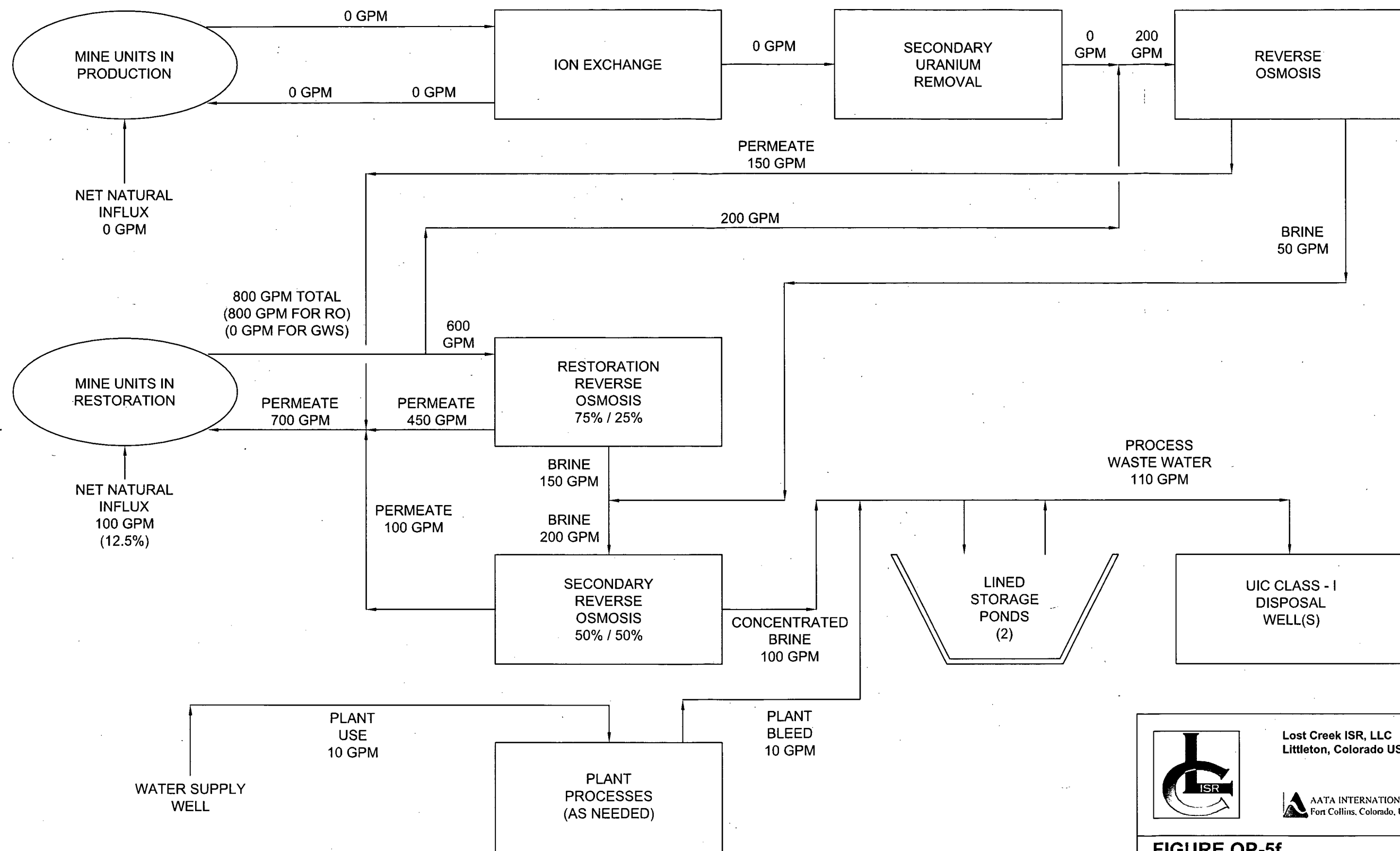
Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0

Drawn By: WH

Issued / Revised: 07.20.2009

Dwg. No. WDEQLQD1.0 FIG OP-5e 07.20.09 WH

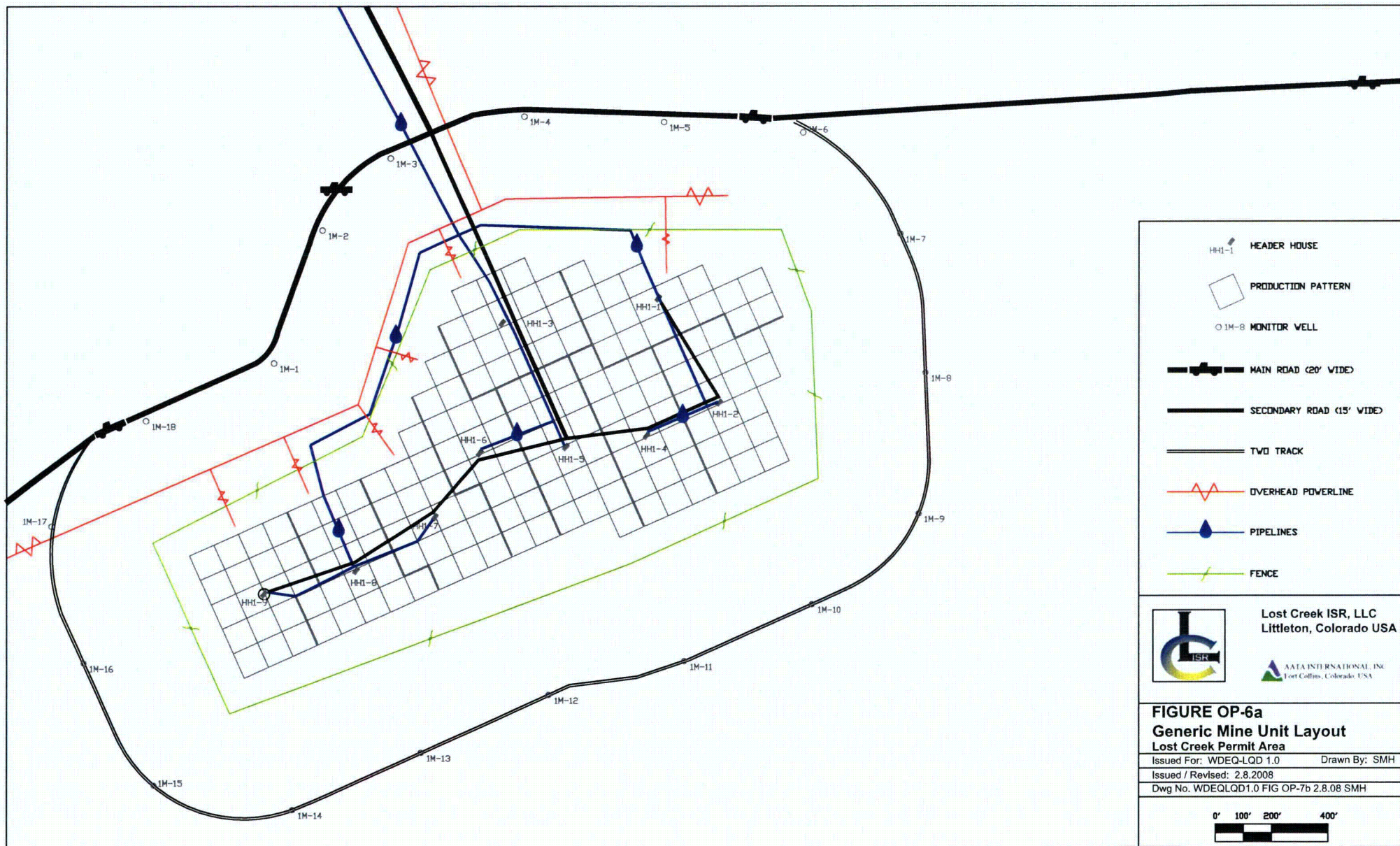


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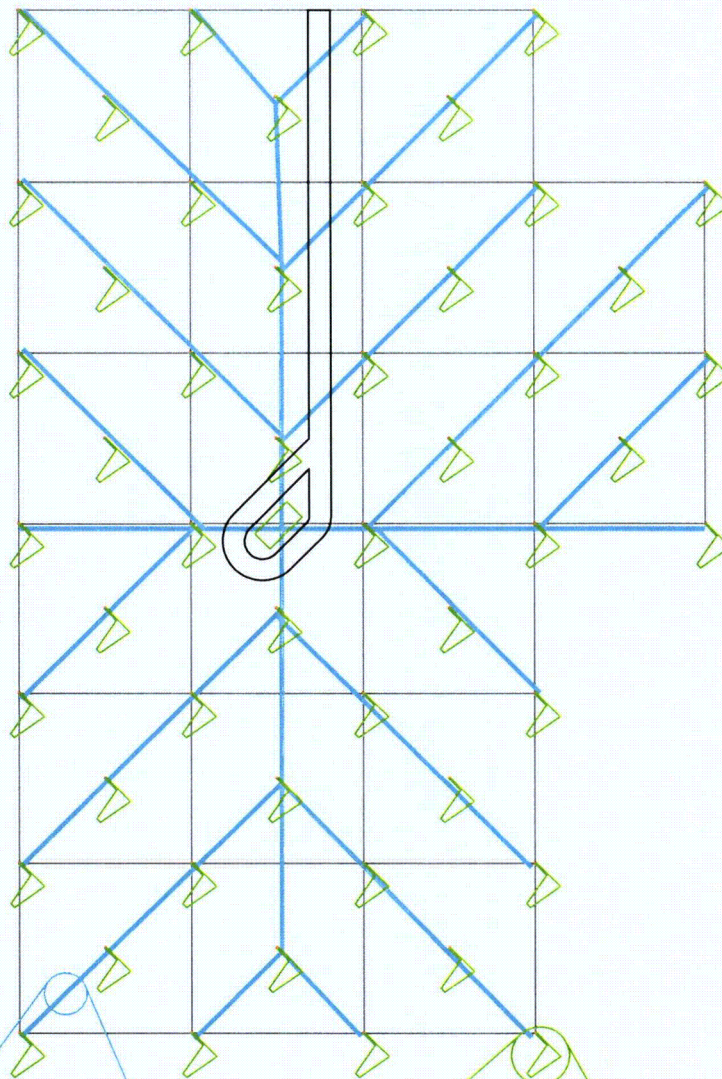


**FIGURE OP-5f**  
**Project Water Balance**  
**RO Only, No Production**  
**Lost Creek Permit Area**  
 Issued For: WDEQ-LQD 1.0 Drawn By: WH  
 Issued / Revised: 11.20.2007  
 Dwg. No. WDEQLQD1.0 FIG OP-5f 11.20.07 WH









THE TOTAL PATTERN AREA = 20 PATTERNS X  
9025 SQ. FT. = 180,500 SQ. FT.

LONG TERM TOPSOIL STORAGE: 5,300 SQ. FT.  
(LIFE OF HEADER HOUSE)

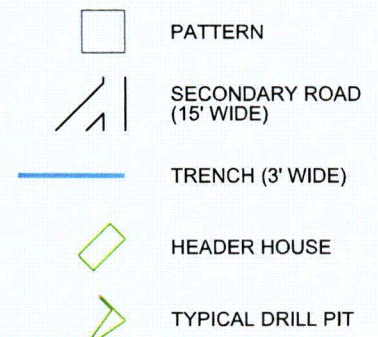
SECONDARY ROAD = 5,000 SQ. FT.  
HEADER HOUSE = 300 SQ. FT.

SHORT TERM TOPSOIL REMOVAL: 17,800 SQ.  
FT. (< 3 MONTHS)

DRILL PITS = 51 PITS X 140 SQ. FT.  
= 7,140 SQ. FT.  
TRENCHES = 3,550 FT. X 3 FT. WIDE  
= 10,650 SQ. FT.

TOPSOIL REMOVAL (% PATTERN AREA):

LONG TERM = 3%  
SHORT TERM = 10%



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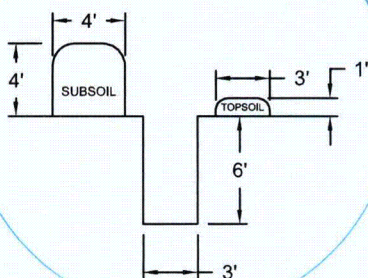
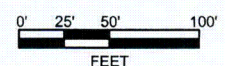
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**FIGURE OP-6b**  
**Vegetation and Soil Impacts**  
**Lost Creek Permit Area**

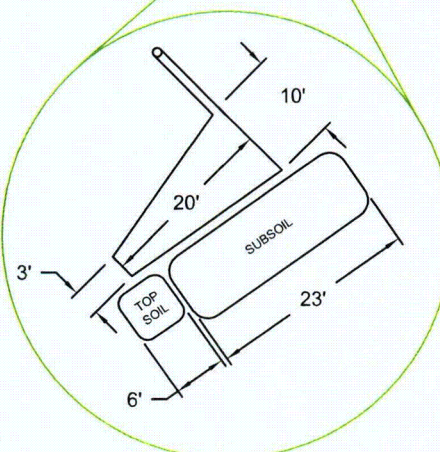
Issued For: WDEQ-LQD 1.0 Drawn By: SMH

Issued / Revised: 2.8.2008

Dwg No. WDEQLQD1.0 FIG OP-7c 2.8.08 SMH



TYPICAL TRENCH LAYOUT



TYPICAL DRILL PIT LAYOUT

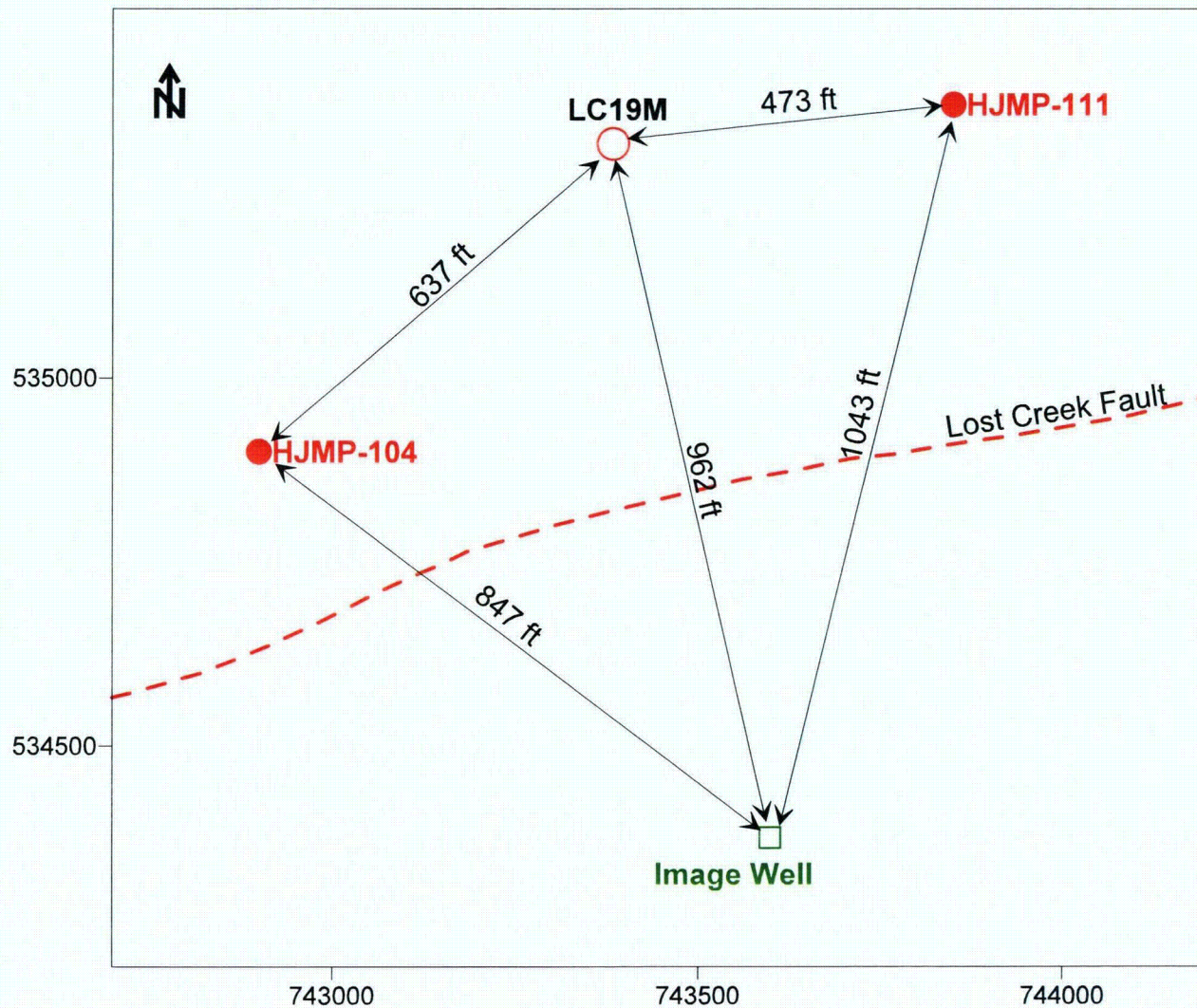
**Figure OP-7**  
**Alkaline Uranium Leach Chemistry In The Aquifer**



Equation (1): In an aqueous environment, the oxidized uranium will form a soluble uranyl ( $\text{UO}_2^{+2}$ ) cation.

Equation (2): Sodium bicarbonate and carbon dioxide gas is introduced into the injection lixiviant. The predominant uranyl dicarbonate complex forms and stabilizes uranyl ions in solution.





#### Pumping Test Wells

○ Pumping Well

□ Image Well

● Production Zone Monitor Well



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#### FIGURE OP-10a

**Location of Pumping Well, Image Well  
and Observation Wells**

**Lost Creek Permit Area**

Issued For: WDEQ LQD

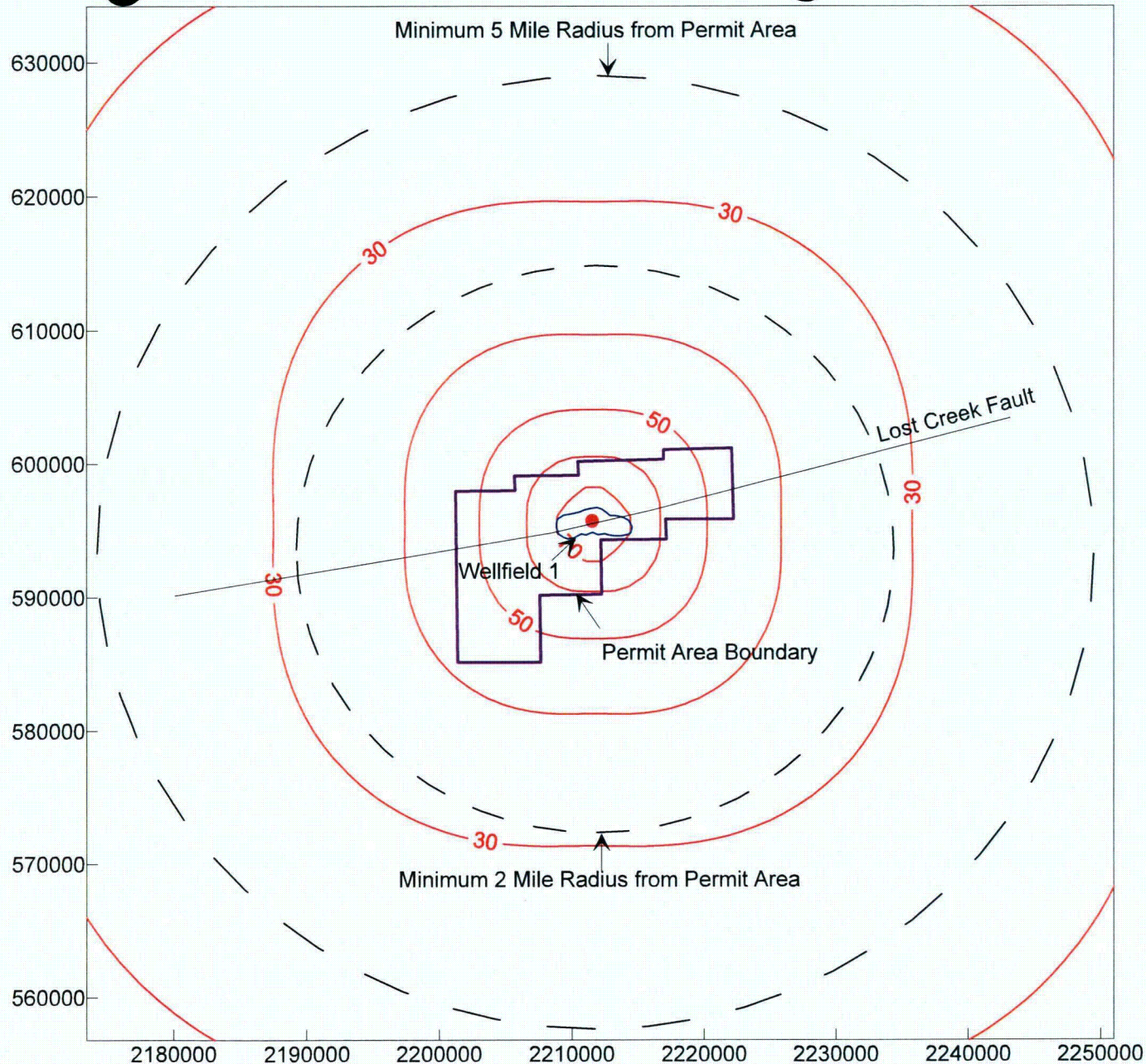
Drawn By: EPL


Issued /Revised: 09.10.09

Drawing No.: Figure WDEQCR105a


0 250 500 Feet







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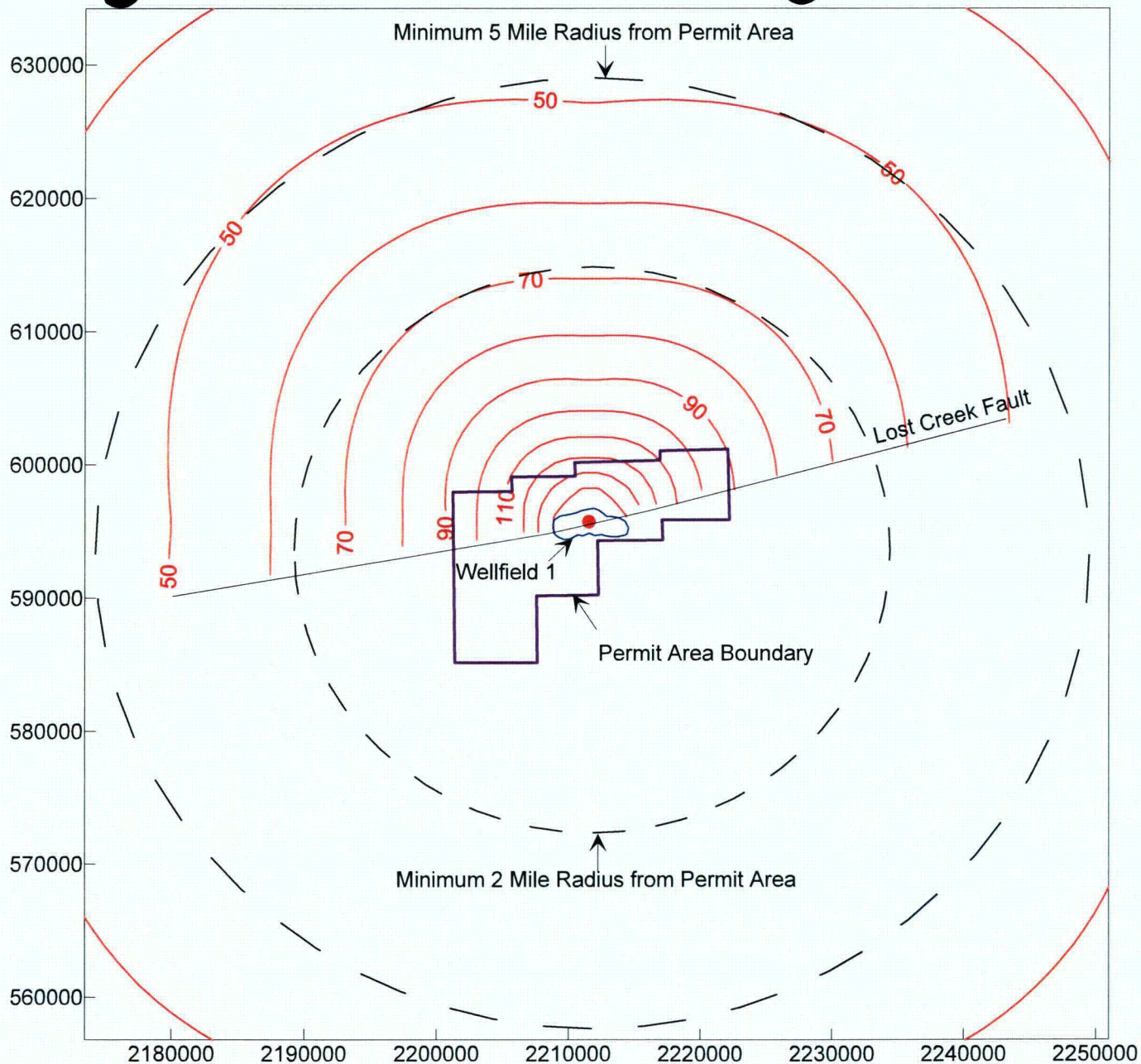



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Littleton, CO, USA

**FIGURE OP-10b**  
**Simulated Drawdown at Consumptive Capacity of 89 gpm after 8 Years**  
**Fault Has Minimum Effect**  
**Contour Interval is 10 Feet**


<b>Lost Creek Permit Area</b>	
Issued For: WDEQ LQD	Drawn By: EPL
Issued /Revised: 09.10.09	
Drawing No.: Figure WDEQCR105b	
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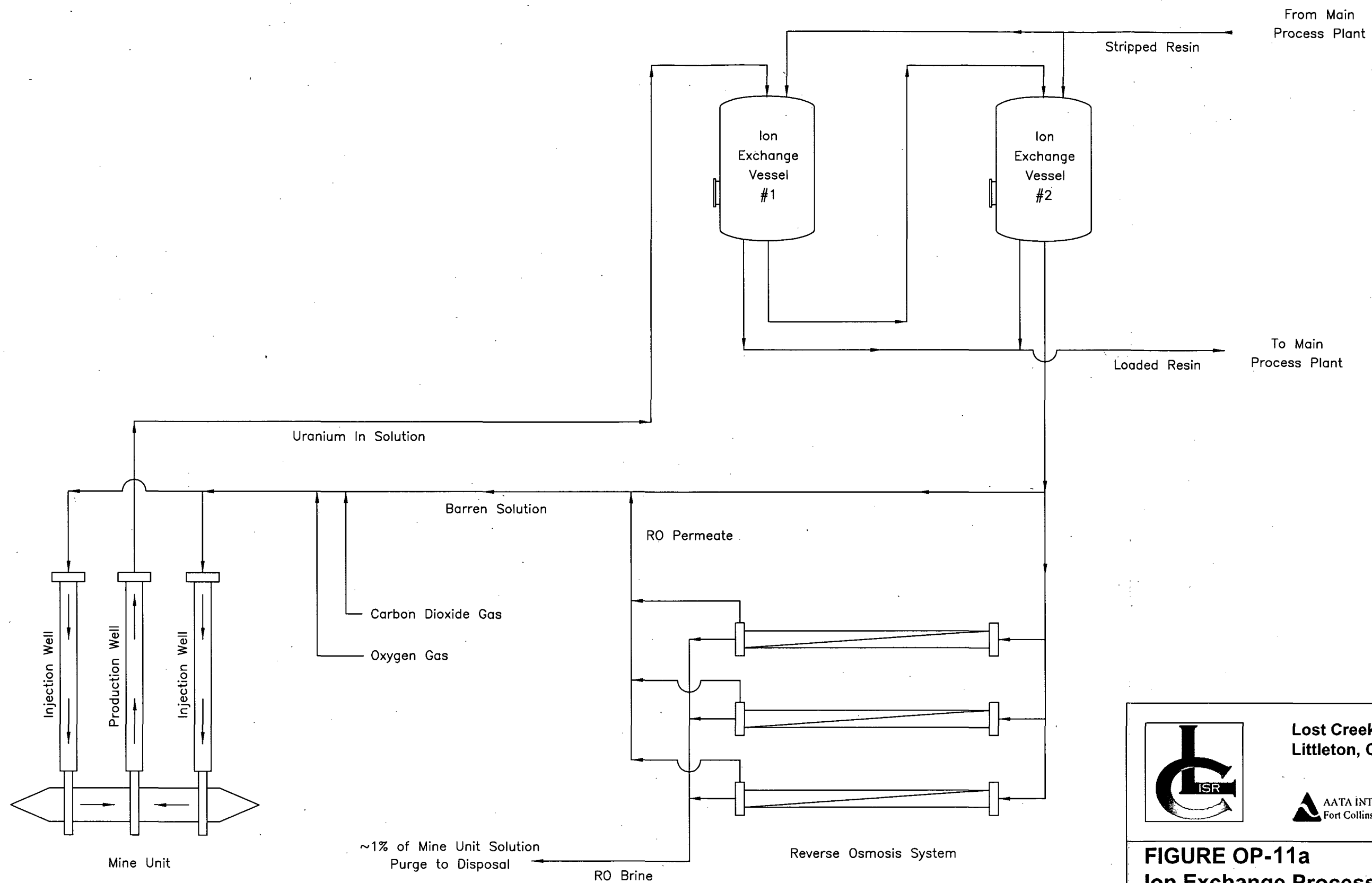
Lost Creek ISR, LLC  
Littleton, Colorado, USA



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**FIGURE OP-10c**  
**Simulated Drawdown at Consumptive Capacity of 89 gpm after 8 Years**  
**Fault Acts as No-Flow Barrier**  
**Contour Interval is 10 Feet**

Lost Creek Permit Area	
Issued For: WDEQ LQD	Drawn By: EPL
Issued /Revised: 09.10.09	
Drawing No.: Figure WDEQCR105a	
	



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# **FIGURE OP-11a** **Ion Exchange Process Flow**

Lost Creek Permit Area

Issued For: WDEQ-LQD 1.0

Drawn By: SMH

Issued / Revised: 11.29.2007

Dwg No. WDEQLQD1.0 FIG OP-10a 11.29.07 SMH

Table OP-2 Acreage of Expected Disturbance, Vegetation Type, Topsoil Salvage (Page 1 of 3)

Facility <sup>(1)</sup>	Term of Disturbance <sup>(2)</sup>	Total Disturbance (acres)	Area of Disturbance (acres)		Area within Disturbance from which Topsoil to be Removed (acres)		Topsoil Salvage <sup>(3)</sup> (cubic yards)	Comment
			Upland Big Sagebrush	Lowland Big Sagebrush	Upland Big Sagebrush	Lowland Big Sagebrush		
PLANT	LT	10.00	4.20	5.80	4.20	5.80	32,234	Map area is 13.8 acres (5.8 acres of Lowland & 8 acres of Upland Big Sagebrush); however, only about 70% (10 acres) will have vegetation removed & topsoil stripped. As a conservative estimate, all of the Lowland Big Sagebrush was included in the disturbance (Figure D8-1). Topsoil stockpile in the NE portion of the Plant site.
<b>STAGING AREAS</b>								
Permanent	LT	1.20	1.20	0.00	1.20	0.00	3,868	Permanent staging area is in Upland Big Sagebrush. Topsoil stockpile NE of the area. Potential staging areas, if needed, will be similarly located.
Potential	ST	1.50	1.50	0.00	1.50	0.00	4,835	
Potential	ST	1.50	1.50	0.00	1.50	0.00	4,835	
<b>TOTAL - STAGING AREAS</b>		<b>4.20</b>	<b>4.20</b>	<b>0.00</b>	<b>4.20</b>	<b>0.00</b>	<b>13,538</b>	
<b>DEEP WELLS</b>								
Drilling pad and mud pits	ST	15.00	11.54	3.46	11.54	3.46	48,352	Topsoil stockpiles adjacent to pads. <sup>(4)</sup>
Well House	LT	5.00	3.85	1.15	3.85	1.15	16,117	Topsoil stockpiles adjacent to well houses. <sup>(4)</sup>
<b>TOTAL - DEEP WELLS</b>		<b>20.00</b>	<b>15.39</b>	<b>4.61</b>	<b>15.39</b>	<b>4.61</b>	<b>64,469</b>	
<b>PIPELINES (outside patterns)</b>								
Trunkline	ST	2.98	2.70	0.28	2.70	0.28	9,606	Main trunkline will be completed in stages; extended to each mine unit as it comes on-line. Calculation is for complete length of the pipeline. Topsoil will be wind-rowed adjacent to the pipeline (separate from deeper material).
Mine Unit 1	ST	1.57	1.15	0.42	1.15	0.42	5,061	Estimate is proportional to anticipated mine unit disturbance. <sup>(5)</sup> Topsoil will be wind-rowed adjacent to the pipeline.
Mine Unit 2	ST	1.57	1.31	0.26	1.31	0.26	5,061	
Mine Unit 3	ST	1.57	1.33	0.24	1.33	0.24	5,061	
Mine Unit 4	ST	1.57	1.42	0.15	1.42	0.15	5,061	
Mine Unit 5	ST	1.57	1.41	0.16	1.41	0.16	5,061	
Mine Unit 6	ST	1.57	1.49	0.08	1.49	0.08	5,061	
<b>TOTAL - PIPELINES</b>		<b>12.40</b>	<b>10.81</b>	<b>1.59</b>	<b>10.81</b>	<b>1.59</b>	<b>39,971</b>	
<b>MUD PITS (outside patterns)</b>								
Delineation Holes	ST	7.52	5.49	2.03	5.49	2.03	24,240	Hole locations are dependent on results of future drilling so not yet known. As a conservative estimate, the highest proportion of Lowland to Upland acreage in a mine unit (Mine Unit One) was used to estimate the proportion for the delineation holes. Topsoil will be stockpiled adjacent to the pipeline (separate from deeper material).
<b>Monitoring Wells (mostly monitor well ring - Figure OP-6a)</b>								
Mine Unit 1	ST	0.63	0.46	0.17	0.46	0.17	2,031	Estimate is proportional to anticipated mine unit disturbance. <sup>(5)</sup> Topsoil will be stockpiled adjacent to the pipeline (separate from deeper material).
Mine Unit 2	ST	0.63	0.53	0.10	0.53	0.10	2,031	
Mine Unit 3	ST	0.63	0.53	0.10	0.53	0.10	2,031	
Mine Unit 4	ST	0.63	0.57	0.06	0.57	0.06	2,031	
Mine Unit 5	ST	0.63	0.57	0.06	0.57	0.06	2,031	
Mine Unit 6	ST	0.63	0.60	0.03	0.60	0.03	2,031	
<b>TOTAL - MUD PITS</b>		<b>11.30</b>	<b>8.74</b>	<b>2.56</b>	<b>8.74</b>	<b>2.56</b>	<b>36,425</b>	



Table OP-2    Acreage of Expected Disturbance, Vegetation Type, Topsoil Salvage (Page 2 of 3)

Facility <sup>(1)</sup>	Term of Disturbance <sup>(2)</sup>	Total Disturbance (acres)	Area of Disturbance (acres)		Area within Disturbance from which Topsoil to be Removed (acres)		Topsoil Salvage <sup>(3)</sup> (cubic yards)	Comment
			Upland Big Sagebrush	Lowland Big Sagebrush	Upland Big Sagebrush	Lowland Big Sagebrush		
ROADS (outside patterns)								
Access Road within main Permit Area	LT	17.90	15.72	2.18	15.72	2.18	57,700	
Access Road east & west of main Permit Area	LT	16.20	15.60	0.60	15.60	0.60	52,220	
Secondary Roads								
Roads to Deep Wells	LT	2.5	2.06	0.44	2.06	0.44	8,059	Assumes no pre-existing disturbance even though roads follow existing two-tracks where possible. Topsoil stockpile for road to each well will be near the well house for that well.
Mine Unit 1	LT	0.20	0.15	0.05	0.15	0.50	2,095	Estimate is proportional to anticipated mine unit disturbance. <sup>(5)</sup> Topsoil will be stockpiled at intervals adjacent to the roads.
Mine Unit 2	LT	0.20	0.17	0.03	0.17	0.31	1,547	
Mine Unit 3	LT	0.20	0.17	0.03	0.17	0.29	1,483	
Mine Unit 4	LT	0.20	0.18	0.02	0.18	0.18	1,160	
Mine Unit 5	LT	0.20	0.18	0.02	0.18	0.19	1,193	
Mine Unit 6	LT	0.20	0.19	0.01	0.19	0.10	935	
Total for Secondary Roads		3.70	3.10	0.60	3.10	2.01	16,472	
Two-Track Roads								
Mine Unit 1	LT	1.37	0.72	0.26	0.72	0.26	3,159	Estimate is proportional to anticipated mine unit disturbance. <sup>(5)</sup> Topsoil will be stockpiled at intervals adjacent to the roads.
Mine Unit 2	LT	1.37	1.12	0.23	1.12	0.23	4,352	
Mine Unit 3	LT	1.37	1.30	0.24	1.30	0.24	4,964	
Mine Unit 4	LT	1.37	0.98	0.10	0.98	0.10	3,481	
Mine Unit 5	LT	1.37	1.75	0.19	1.75	0.19	6,253	
Mine Unit 6	LT	1.37	1.24	0.07	1.24	0.07	4,223	
Total for Two-Track Roads		8.20	7.11	1.09	7.11	1.09	26,432	
TOTAL - ROADS		46.00	41.53	4.47	41.53	5.88	49,705	
PATTERNS (Figure OP-6b)								
Mine Unit 1	3% LT/ 10% ST	36.66	26.86	9.80	3.50	1.27	15,376	Estimate is proportional to anticipated mine unit disturbance. <sup>(5)</sup> LT stockpiles will be adjacent to header houses; ST stockpiles will be separate from deeper material and will be adjacent to feature (e.g., mud pit) or wind-rowed (e.g., pipeline).
Mine Unit 2	3% LT/ 10% ST	36.66	30.53	6.14	3.97	0.80	15,376	
Mine Unit 3	3% LT/ 10% ST	36.67	30.94	5.73	4.03	0.74	15,376	
Mine Unit 4	3% LT/ 10% ST	36.67	33.10	3.56	4.30	0.47	15,376	
Mine Unit 5	3% LT/ 10% ST	36.67	33.00	3.67	4.29	0.48	15,376	
Mine Unit 6	3% LT/ 10% ST	36.67	34.72	1.95	4.52	0.25	15,376	
TOTAL - PATTERNS		220.00	189.15	30.85	24.61	4.01	92,255	
TOTAL DISTURBANCE	LT - Topsoil	--	--	--	75.39	16.84	297,298	
	ST - Topsoil	--	--	--	58.70	11.62	226,672	
	Vegetation	323.90	274.02	49.88	--	--	--	

Table OP-2 . Acreage of Expected Disturbance, Vegetation Type, Topsoil Salvage (Page 3 of 3)

Facility <sup>(1)</sup>	Term of Disturbance <sup>(2)</sup>	Total Disturbance (acres)	Area of Disturbance (acres)		Area within Disturbance from which Topsoil to be Removed (acres)		Topsoil Salvage <sup>(3)</sup> (cubic yards)	Comment
			Upland Big Sagebrush	Lowland Big Sagebrush	Upland Big Sagebrush	Lowland Big Sagebrush		
<sup>(1)</sup> Facility locations are shown on Plates OP-1 and OP-2.								
<sup>(2)</sup> LT = Long Term topsoil stockpile, i.e., duration of project. ST = Short Term topsoil stockpile, i.e., a few days to a few months.								
<sup>(3)</sup> For estimating topsoil salvage volumes, a topsoil depth of 24 inches was used. Recommended topsoil stripping depths were 24 inches or less (Attachments OP-5a and 5b)								
<sup>(4)</sup> Well WDW1 (SW corner of Permit Area) was the original exploration well drilled in 2008 & the area has been reclaimed.								
<sup>(5)</sup> Because the mine unit acreages and boundaries are not yet finalized, it was assumed that all of the mine units cover the same amount of acreage (about 38 acres each). That acreage was then superimposed on the vegetation map, covering the approximate location of each mine unit as shown on Figure D8-1, to estimate the proportion of Upland and Lowland Big Sagebrush that will be disturbed for each mine unit. Once each mine unit acreage and boundary is finalized, values for each mine unit will be updated, if necessary, in the mine unit package submitted to WDEQ-LQD prior to unit operation.								

Table OP-3 Disturbance Acreage by Section and Year (Page 1 of 4)

	Year												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Section 13, T25N, R93W</b>													
Main Road	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
MU 5 Secondary Road					0.08	0.08	0.08	0.08	0.08	0.08	0.08		
Deep Well Road	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Deep Well Pad	2.80	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Deep Well Trunkline	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
Sub-Total	8.06	4.20	4.20	4.20	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.20	5.46
% of Section	1.26	0.66	0.66	0.66	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.66	0.85
<b>Section 14, T25N, R93W</b>													
Main Road	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
Sub-Total	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
% of Section	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
<b>Section 15, T25N, R93W</b>													
Main Road	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
Sub-Total	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61	3.61
% of Section	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
<b>Section 16, T25N, R93W</b>													
Main Road	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Sub-Total	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
% of Section	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
<b>Section 24, T25N, R93W</b>													
MU 5 Pattern Area					38.50	38.50	38.50	38.50	38.50	38.50	38.50		
MU 5 Two Track Road					1.36	1.36	1.36	1.36	1.36	1.36	1.36		
MU 3 Two Track Road			0.14	0.14	0.14	0.14	0.14	0.14	0.14				
Secondary Roads					0.87	0.87	0.87	0.87	0.87	0.87	0.87		
Deep Well Trunkline	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24		
MU 5 Trunkline					1.20	0.00	0.00	0.00	0.00	0.00	1.20		
Sub-Total	1.24	0.00	0.14	0.14	42.07	40.87	40.87	40.87	40.87	40.73	43.17	0.00	0.00
% of Section	0.19	0.00	0.02	0.02	6.57	6.39	6.39	6.39	6.39	6.36	6.75	0.00	0.00

Table OP-3 Disturbance Acreage by Section and Year (Page 2 of 4)

	Year												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Section 25, T25N, R93W</b>													
Deep Well Road	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Deep Well Pad	2.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Deep Well Trunkline	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18
Sub-Total	4.62	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	1.64	2.82
% of Section	0.72	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.44
<b>Section 16, T25N, R92W</b>													
Main Road	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
Secondary Road	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Deep Well Pad	2.80	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Deep Well Trunkline	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
Sub-Total	7.38	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.78
% of Section	1.15	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.75
<b>Section 17, T25N, R92W</b>													
Main Road	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Secondary Road	0.08	0.08	0.08	0.08	0.08	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
MU 4 Pattern Area				30.37	30.37	30.37	30.37	30.37	30.37	30.37			
MU 6 Pattern Area						2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
MU 4 Two Track Roads				0.25	0.25	0.25	0.25	0.25	0.25	0.25			
MU 6 Two Track Roads						0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
MU 2 Two Track Road		0.34	0.34	0.34	0.34	0.34	0.34	0.34					
Deep Well Trunkline	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
MU 4/6 Trunkline				1.33	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.00	2.07
Sub-Total	5.08	4.12	4.12	36.07	34.74	38.79	38.05	38.05	37.71	37.71	7.09	7.09	10.46
% of Section	0.79	0.64	0.64	5.64	5.43	6.06	5.95	5.95	5.89	5.89	1.11	1.11	1.63

Table OP-3 Disturbance Acreage by Section and Year (Page 3 of 4)

	Year												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Section 18, T25N, R92W</b>													
Plant Compound	10.00	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	6.00
Main Road	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Secondary Road	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MU 1 Pattern Area	10.51	10.51	10.51	10.51	10.51	10.51	10.51						
Deep Well Pad	2.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MU 1 Pattern Area	10.51	10.51	10.51	10.51	10.51	10.51	10.51						
MU 4 Pattern Area				4.02	4.02	4.02	4.02	4.02	4.02	4.02			
MU 1 Two Track Road	0.20	0.20	0.20	0.20	0.20	0.20	0.20						
MU 2 Two Track Road		0.11	0.11	0.11	0.11	0.11	0.11	0.11					
MU 4 Two Track Road				0.09	0.09	0.09	0.09	0.09	0.09	0.09			
Laydown Area/Drillers Shed	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Deep Well Trunkline	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78
Main Trunkline	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
Sub-Total	43.18	33.05	33.05	37.16	37.16	37.16	37.16	15.94	15.83	15.83	11.72	11.72	16.16
% of Section	6.75	5.16	5.16	5.81	5.81	5.81	5.81	2.49	2.47	2.47	1.83	1.83	2.53
<b>Section 19, T25N, R92W</b>													
MU 1 Two Track Road	0.62	0.62	0.62	0.62	0.62	0.62	0.62						
MU 3 Two Track Road			1.10	1.10	1.10	1.10	1.10	1.10	1.10				
MU 2 Two Track Road		0.16	0.16	0.16	0.16	0.16	0.16	0.16					
MU 5 Two Track Road					0.28	0.28	0.28	0.28	0.28	0.28	0.28		
MU 4 Two Track Road				0.11	0.11	0.11	0.11	0.11	0.11	0.11			
MU 1 Pattern Area	25.39	25.39	25.39	25.39	25.39	25.39	25.39						
MU 2 Pattern Area		3.89	3.89	3.89	3.89	3.89	3.89	3.89					
MU 3 Pattern Area			36.80	36.80	36.80	36.80	36.80	36.80	36.80				
Deep Well Road	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Deep Well Pad	2.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
WF Trunkline	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81
Deep Well Trunkline	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
MU 1 Main Trunkline	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
MU 3 Main Trunkline			1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
MU 5 Main Trunkline					0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Sub-Total	32.17	31.46	70.36	69.47	69.95	69.75	69.75	43.74	39.69	1.79	1.68	1.40	5.56
% of Section	5.03	4.92	10.99	10.85	10.93	10.90	10.90	6.83	6.20	0.28	0.26	0.22	0.87

Table OP-3 Disturbance Acreage by Section and Year (Page 4 of 4)

	Year												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Section 20, T25N, R92W													
MU 6 Pattern Area						36.18	36.18	36.18	36.18	36.18	36.18	36.18	36.18
MU 2 Pattern Area		31.51	31.51	31.51	31.51	31.51	31.51	31.51					
Secondary Road						0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MU 1 Two Track Road	0.01	0.01	0.01	0.01	0.01	0.01	0.01						
MU 2 Two Track Road		0.44	0.44	0.44	0.44	0.44	0.44	0.44					
MU 4 Two Track Road				0.18	0.18	0.18	0.18	0.18	0.18	0.18			
MU 6 Two Track Road						0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Sub-Total	0.01	31.96	31.96	32.14	32.14	68.98	68.98	68.97	37.02	37.02	36.84	36.84	36.84
% of Section	0.00	4.99	4.99	5.02	5.02	10.78	10.78	10.78	5.78	5.78	5.76	5.76	5.76
Section 20, T25N, R92W													
MU 6 Two Track Road						0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Sub-Total	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
% of Section	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Section 14, T25N, R92W													
Main Road	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
Sub-Total	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
% of Section	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Section 15, T25N, R92W													
Main Road	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
Sub-Total	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
% of Section	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Section 23, T25N, R92W													
Main Road	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88
Sub-Total	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88
% of Section	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Section 24, T25N, R92W													
Main Road	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Sub-Total	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
% of Section	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total Disturbance - All Sections <sup>(1)</sup>	119.63	128.68	167.72	203.07	244.23	283.90	283.16	235.92	199.47	161.43	128.85	85.32	100.15

<sup>(1)</sup> For comparison, the total Permit Area is 4,254 acres.

**Table OP-4 Culvert Sizing**

<b>Culvert Diameter (inches)</b>	<b>Minimum Fill Height (feet)</b>	<b>Culvert Capacity (cubic feet per second)</b>
<b>Main Access Roads - Ten Year Design</b>		
18	4	18
24	4	35
30	4	60
36	4	92
42	4	130
48	4	172
<b>Mine Unit/Secondary Access Roads - Three Year Design</b>		
18	3	16
24	3	32
30	3	55
36	3	82

\* For Corrugated Steel and Corrugated Polyethylene Culvert Pipe

**Table OP-5 Estimated Water Quality of the Storage Ponds**

Analyte	Estimated Range (mg/l)	
	Low	High
<b>Major Constituents</b>		
Aluminum	ND	0.2
Ammonia as Nitrogen	ND	4
Bicarbonate as HCO <sub>3</sub>	1,200	2,500
Calcium	50	300
Carbonate as CO <sub>3</sub>	ND	25
Chloride	200	1,000
Magnesium	4	50
pH	7	9
Potassium	10	200
Ra-226 (pCi/l)	200	1,500
Silica	14	20
Sodium	150	2,000
Sulfate	50	500
TDS	1,600	6,500
Uranium as U <sub>3</sub> O <sub>8</sub>	1	15
<b>Trace Parameters</b>	<b>Low</b>	<b>High</b>
Arsenic	0.002	0.020
Barium	ND	ND
Boron	ND	ND
Cadmium	ND	ND
Chromium	ND	ND
Copper	ND	ND
Fluoride	0.2	0.5
Lead	ND	ND
Manganese	0.04	0.5
Mercury	ND	ND
Molybdenum	ND	ND
Nickel	ND	ND
Selenium	0.01	0.2
Vanadium	ND	0.01



**Table OP-6 Water Balance Summary (Page 1 of 3)**

<b>INFLOW</b>				
<b>Operational Phases</b>	<b>Production Flow to Plant (gpm)</b>	<b>Restoration Flow to Plant (gpm)</b>	<b>Well Water Supply (gpm)</b>	<b>Total Flow to Plant (gpm)</b>
Full Production Only	6000	0	10	6010
Full Production & GWS	6000	30	10	6040
Full Production, GWS & RO	6000	600	10	6610
Full Production & RO	6000	600	10	6610
GWS & RO	0	800	10	810
RO Only	0	800	10	810

**Table OP-6 Water Balance Summary (Page 2 of 3)**

<b>OUTFLOW</b>								
<b>Operational Phases</b>	<b>Injection Flow to Mine Units (gpm) (A)</b>	<b>Permeate to Restoration (gpm) (B)</b>	<b>Untreated Recovery Flow to Disposal (gpm) (C)</b>	<b>RO Brine to Disposal (gpm) (D)</b>	<b>Plant Bleed to Disposal (gpm) (E)</b>	<b>Total Flow to Disposal Wells (gpm) (F)</b>	<b>Flow to WYPDES (gpm) (G)</b>	<b>Total Flow from Plant (gpm)</b>
Full Production Only	5940	0	0	60	10	70	0	6010
Full Production & GWS	5940	0	30	60	10	100	0	6040
Full Production, GWS & RO	5940	555	0	105	10	115	0	6610
Full Production & RO	5940	555	0	105	10	115	0	6610
GWS & RO	0	700	0	100	10	110	0	810
RO Only	0	700	0	100	10	110	0	810

**Table OP-6 Water Balance Summary (Page 3 of 3)**

<b>BALANCE SUMMARY</b>						
<b>Operational Phases</b>	<b>Total Flow to Plant (gpm)</b>	<b>Injection Flow to Mine Units (gpm) (A+B)</b>	<b>Re-injected Flow (percent)</b>	<b>Gross Consumptive Use Flow (gpm) (F + G)</b>	<b>Net Mine Unit Consumptive Removal (gpm) (C + D + G)</b>	<b>Net Mine Unit Consumptive Removal (percent)</b>
Full Production Only	6010	5940	98.8%	70	60	1.0%
Full Production & GWS	6040	5940	98.3%	100	90	1.5%
Full Production, GWS & RO	6610	6495	98.3%	115	105	1.6%
Full Production & RO	6610	6495	98%	115	105	1.6%
GWS & RO	810	700	86.4%	110	100	12.5%
RO Only	810	700	86.4%	110	100	12.5%

Note: Net Mine Unit Consumptive Removal figures do not include Plant Water Supply well contribution Plant Flows.

**Table OP-7 Water Balance - Calculation Details (Page 1 of 2)**

<b>PRODUCTION PLANT</b>					
<b>Operational Phases</b>	<b>Production Flow To Plant (gpm)</b>	<b>Flow to Production RO (gpm)</b>	<b>Production RO Recovery (percent)</b>	<b>Production RO Permeate (gpm)</b>	<b>Production RO Brine (gpm)</b>
Full Production Only	6000	200	70.00%	140	60
Full Production & GWS	6000	200	70.00%	140	60
Full Production, GWS & RO	6000	200	70.00%	140	60
Full Production & RO	6000	200	70.00%	140	60
GWS & RO	0	0	70.00%	0	0
RO Only	0	0	70.00%	0	0

<b>RESTORATION PLANT</b>						
<b>Operational Phases</b>	<b>GWS Phase Flow to Plant (gpm) (D)</b>	<b>RO Phase Flow to Plant (gpm) (E)</b>	<b>Restoration Total Flow to Plant (gpm) (D+E)</b>	<b>Primary Restoration RO Recovery (percent)</b>	<b>Primary Restoration RO Permeate (gpm) (F)</b>	<b>Primary Restoration RO Brine (gpm) (G)</b>
Full Production Only	0	0	0	0.00%	0	0
Full Production & GWS	30	0	30	0.00%	0	30
Full Production, GWS & RO	30	570	600	75.00%	450	150
Full Production & RO	0	600	600	75.00%	450	150
GWS & RO	40	760	800	75.00%	600	200
RO Only	0	800	800	75.00%	600	200

**Table OP-7 Water Balance - Calculation Details (Page 2 of 2)**

<b>SECONDARY BRINE CONCENTRATION *</b>					
<b>Operational Phases</b>	<b>Secondary RO Feed (gpm) (C+G)</b>	<b>Secondary RO Recovery (percent)</b>	<b>Secondary RO Permeate (gpm) (H)</b>	<b>Secondary RO Brine (gpm) (I)</b>	<b>Total Brine to Disposal (gpm) (I) or (C+G)</b>
Full Production Only*	0	0%	0	0	60
Full Production & GWS*	0	0%	0	0	90
Full Production, GWS & RO	210	50%	105	105	105
Full Production & RO	210	50%	105	105	105
GWS & RO	200	50%	100	100	100
RO Only	200	50%	100	100	100

\* Note: Secondary Brine Concentration not utilized when feed rate would be below 100 gpm.

<b>PERMEATE UTILIZATION</b>						
<b>Operational Phases</b>	<b>Total Flow Permeate (gpm) (B+F+H)</b>	<b>Permeate to Injection (gpm)</b>	<b>Permeate to Restoration (gpm)</b>	<b>Permeate to Plant Use (gpm)</b>	<b>Permeate to Drill Use (gpm)</b>	<b>Permeate to WYPDES (gpm)</b>
Full Production Only	140	140	0	0	0	0
Full Production & GWS	140	140	0	0	0	0
Full Production, GWS & RO	695	140	555	0	0	0
Full Production & RO	695	140	555	0	0	0
GWS & RO	700	0	700	0	0	0
RO Only	700	0	700	0	0	0

**Table OP-9 Best Fit Drawdown Calculations for Estimating Aquifer Transmissivity and Storativity Using Image Well Theory**

		Observation Well Distance (feet)						
		LCM19- HJMP111	Image - HJMP111	LCM19- HJMP104	Image - HJMP104	LCM19 - Image	LCM19	
		473	1024	637	867	964	1	
Pump Time (hours)	Pump Time (days)	Drawdown (ft)	Drawdown (ft)	Drawdown (ft)	Drawdown (ft)	Drawdown (ft)	Drawdown (ft)	
137.5	5.73	21.78	14.82	19.08	16.31	15.36	77.91	
Combined ddn from pumped well and image well			36.60	feet				
Observed ddn			35.56	feet				
Residual			1.04	feet				
Combined ddn from pumped well and image well					35.39	feet		
Observed ddn					36.44	feet		
Residual					-1.05	feet		
Combined ddn from pumped well and image well							93.26	feet
Observed ddn							93.32	feet
Residual							-0.06	feet
$w(u) = s \cdot 4 \cdot \pi \cdot T / (Q)$								
$u = (0.25 \cdot r^2 \cdot S) / (Tt)$ s = ft, Q = gpm, T = ft <sup>2</sup> /d, r = ft, t = days								
$s = (\text{drawdown}) = 15.3 \cdot Q \cdot W(u) / T$								
K = (hydraulic conductivity) =			1.2	ft/d				
h = (saturated thickness) =			120	ft				
S = (storativity) =			0.00007					
T = (transmissivity) =			144	ft <sup>2</sup> /d				
Q = (pump rate) =			42.9	gpm				
t = (time) =								
r = (radius)			1	ft	Pred.			
LCM 19	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	2.12121E-08	17.0914771	77.91	5.73			
HJMP-111	r =	473	ft					
	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	0.004745767	4.77802643	21.78	5.73			
HJMP104	r =	637	ft					
	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	0.008607221	4.18652649	19.08	5.73			
Image - HJMP104	r =	867	ft					
	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	0.015944918	3.57728069	16.31	5.73			
Image - HJMP111	r =	1024	ft					
	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	0.022242521	3.2506529	14.82	5.73			
LCM19 - Image	r =	964	ft					
	t(hours)	u	W(u)	s(ft)	t (days)			
	137.5	0.019712339	3.36891009	15.36	5.73			

**Table OP-10 Estimated Composition of Waste during Operations (Page 1 of 2)**

Class of Waste	Specific Waste Type	Estimated Monthly Quantity	Storage Method	Disposal Method
<b>Solid Waste</b>				
Non-11(e)(2) Byproduct	Paper	1.7 yd <sup>3</sup>	Recycle bins	1 <sup>(1)</sup>
	Cardboard	4.2 yd <sup>3</sup>	Recycle bins	1
	Kitchen garbage	4.2 yd <sup>3</sup>	Trash can with transfer to dumpster	2
	Sewer sludge	0.3 yd <sup>3</sup>	No storage; immediate transfer to disposal upon collecting	2
	Mud/cement sacks	16.7 yd <sup>3</sup>	Dumpster	2
	HDPE/PVC pipe scrap	8.3 yd <sup>3</sup>	Dumpster	2
	Wood Pallets	16.7 yd <sup>3</sup>	Stored outdoors	3
	Miscellaneous	--	Appropriate to material	1
11(e)(2) Byproduct	Bag filters	2.9 yd <sup>3</sup>	5	4
	Spent resin	0.2 yd <sup>3</sup>	5	4
	Tank sludge	0.2 yd <sup>3</sup>	5	4
	Gloves	0.1 yd <sup>3</sup>	5	4
	Protective coveralls (i.e. Tyvek)	0.2 yd <sup>3</sup>	5	4
	Scale	0.1 yd <sup>3</sup>	5	4
	Piping	2.9 yd <sup>3</sup>	5	4
	Valves	0.2 yd <sup>3</sup>	5	4
	Cardboard	0.3 yd <sup>3</sup>	5	4
	Paper	0.1 yd <sup>3</sup>	5	4
	Miscellaneous	---	5	4
Hazardous Material	Fluorescent bulbs	2 bulbs	Packaged/labeled according to EPA regulations and placed in a dumpster	2
	Ballast	0.2 ballasts	Stored indoors until disposal	2
	Rechargeable batteries	1 pound	Stored indoors until disposal	1
	Miscellaneous	---	Appropriate to material	1
<b>Liquid Waste</b>				
Non-11(e)(2) Byproduct	Domestic Sewage	5,000	None	Septic tank w/ leach field
11(e)(2) Byproduct	Hydrologic Bleed	3,060,000 <sup>(2)</sup>	Wells with ponds available. <sup>(3)</sup>	Disposal Well
	RO Brine	6,600,000		
	Groundwater Sweep	5,300,000		
	Plant Process Water	440,000		
Hazardous Material	Used oil	12 gallons	6	6

**Table OP-10 Estimated Composition of Waste during Operations (Page 1 of 2)**

- |   |
|---|
| <p>(1) 1 - Recycle to extent possible; remainder of material sent to local licensed landfill.</p> <p>2 - Send to local permitted landfill or sewage pond as appropriate</p> <p>3 - Recycle to extent possible; remainder of pallets sent to local licensed landfill or burned on-site with an air quality permit from WDEQ-AQD.</p> <p>4 - Dispose of at a facility licensed by the NRC or an Agreement State to receive 11(e)(2) Byproduct material for disposal.</p> <p>5 - Place in trash container in plant and then transferred to a DOT-approved container for disposal.</p> <p>6 - Store in strong, tight, waterproof, labeled container(s) under a roof and with dual containment. Burn on-site for heat recovery (after appropriate permitting) and/or send to a recycling facility.</p> <p>(2) The processes generating the waste water streams described below do not always operate concurrently. Therefore, this table must be read along with the timeline presented in Figure OP-4a and Water Balance Figures OP-5a thru 5f.</p> <p>(3) Generally, 11(e)(2) waste water will be sent directly to the disposal well. However, the option for storage in the lined storage ponds is available as needed.</p> |
|---|



**THIS PAGE IS AN  
OVERSIZED DRAWING OR  
FIGURE,  
THAT CAN BE VIEWED AT THE  
RECORD TITLED:  
DRAWING NO.: PLATE OP-1, "SITE  
LAYOUT LOST CREEK PERMIT  
AREA"**

**WITHIN THIS PACKAGE... OR,  
BY SEARCHING USING THE  
DOCUMENT/REPORT  
DRAWING NO. PLATE OP-1**

**D-05**

**THIS PAGE IS AN  
OVERSIZED DRAWING OR  
FIGURE,  
THAT CAN BE VIEWED AT THE  
RECORD TITLED:  
DRAWING NO.: PLATE OP-2, "PLANT  
AND SHOP DETAIL LOST CREEK  
PERMIT AREA"**

**WITHIN THIS PACKAGE... OR,  
BY SEARCHING USING THE  
DOCUMENT/REPORT  
DRAWING NO. PLATE OP-2**

**D-06**

**ATTACHMENT OP-1**

**WDEQ-AQD Permit  
(to be provided when approved)**

## **ATTACHMENT OP-2**

**UIC Class 1 Well Permit Application  
(electronic submittal only;  
permit will be provided when approved)**



## ANALYTICAL SUMMARY REPORT

March 25, 2009

Energy USA Inc  
10758 W Centennial Rd Ste 200  
Ken Caryl Ranch, CO 80127

Workorder No.: C09020802

Project Name: LCTW 1

Energy Laboratories, Inc. received the following 12 samples for UR Energy USA Inc on 2/23/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C09020802-001	6843	02/23/09 08:00	02/23/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C09020802-002	#15 Blank	02/22/09 19:20	02/23/09	Aqueous	Solids, Total Dissolved E624 Purgeable Organics
C09020802-003	6473.5 Blank	02/22/09 19:45	02/23/09	Aqueous	Same As Above
C09020802-004	#10 Blank	02/22/09 19:30	02/23/09	Aqueous	Same As Above
C09020802-005	6292 Blank	02/22/09 19:45	02/23/09	Aqueous	Same As Above
C09020802-006	7060 A	02/22/09 14:00	02/23/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
20802-007	6842 Blank	02/22/09 09:15	02/23/09	Aqueous	Solids, Total Dissolved E624 Purgeable Organics





## ANALYTICAL SUMMARY REPORT

C09020802-008 6980 Blank	02/22/09 09:05 02/23/09	Aqueous	Same As Above
C09020802-009 7060 B	02/22/09 18:45 02/23/09	Aqueous	Same As Above
C09020802-010 6888 Blank	02/22/09 09:10 02/23/09	Aqueous	Same As Above
C09020802-011 AG-1	02/21/09 21:45 02/23/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C09020802-012 7060 Blank	02/22/09 09:00 02/23/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

*Stephanie Waldrup*

## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-001  
Client Sample ID: 6843

Report Date: 03/25/09  
Collection Date: 02/23/09 08:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	1270	mg/L		1		A2320 B	02/24/09 18:05 / ljl
Carbonate as CO <sub>3</sub>	689	mg/L		1		A2320 B	02/24/09 18:05 / ljl
Bicarbonate as HCO <sub>3</sub>	ND	mg/L		1		A2320 B	02/24/09 18:05 / ljl
Calcium	ND	mg/L	D	30		E200.7	03/06/09 14:19 / rdw
Chloride	3830	mg/L	D	2		E300.0	02/24/09 16:53 / ljl
Fluoride	0.9	mg/L		0.1		A4500-F C	02/26/09 14:19 / ljl
Magnesium	ND	mg/L		1		E200.7	03/06/09 14:19 / rdw
Nitrogen, Ammonia as N	23.0	mg/L	D	0.2		E350.1	02/25/09 10:56 / eli-b
Nitrogen, Kjeldahl, Total as N	22	mg/L	D	1		E351.2	02/26/09 09:34 / eli-b
Nitrogen, Nitrate+Nitrite as N	2.49	mg/L		0.05		E353.2	02/26/09 09:45 / eli-b
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO <sub>2</sub> B	02/23/09 16:21 / sp
Potassium	961	mg/L		1		E200.7	03/06/09 14:19 / rdw
Silica	54.9	mg/L		0.2		E200.7	03/06/09 14:19 / rdw
Sodium	2990	mg/L		1		E200.7	03/06/09 14:19 / rdw
Sulfate	1220	mg/L	D	6		E300.0	02/24/09 16:53 / ljl
<b>NON-METALS</b>							
Sulfide	20	mg/L		1		A4500-S F	02/24/09 14:48 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	17600	umhos/cm		1		A2510 B	02/24/09 11:04 / dd
pH	11.7	s.u.		0.01		A4500-H B	02/24/09 11:04 / dd
Solids, Total Dissolved TDS @ 180 C	10500	mg/L		10		A2540 C	02/24/09 11:28 / dd
<b>METALS - DISSOLVED</b>							
Aluminum	8.3	mg/L		0.1		E200.8	03/09/09 16:38 / sml
Arsenic	0.049	mg/L		0.001		E200.8	02/26/09 00:32 / ts
Barium	0.4	mg/L		0.1		E200.8	02/26/09 00:32 / ts
Boron	11.2	mg/L		0.1		E200.8	03/09/09 16:38 / sml
Cadmium	ND	mg/L		0.01		E200.8	02/26/09 00:32 / ts
Chromium	ND	mg/L		0.05		E200.8	02/26/09 00:32 / ts
Iron	0.13	mg/L		0.03		E200.7	03/06/09 14:19 / rdw
Manganese	ND	mg/L		0.01		E200.8	02/26/09 00:32 / ts
Mercury	0.004	mg/L		0.001		E200.8	02/26/09 00:32 / ts
Molybdenum	1.1	mg/L		0.1		E200.8	02/26/09 00:32 / ts
Nickel	0.11	mg/L		0.05		E200.8	02/26/09 00:32 / ts
Silver	ND	mg/L		0.01		E200.8	02/26/09 00:32 / ts
Uranium	0.0009	mg/L		0.0003		E200.8	02/26/09 00:32 / ts
Vanadium	ND	mg/L		0.1		E200.8	02/26/09 00:32 / ts
Zinc	0.38	mg/L		0.01		E200.8	02/26/09 00:32 / ts

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-001  
Client Sample ID: 6843

Report Date: 03/25/09  
Collection Date: 02/23/09 08:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	38.2	mg/L	D	0.5		E200.7	03/10/09 11:31 / rdw
Manganese	0.6	mg/L	D	0.5		E200.7	03/10/09 11:31 / rdw
<b>DATA QUALITY</b>							
A/C Balance (± 5)	-1.20	%				Calculation	03/13/09 07:34 / kbh
Anions	160	meq/L				Calculation	03/13/09 07:34 / kbh
Cations	156	meq/L				Calculation	03/13/09 07:34 / kbh
Solids, Total Dissolved Calculated	9840	mg/L				Calculation	03/13/09 07:34 / kbh
TDS Balance (0.80 - 1.20)	1.07					Calculation	03/13/09 07:34 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1,1-Trichloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1,2-Trichloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1-Dichloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1-Dichloroethene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,1-Dichloropropene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,2,3-Trichloropropane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,2-Dibromoethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,2-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,2-Dichloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,3-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,3-Dichloropropane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
1,4-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
2,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		50		E624	02/26/09 02:27 / jlr
2-Chlorotoluene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
4-Chlorotoluene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Benzene	220	ug/L		50		E624	02/26/09 02:27 / jlr
Bromobenzene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Bromochloromethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Bromodichloromethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Bromoform	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Bromomethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Carbon tetrachloride	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Chlorobenzene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Chlorodibromomethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Chloroethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Chloroform	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Chloromethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
cis-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 02:27 / jlr

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Job ID: C09020802-001  
Client Sample ID: 6843

Report Date: 03/25/09  
Collection Date: 02/23/09 08:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Dibromomethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Dichlorodifluoromethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Ethylbenzene	1860	ug/L		50		E624	02/26/09 02:27 / jlr
m+p-Xylenes	728	ug/L		50		E624	02/26/09 02:27 / jlr
Methyl ethyl ketone	ND	ug/L		1000		E624	02/26/09 02:27 / jlr
Methylene chloride	ND	ug/L		50		E624	02/26/09 02:27 / jlr
o-Xylene	269	ug/L		50		E624	02/26/09 02:27 / jlr
Styrene	472	ug/L		50		E624	02/26/09 02:27 / jlr
Tetrachloroethene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Toluene	720	ug/L		50		E624	02/26/09 02:27 / jlr
trans-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
trans-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Trichloroethene	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Trichlorofluoromethane	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Vinyl chloride	ND	ug/L		50		E624	02/26/09 02:27 / jlr
Xylenes, Total	997	ug/L		50		E624	02/26/09 02:27 / jlr
Surr: 1,2-Dichlorobenzene-d4	102	%REC		80-120		E624	02/26/09 02:27 / jlr
Surr: Dibromofluoromethane	104	%REC		80-120		E624	02/26/09 02:27 / jlr
Surr: p-Bromofluorobenzene	112	%REC		80-120		E624	02/26/09 02:27 / jlr
Surr: Toluene-d8	110	%REC		80-120		E624	02/26/09 02:27 / jlr
- RL increased due to non-target matrix interference.							
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	12	mg/L	*	5.3	10	E1664A	02/24/09 11:23 / ph

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
\* - The result exceeds the MCL.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-002  
Client Sample ID: #15 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:20  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	90	mg/L		10		A2540 C	02/24/09 11:28 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Benzene	30.1	ug/L		1.0		E624	02/25/09 23:18 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Ethylbenzene	18.7	ug/L		1.0		E624	02/25/09 23:18 / jlr
m+p-Xylenes	58.6	ug/L		1.0		E624	02/25/09 23:18 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 23:18 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
o-Xylene	23.4	ug/L		1.0		E624	02/25/09 23:18 / jlr

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-002  
Client Sample ID: #15 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:20  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Toluene	96.8	ug/L		1.0		E624	02/25/09 23:18 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 23:18 / jlr
Xylenes, Total	81.9	ug/L		1.0		E624	02/25/09 23:18 / jlr
Surr: 1,2-Dichlorobenzene-d4	115	%REC		80-120		E624	02/25/09 23:18 / jlr
Surr: Dibromofluoromethane	108	%REC		80-120		E624	02/25/09 23:18 / jlr
Surr: p-Bromofluorobenzene	116	%REC		80-120		E624	02/25/09 23:18 / jlr
Surr: Toluene-d8	108	%REC		80-120		E624	02/25/09 23:18 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-003  
Client Sample ID: 6473.5 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	02/24/09 11:28 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Benzene	1.4	ug/L		1.0		E624	02/25/09 23:56 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Ethylbenzene	1.3	ug/L		1.0		E624	02/25/09 23:56 / jlr
m+p-Xylenes	6.3	ug/L		1.0		E624	02/25/09 23:56 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 23:56 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
o-Xylene	3.0	ug/L		1.0		E624	02/25/09 23:56 / jlr

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-003  
Client Sample ID: 6473.5 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Toluene	161	ug/L		20		E624	02/25/09 21:24 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 23:56 / jlr
Xylenes, Total	9.4	ug/L		1.0		E624	02/25/09 23:56 / jlr
Surr: 1,2-Dichlorobenzene-d4	116	%REC		80-120		E624	02/25/09 23:56 / jlr
Surr: Dibromofluoromethane	97.0	%REC		80-120		E624	02/25/09 23:56 / jlr
Surr: p-Bromofluorobenzene	118	%REC		80-120		E624	02/25/09 23:56 / jlr
Surr: Toluene-d8	116	%REC		80-120		E624	02/25/09 23:56 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-004  
Client Sample ID: #10 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:30  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	73	mg/L		10		A2540 C	02/24/09 11:29 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Benzene	2.1	ug/L		1.0		E624	02/25/09 14:27 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Ethylbenzene	3.8	ug/L		1.0		E624	02/25/09 14:27 / jlr
m+p-Xylenes	15.4	ug/L		1.0		E624	02/25/09 14:27 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 14:27 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
o-Xylene	8.0	ug/L		1.0		E624	02/25/09 14:27 / jlr

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-004  
Client Sample ID: #10 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:30  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Toluene	12.1	ug/L		1.0		E624	02/25/09 14:27 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 14:27 / jlr
Xylenes, Total	23.3	ug/L		1.0		E624	02/25/09 14:27 / jlr
Surr: 1,2-Dichlorobenzene-d4	101	%REC		80-120		E624	02/25/09 14:27 / jlr
Surr: Dibromofluoromethane	97.0	%REC		80-120		E624	02/25/09 14:27 / jlr
Surr: p-Bromofluorobenzene	109	%REC		80-120		E624	02/25/09 14:27 / jlr
Surr: Toluene-d8	106	%REC		80-120		E624	02/25/09 14:27 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-005  
Client Sample ID: 6292 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	39	mg/L		10		A2540 C	02/24/09 11:29 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Benzene	30.0	ug/L		1.0		E624	02/26/09 00:34 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Bromoform	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Chloroform	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Ethylbenzene	73.7	ug/L		1.0		E624	02/26/09 00:34 / jlr
m+p-Xylenes	23.0	ug/L		1.0		E624	02/26/09 00:34 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/26/09 00:34 / jlr
Methylene chloride	2.0	ug/L		1.0		E624	02/26/09 00:34 / jlr
o-Xylene	14.7	ug/L		1.0		E624	02/26/09 00:34 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-005  
Client Sample ID: 6292 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 19:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	7.9	ug/L		1.0		E624	02/26/09 00:34 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Toluene	110	ug/L		20		E624	02/25/09 22:02 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/26/09 00:34 / jlr
Xylenes, Total	37.7	ug/L		1.0		E624	02/26/09 00:34 / jlr
Surr: 1,2-Dichlorobenzene-d4	103	%REC		80-120		E624	02/26/09 00:34 / jlr
Surr: Dibromofluoromethane	104	%REC		80-120		E624	02/26/09 00:34 / jlr
Surr: p-Bromofluorobenzene	106	%REC		80-120		E624	02/26/09 00:34 / jlr
Surr: Toluene-d8	104	%REC		80-120		E624	02/26/09 00:34 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-006  
Client Sample ID: 7060 A

Report Date: 03/25/09  
Collection Date: 02/22/09 14:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	1220	mg/L		1		A2320 B	02/24/09 18:14 / ljl
Carbonate as CO <sub>3</sub>	58	mg/L		1		A2320 B	02/24/09 18:14 / ljl
Bicarbonate as HCO <sub>3</sub>	1370	mg/L		1		A2320 B	02/24/09 18:14 / ljl
Calcium	44	mg/L	D	30		E200.7	03/06/09 14:24 / rdw
Chloride	4180	mg/L	D	2		E300.0	02/24/09 17:08 / ljl
Fluoride	2.3	mg/L		0.1		A4500-F C	02/26/09 14:03 / ljl
Magnesium	7	mg/L		1		E200.7	03/06/09 14:24 / rdw
Nitrogen, Ammonia as N	20.9	mg/L	D	0.1		E350.1	02/25/09 10:35 / eli-b
Nitrogen, Kjeldahl, Total as N	28	mg/L	D	1		E351.2	02/26/09 09:35 / eli-b
Nitrogen, Nitrate+Nitrite as N	7.97	mg/L		0.05		E353.2	02/26/09 09:46 / eli-b
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO <sub>2</sub> B	02/23/09 16:22 / sp
Potassium	590	mg/L		1		E200.7	03/06/09 14:24 / rdw
Silica	37.9	mg/L		0.2		E200.7	03/06/09 14:24 / rdw
Sodium	2900	mg/L		1		E200.7	03/06/09 14:24 / rdw
Sulfate	337	mg/L	D	6		E300.0	02/24/09 17:08 / ljl
<b>NON-METALS</b>							
Sulfide	2	mg/L		1		A4500-S F	02/24/09 14:48 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	16200	umhos/cm		1		A2510 B	02/24/09 11:16 / dd
pH	8.51	s.u.		0.01		A4500-H B	02/24/09 11:16 / dd
Solids, Total Dissolved TDS @ 180 C	9310	mg/L		10		A2540 C	02/24/09 11:29 / dd
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/09/09 16:45 / sml
Arsenic	0.118	mg/L		0.001		E200.8	02/26/09 00:39 / ts
Barium	2.2	mg/L		0.1		E200.8	02/26/09 00:39 / ts
Boron	2.5	mg/L		0.1		E200.8	03/09/09 16:45 / sml
Cadmium	ND	mg/L		0.01		E200.8	02/26/09 00:39 / ts
Chromium	ND	mg/L		0.05		E200.8	02/26/09 00:39 / ts
Iron	0.11	mg/L		0.03		E200.7	03/06/09 14:24 / rdw
Manganese	0.03	mg/L		0.01		E200.8	02/26/09 00:39 / ts
Mercury	0.002	mg/L		0.001		E200.8	02/26/09 00:39 / ts
Molybdenum	0.4	mg/L		0.1		E200.8	02/26/09 00:39 / ts
Nickel	0.20	mg/L		0.05		E200.8	02/26/09 00:39 / ts
Silver	ND	mg/L		0.01		E200.8	02/26/09 00:39 / ts
Uranium	0.0011	mg/L		0.0003		E200.8	02/26/09 00:39 / ts
Vanadium	ND	mg/L		0.1		E200.8	02/26/09 00:39 / ts
Zinc	0.52	mg/L		0.01		E200.8	02/26/09 00:39 / ts

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-006  
Client Sample ID: 7060 A

Report Date: 03/25/09  
Collection Date: 02/22/09 14:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	9.4	mg/L	D	0.5		E200.7	03/10/09 11:36 / rdw
Manganese	ND	mg/L	D	0.5		E200.7	03/10/09 11:36 / rdw
<b>DATA QUALITY</b>							
A/C Balance ( $\pm 5$ )	-1.82	%				Calculation	03/13/09 07:35 / kbh
Anions	151	meq/L				Calculation	03/13/09 07:35 / kbh
Cations	145	meq/L				Calculation	03/13/09 07:35 / kbh
Solids, Total Dissolved Calculated	8850	mg/L				Calculation	03/13/09 07:35 / kbh
TDS Balance (0.80 - 1.20)	1.05					Calculation	03/13/09 07:35 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1,1-Trichloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1,2-Trichloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1-Dichloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,1-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,2,3-Trichloropropane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,2-Dibromoethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,2-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,2-Dichloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,3-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,3-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
1,4-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
2,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		50		E624	02/26/09 03:05 / jlr
2-Chlorotoluene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
4-Chlorotoluene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Benzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Bromobenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Bromochloromethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Bromodichloromethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Bromoform	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Bromomethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Carbon tetrachloride	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Chlorobenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Chlorodibromomethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Chloroethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Chloroform	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Chloromethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
cis-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:05 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-006  
Client Sample ID: 7060 A

Report Date: 03/25/09  
Collection Date: 02/22/09 14:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Dibromomethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Dichlorodifluoromethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Ethylbenzene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
m+p-Xylenes	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Methyl ethyl ketone	ND	ug/L		1000		E624	02/26/09 03:05 / jlr
Methylene chloride	ND	ug/L		50		E624	02/26/09 03:05 / jlr
o-Xylene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Styrene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Tetrachloroethene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Toluene	780	ug/L		50		E624	02/26/09 03:05 / jlr
trans-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
trans-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Trichloroethene	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Trichlorofluoromethane	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Vinyl chloride	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Xylenes, Total	ND	ug/L		50		E624	02/26/09 03:05 / jlr
Surr: 1,2-Dichlorobenzene-d4	109	%REC		80-120		E624	02/26/09 03:05 / jlr
Surr: Dibromofluoromethane	103	%REC		80-120		E624	02/26/09 03:05 / jlr
Surr: p-Bromofluorobenzene	123	%REC	S	80-120		E624	02/26/09 03:05 / jlr
Surr: Toluene-d8	105	%REC		80-120		E624	02/26/09 03:05 / jlr

- RL increased due to non-target matrix interference.

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	02/24/09 11:24 / ph
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Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-007  
Client Sample ID: 6842 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:15  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	37	mg/L		10		A2540 C	02/24/09 11:30 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chlorotoluene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Benzene	8.8	ug/L		1.0		E624	02/26/09 01:11 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Bromoform	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chloroform	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Ethylbenzene	10.0	ug/L		1.0		E624	02/26/09 01:11 / jlr
m+p-Xylenes	34.3	ug/L		1.0		E624	02/26/09 01:11 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/26/09 01:11 / jlr
Methylene chloride	1.5	ug/L		1.0		E624	02/26/09 01:11 / jlr
o-Xylene	21.4	ug/L		1.0		E624	02/26/09 01:11 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-007  
Client Sample ID: 6842 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:15  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Toluene	150	ug/L		20		E624	02/25/09 22:40 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/26/09 01:11 / jlr
Xylenes, Total	55.8	ug/L		1.0		E624	02/26/09 01:11 / jlr
Surr: 1,2-Dichlorobenzene-d4	115	%REC		80-120		E624	02/26/09 01:11 / jlr
Surr: Dibromofluoromethane	107	%REC		80-120		E624	02/26/09 01:11 / jlr
Surr: p-Bromofluorobenzene	128	%REC	S	80-120		E624	02/26/09 01:11 / jlr
Surr: Toluene-d8	102	%REC		80-120		E624	02/26/09 01:11 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-008  
Client Sample ID: 6980 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:05  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	32	mg/L		10		A2540 C	02/24/09 11:30 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
1,2-Dichlorotoluene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Benzene	10.2	ug/L		1.0		E624	02/25/09 15:05 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Ethylbenzene	5.2	ug/L		1.0		E624	02/25/09 15:05 / jlr
m+p-Xylenes	22.6	ug/L		1.0		E624	02/25/09 15:05 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 15:05 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
o-Xylene	9.5	ug/L		1.0		E624	02/25/09 15:05 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-008  
Client Sample ID: 6980 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:05  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Toluene	31.6	ug/L		1.0		E624	02/25/09 15:05 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 15:05 / jlr
Xylenes, Total	32.1	ug/L		1.0		E624	02/25/09 15:05 / jlr
Surr: 1,2-Dichlorobenzene-d4	102	%REC		80-120		E624	02/25/09 15:05 / jlr
Surr: Dibromofluoromethane	109	%REC		80-120		E624	02/25/09 15:05 / jlr
Surr: p-Bromofluorobenzene	118	%REC		80-120		E624	02/25/09 15:05 / jlr
Surr: Toluene-d8	110	%REC		80-120		E624	02/25/09 15:05 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-009  
Client Sample ID: 7060 B

Report Date: 03/25/09  
Collection Date: 02/22/09 18:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	13500	mg/L		10		A2540 C	02/24/09 11:30 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1,1-Trichloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1,2-Trichloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1-Dichloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,1-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2,3-Trichloropropane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dibromoethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,3-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,3-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,4-Dichlorobenzene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichloropropane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichloroethyl vinyl ether	ND	ug/L		50		E624	02/26/09 03:43 / jlr
1,2-Dichlorotoluene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
4-Chlorotoluene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Benzene	344	ug/L		50		E624	02/26/09 03:43 / jlr
Bromobenzene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Bromochloromethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Bromodichloromethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Bromoform	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Bromomethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Carbon tetrachloride	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Chlorobenzene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Chlorodibromomethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Chloroethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Chloroform	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Chloromethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
cis-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
cis-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Dibromomethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Dichlorodifluoromethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Ethylbenzene	172	ug/L		50		E624	02/26/09 03:43 / jlr
m+p-Xylenes	115	ug/L		50		E624	02/26/09 03:43 / jlr
Methyl ethyl ketone	ND	ug/L		1000		E624	02/26/09 03:43 / jlr
Methylene chloride	ND	ug/L		50		E624	02/26/09 03:43 / jlr
o-Xylene	60	ug/L		50		E624	02/26/09 03:43 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-009  
Client Sample ID: 7060 B

Report Date: 03/25/09  
Collection Date: 02/22/09 18:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	82	ug/L		50		E624	02/26/09 03:43 / jlr
Tetrachloroethene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Toluene	512	ug/L		50		E624	02/26/09 03:43 / jlr
trans-1,2-Dichloroethene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
trans-1,3-Dichloropropene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Trichloroethene	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Trichlorofluoromethane	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Vinyl chloride	ND	ug/L		50		E624	02/26/09 03:43 / jlr
Xylenes, Total	174	ug/L		50		E624	02/26/09 03:43 / jlr
Surr: 1,2-Dichlorobenzene-d4	114	%REC		80-120		E624	02/26/09 03:43 / jlr
Surr: Dibromofluoromethane	112	%REC		80-120		E624	02/26/09 03:43 / jlr
Surr: p-Bromofluorobenzene	118	%REC		80-120		E624	02/26/09 03:43 / jlr
Surr: Toluene-d8	113	%REC		80-120		E624	02/26/09 03:43 / jlr
- RL increased due to non-target matrix interference.							

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-010  
Client Sample ID: 6888 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:10  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	02/24/09 11:31 / dd
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1,2-Dichloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
1-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Benzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Ethylbenzene	1.4	ug/L		1.0		E624	02/25/09 15:43 / jlr
m+p-Xylenes	6.8	ug/L		1.0		E624	02/25/09 15:43 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 15:43 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
o-Xylene	3.2	ug/L		1.0		E624	02/25/09 15:43 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-010  
Client Sample ID: 6888 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:10  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Toluene	65.1	ug/L		1.0		E624	02/25/09 15:43 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 15:43 / jlr
Xylenes, Total	10.0	ug/L		1.0		E624	02/25/09 15:43 / jlr
Surr: 1,2-Dichlorobenzene-d4	103	%REC		80-120		E624	02/25/09 15:43 / jlr
Surr: Dibromofluoromethane	108	%REC		80-120		E624	02/25/09 15:43 / jlr
Surr: p-Bromofluorobenzene	118	%REC		80-120		E624	02/25/09 15:43 / jlr
Surr: Toluene-d8	111	%REC		80-120		E624	02/25/09 15:43 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-011  
Client Sample ID: AG-1

Report Date: 03/25/09  
Collection Date: 02/21/09 21:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	228	mg/L		1		A2320 B	02/24/09 18:22 / ljl
Carbonate as CO <sub>3</sub>	79	mg/L		1		A2320 B	02/24/09 18:22 / ljl
Bicarbonate as HCO <sub>3</sub>	116	mg/L		1		A2320 B	02/24/09 18:22 / ljl
Calcium	65	mg/L	D	2		E200.7	03/18/09 17:31 / rdw
Chloride	14400	mg/L	D	10		E300.0	03/16/09 17:52 / ljl
Fluoride	1.0	mg/L		0.1		A4500-F C	02/26/09 14:07 / ljl
Magnesium	7	mg/L	D	4		E200.7	03/18/09 17:31 / rdw
Nitrogen, Ammonia as N	18.1	mg/L	D	0.2		E350.1	02/25/09 10:37 / eli-b
Nitrogen, Kjeldahl, Total as N	20	mg/L	D	1		E351.2	02/26/09 09:36 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.32	mg/L		0.05		E353.2	02/26/09 09:58 / eli-b
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO <sub>2</sub> B	02/23/09 16:25 / sp
Potassium	9920	mg/L	D	10		E200.7	03/18/09 17:49 / rdw
Silica	3.3	mg/L	D	0.3		E200.7	03/06/09 14:42 / rdw
Sodium	2760	mg/L		1		E200.7	03/18/09 17:31 / rdw
Sulfate	205	mg/L	D	30		E300.0	03/16/09 17:52 / ljl
<b>NON-METALS</b>							
Sulfide	6	mg/L		1		A4500-S F	02/24/09 14:51 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	49000	umhos/cm		1		A2510 B	02/24/09 11:28 / dd
pH	9.41	s.u.		0.01		A4500-H B	02/24/09 11:28 / dd
Solids, Total Dissolved TDS @ 180 C	26500	mg/L		10		A2540 C	02/24/09 11:31 / dd
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/09/09 15:13 / sml
Arsenic	0.006	mg/L	D	0.003		E200.8	03/09/09 15:13 / sml
Barium	0.8	mg/L		0.1		E200.8	02/26/09 00:46 / ts
Boron	1.0	mg/L		0.1		E200.8	03/09/09 15:13 / sml
Cadmium	ND	mg/L		0.01		E200.8	02/26/09 00:46 / ts
Chromium	ND	mg/L		0.05		E200.8	02/26/09 00:46 / ts
Iron	0.73	mg/L		0.03		E200.8	03/09/09 15:13 / sml
Manganese	0.03	mg/L		0.01		E200.8	02/26/09 00:46 / ts
Mercury	ND	mg/L	D	0.004		E200.8	02/26/09 00:46 / ts
Molybdenum	0.2	mg/L		0.1		E200.8	02/26/09 00:46 / ts
Nickel	ND	mg/L		0.05		E200.8	02/26/09 00:46 / ts
Silver	ND	mg/L		0.01		E200.8	02/26/09 00:46 / ts
Uranium	0.0015	mg/L	D	0.0007		E200.8	02/26/09 00:46 / ts
Vanadium	ND	mg/L		0.1		E200.8	02/26/09 00:46 / ts
Zinc	0.42	mg/L		0.01		E200.8	03/09/09 15:13 / sml

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-011  
Client Sample ID: AG-1

Report Date: 03/25/09  
Collection Date: 02/21/09 21:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	ND	mg/L	D	10		E200.7	03/10/09 11:40 / rdw
Manganese	ND	mg/L	D	10		E200.7	03/10/09 11:40 / rdw
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	41.9	pCi/L	U			E900.0	03/07/09 08:48 / cgr
Gross Alpha precision (±)	75.4	pCi/L				E900.0	03/07/09 08:48 / cgr
Gross Alpha MDC	121	pCi/L				E900.0	03/07/09 08:48 / cgr
Gross Beta	9230	pCi/L				E900.0	03/07/09 08:48 / cgr
Gross Beta precision (±)	184	pCi/L				E900.0	03/07/09 08:48 / cgr
Gross Beta MDC	133	pCi/L				E900.0	03/07/09 08:48 / cgr
Radium 226	0.70	pCi/L				E903.0	03/11/09 12:36 / jah
Radium 226 precision (±)	0.30	pCi/L				E903.0	03/11/09 12:36 / jah
Radium 226 MDC	0.35	pCi/L				E903.0	03/11/09 12:36 / jah
Radium 228	0.3	pCi/L	U			RA-05	03/04/09 13:09 / plj
Radium 228 precision (±)	1.4	pCi/L				RA-05	03/04/09 13:09 / plj
Radium 228 MDC	2.3	pCi/L				RA-05	03/04/09 13:09 / plj
<b>DATA QUALITY</b>							
A/C Balance (± 5)	-4.68	%				Calculation	03/20/09 07:33 / kbh
Anions	416	meq/L				Calculation	03/20/09 07:33 / kbh
Cations	379	meq/L				Calculation	03/20/09 07:33 / kbh
Solids, Total Dissolved Calculated	27500	mg/L				Calculation	03/20/09 07:33 / kbh
TDS Balance (0.80 - 1.20)	0.960					Calculation	03/20/09 07:33 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration  
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-011  
Client Sample ID: AG-1

Report Date: 03/25/09  
Collection Date: 02/21/09 21:45  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
2-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Benzene	1.3	ug/L		1.0		E624	02/25/09 16:20 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Ethylbenzene	5.3	ug/L		1.0		E624	02/25/09 16:20 / jlr
m,p-Xylenes	12.9	ug/L		1.0		E624	02/25/09 16:20 / jlr
Ethyl ethyl ketone	36	ug/L		20		E624	02/25/09 16:20 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
o-Xylene	5.7	ug/L		1.0		E624	02/25/09 16:20 / jlr
Styrene	7.3	ug/L		1.0		E624	02/25/09 16:20 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Toluene	3.7	ug/L		1.0		E624	02/25/09 16:20 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 16:20 / jlr
Xylenes, Total	18.6	ug/L		1.0		E624	02/25/09 16:20 / jlr
Surr: 1,2-Dichlorobenzene-d4	112	%REC		80-120		E624	02/25/09 16:20 / jlr
Surr: Dibromofluoromethane	134	%REC	S	80-120		E624	02/25/09 16:20 / jlr
Surr: p-Bromofluorobenzene	100	%REC		80-120		E624	02/25/09 16:20 / jlr
Surr: Toluene-d8	104	%REC		80-120		E624	02/25/09 16:20 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	5.3	mg/L		5.0	10	E1664A	02/24/09 11:24 / ph

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-012  
Client Sample ID: 7060 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	17	mg/L		1		A2320 B	02/24/09 18:47 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/24/09 18:47 / ljl
Bicarbonate as HCO <sub>3</sub>	21	mg/L		1		A2320 B	02/24/09 18:47 / ljl
Calcium	6	mg/L	D	1		E200.7	03/06/09 14:46 / rdw
Chloride	27	mg/L		1		E300.0	02/24/09 18:10 / ljl
Fluoride	ND	mg/L		0.1		A4500-F C	02/26/09 14:09 / ljl
Magnesium	ND	mg/L		1		E200.7	03/06/09 14:46 / rdw
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	02/25/09 10:38 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	02/27/09 15:42 / eli-b
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	02/26/09 09:59 / eli-b
Nitrogen, Nitrite as N	ND	mg/L		0.1		A4500-NO <sub>2</sub> B	02/23/09 16:25 / sp
Potassium	4	mg/L		1		E200.7	03/06/09 14:46 / rdw
Silica	0.6	mg/L		0.2		E200.7	03/06/09 14:46 / rdw
Sodium	16	mg/L		1		E200.7	03/06/09 14:46 / rdw
Sulfate	2	mg/L		1		E300.0	02/24/09 18:10 / ljl
<b>NON-METALS</b>							
Sulfide	ND	mg/L		1		A4500-S F	02/24/09 14:53 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	52	umhos/cm		1		A2510 B	02/24/09 11:30 / dd
pH	9.16	s.u.		0.01		A4500-H B	02/24/09 11:30 / dd
Solids, Total Dissolved TDS @ 180 C	72	mg/L		10		A2540 C	02/24/09 11:31 / dd
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	02/26/09 02:28 / ts
Arsenic	0.003	mg/L		0.001		E200.8	02/26/09 02:28 / ts
Barium	0.3	mg/L		0.1		E200.8	02/26/09 02:28 / ts
Boron	ND	mg/L		0.1		E200.7	03/06/09 14:46 / rdw
Cadmium	ND	mg/L		0.01		E200.8	02/26/09 02:28 / ts
Chromium	ND	mg/L		0.05		E200.8	02/26/09 02:28 / ts
Iron	0.09	mg/L		0.03		E200.7	03/06/09 14:46 / rdw
Manganese	ND	mg/L		0.01		E200.8	02/26/09 02:28 / ts
Mercury	ND	mg/L		0.001		E200.8	02/26/09 02:28 / ts
Molybdenum	ND	mg/L		0.1		E200.8	02/26/09 02:28 / ts
Nickel	ND	mg/L		0.05		E200.8	02/26/09 02:28 / ts
Silver	ND	mg/L		0.01		E200.8	03/17/09 16:10 / sml
Uranium	ND	mg/L		0.0003		E200.8	02/26/09 02:28 / ts
Vanadium	ND	mg/L		0.1		E200.8	02/26/09 02:28 / ts
Zinc	ND	mg/L		0.01		E200.8	02/26/09 02:28 / ts

Report RL - Analyte reporting limit.

Definitions: QCL - Quality control limit.

D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-012  
Client Sample ID: 7060 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	18.8	mg/L		0.03		E200.7	03/11/09 22:27 / rdw
Manganese	0.19	mg/L	D	0.02		E200.7	03/11/09 22:27 / rdw
<b>DATA QUALITY</b>							
A/C Balance ( $\pm 5$ )	0.123	%				Calculation	03/13/09 08:10 / kbh
Anions	1.14	meq/L				Calculation	03/13/09 08:10 / kbh
Cations	1.14	meq/L				Calculation	03/13/09 08:10 / kbh
Solids, Total Dissolved Calculated	67.0	mg/L				Calculation	03/13/09 08:10 / kbh
TDS Balance (0.80 - 1.20)	1.07					Calculation	03/13/09 08:10 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Benzene	38.1	ug/L		1.0		E624	02/25/09 17:37 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Bromoform	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Chloroform	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: LCTW 1  
Lab ID: C09020802-012  
Client Sample ID: 7060 Blank

Report Date: 03/25/09  
Collection Date: 02/22/09 09:00  
Date Received: 02/23/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Ethylbenzene	11.4	ug/L		1.0		E624	02/25/09 17:37 / jlr
m+p-Xylenes	51.1	ug/L		1.0		E624	02/25/09 17:37 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/25/09 17:37 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
o-Xylene	20.8	ug/L		1.0		E624	02/25/09 17:37 / jlr
Styrene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Toluene	92.0	ug/L		1.0		E624	02/25/09 17:37 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/25/09 17:37 / jlr
Xylenes, Total	71.9	ug/L		1.0		E624	02/25/09 17:37 / jlr
Surr: 1,2-Dichlorobenzene-d4	105	%REC		80-120		E624	02/25/09 17:37 / jlr
Surr: Dibromofluoromethane	100	%REC		80-120		E624	02/25/09 17:37 / jlr
Surr: p-Bromofluorobenzene	115	%REC		80-120		E624	02/25/09 17:37 / jlr
Surr: Toluene-d8	106	%REC		80-120		E624	02/25/09 17:37 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	18	mg/L	*	5.0	10	E1664A	02/24/09 11:24 / ph

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
\* - The result exceeds the MCL.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B							Batch: R115162		
Sample ID: MBLK-1	Method Blank				Run: MANTECH_090224A		02/24/09 15:14		
Alkalinity, Total as CaCO <sub>3</sub>	ND	mg/L	0.2						
Carbonate as CO <sub>3</sub>	ND	mg/L	1						
Bicarbonate as HCO <sub>3</sub>	ND	mg/L	1						
Sample ID: LCS-1	Laboratory Control Sample				Run: MANTECH_090224A		02/24/09 15:21		
Alkalinity, Total as CaCO <sub>3</sub>	192	mg/L	1.0	96	90	110			
Sample ID: C09020778-001AMS	Sample Matrix Spike				Run: MANTECH_090224A		02/24/09 17:33		
Alkalinity, Total as CaCO <sub>3</sub>	213	mg/L	1.0	99	80	120			
Sample ID: C09020778-001AMSD	Sample Matrix Spike Duplicate				Run: MANTECH_090224A		02/24/09 17:41		
Alkalinity, Total as CaCO <sub>3</sub>	213	mg/L	1.0	100	80	120	0.2	20	
Sample ID: C09020784-002AMS	Sample Matrix Spike				Run: MANTECH_090224A		02/24/09 19:09		
Alkalinity, Total as CaCO <sub>3</sub>	278	mg/L	1.0	97	80	120			
Sample ID: C09020784-002AMSD	Sample Matrix Spike Duplicate				Run: MANTECH_090224A		02/24/09 19:17		
Alkalinity, Total as CaCO <sub>3</sub>	279	mg/L	1.0	98	80	120	0.4	20	
Method: A2510 B							Analytical Run: ORION555A_090224A		
Sample ID: ICV2_090224_1	Initial Calibration Verification Standard						02/24/09 11:02		
Conductivity	1500	umhos/cm	1.0	106	90	110			
Method: A2510 B							Batch: 090224_1_PH-W_555A-1		
Sample ID: MBLK1_090224_1	Method Blank				Run: ORION555A_090224A		02/24/09 10:59		
Conductivity	0.4	umhos/cm	0.2						
Sample ID: C09020802-006ADUP	Sample Duplicate				Run: ORION555A_090224A		02/24/09 11:17		
Conductivity	16200	umhos/cm	1.0				0.3	10	
Sample ID: C09020802-012ADUP	Sample Duplicate				Run: ORION555A_090224A		02/24/09 11:32		
Conductivity	52.1	umhos/cm	1.0				0	10	

### Qualifiers:

RL: Reporting limit.

MDL: Minimum detectable concentration

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Client: UR Energy USA Inc

Project: LCTW 1

Report Date: 03/24/09

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C		Batch: 090224_1_SLDS-TDS-W							
Sample ID: MBLK1_090224	Method Blank					Run: BAL-1_090224A			02/24/09 11:28
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	6						
Sample ID: LCS1_090224	Laboratory Control Sample					Run: BAL-1_090224A			02/24/09 11:28
Solids, Total Dissolved TDS @ 180 C	1000	mg/L	10	100	90	110			
Sample ID: C09020802-006AMS	Sample Matrix Spike					Run: BAL-1_090224A			02/24/09 11:29
Solids, Total Dissolved TDS @ 180 C	19300	mg/L	10	100	90	110			
Sample ID: C09020802-006AMSD	Sample Matrix Spike Duplicate					Run: BAL-1_090224A			02/24/09 11:30
Solids, Total Dissolved TDS @ 180 C	19300	mg/L	10	100	90	110	0.1	10	
Sample ID: C09020802-012AMS	Sample Matrix Spike					Run: BAL-1_090224A			02/24/09 11:32
Solids, Total Dissolved TDS @ 180 C	2080	mg/L	10	101	90	110			
Sample ID: C09020802-012AMSD	Sample Matrix Spike Duplicate					Run: BAL-1_090224A			02/24/09 11:32
Solids, Total Dissolved TDS @ 180 C	2040	mg/L	10	99	90	110	1.9	10	
Method: A4500-F C		Batch: R115232							
Sample ID: MBLK-1	Method Blank					Run: MANTECH_090226A			02/26/09 13:28
Fluoride	ND	mg/L	0.05						
Sample ID: LCS-1	Laboratory Control Sample					Run: MANTECH_090226A			02/26/09 13:31
Fluoride	0.960	mg/L	0.10	96	90	110			
Sample ID: C09010878-001AMS	Sample Matrix Spike					Run: MANTECH_090226A			02/26/09 13:44
Fluoride	2.28	mg/L	0.10	96	80	120			
Sample ID: C09010878-001AMSD	Sample Matrix Spike Duplicate					Run: MANTECH_090226A			02/26/09 13:47
Fluoride	2.28	mg/L	0.10	96	80	120	0	10	
Method: A4500-H B		Analytical Run: ORION555A_090224A							
Sample ID: ICV1_090224_1	Initial Calibration Verification Standard								02/24/09 11:01
pH	6.81	s.u.	0.010	99	98	102			
Method: A4500-H B		Batch: 090224_1_PH-W_555A-1							
Sample ID: C09020802-006ADUP	Sample Duplicate					Run: ORION555A_090224A			02/24/09 11:17
pH	8.52	s.u.	0.010				0.1	10	
Sample ID: C09020802-012ADUP	Sample Duplicate					Run: ORION555A_090224A			02/24/09 11:32
pH	9.14	s.u.	0.010				0.2	10	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-NO2 B					Analytical Run: HACH DR3000_090223D				
Sample ID: ICV-2	Initial Calibration Verification Standard								02/23/09 16:20
Nitrogen, Nitrite as N	0.951	mg/L	0.10	95	90	110			
Method: A4500-NO2 B					Batch: A2009-02-23_6_NO2_01				
Sample ID: MBLK-1	Method Blank								02/23/09 16:20
Nitrogen, Nitrite as N	ND	mg/L	0.003						
Sample ID: C09020802-003AMS	Sample Matrix Spike								02/23/09 16:21
Nitrogen, Nitrite as N	0.0549	mg/L	0.050	99	80	120			
Sample ID: C09020802-003AMSD	Sample Matrix Spike Duplicate								02/23/09 16:21
Nitrogen, Nitrite as N	0.0533	mg/L	0.050	96	80	120	3	10	
Sample ID: C09020802-012AMS	Sample Matrix Spike								02/23/09 16:25
Nitrogen, Nitrite as N	0.0586	mg/L	0.050	103	80	120			
Sample ID: C09020802-012AMSD	Sample Matrix Spike Duplicate								02/23/09 16:26
Nitrogen, Nitrite as N	0.0593	mg/L	0.050	104	80	120	1.2	10	
Method: A4500-S F					Analytical Run: TITRATION_090224A				
Sample ID: ICV-042808	Initial Calibration Verification Standard								02/24/09 14:36
	52.8	mg/L	1.0	102	80	120			
Method: A4500-S F					Batch: 090224-SULFIDE-TTR-W				
Sample ID: MBLK7-090224	Method Blank								02/24/09 14:33
Sulfide	ND	mg/L	0.1						
Sample ID: C09020802-012FMS	Sample Matrix Spike								02/24/09 15:00
Sulfide	42.4	mg/L	1.0	106	80	120			

### Qualifiers:

R - Analyte reporting limit.

M - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Project: LCTW 1

Report Date: 03/24/09

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E1664A									Batch: 21623
Sample ID: C09020778-001FMS	Sample Matrix Spike					Run: SPE1-C_090224B			02/24/09 11:23
Oil & Grease (HEM)	41	mg/L	5.2	99	78	114			
Sample ID: C09020778-001FMSD	Sample Matrix Spike Duplicate					Run: SPE1-C_090224B			02/24/09 11:23
Oil & Grease (HEM)	42	mg/L	5.4	98	78	114	2.7	18	
Sample ID: LCS1_090224A	Laboratory Control Sample					Run: SPE1-C_090224B			02/24/09 11:25
Oil & Grease (HEM)	39	mg/L	5.0	97	78	114			
Sample ID: LCSD_090224A	Laboratory Control Sample Duplicate					Run: SPE1-C_090224B			02/24/09 11:25
Oil & Grease (HEM)	39	mg/L	5.0	98	78	114	1.3	18	
Sample ID: MBLK1_090224A	Method Blank					Run: SPE1-C_090224B			02/24/09 11:25
Oil & Grease (HEM)	ND	mg/L	5.0						
Method: E200.7									Batch: 21661
Sample ID: MB-21661	Method Blank					Run: ICP3-C_090310A			03/10/09 11:22
Iron	ND	mg/L	0.02						
Manganese	ND	mg/L	0.02						
Sample ID: LCS3-21661	Laboratory Control Sample					Run: ICP3-C_090310A			03/10/09 11:27
Iron	2.47	mg/L	0.030	99	85	115			
Manganese	2.43	mg/L	0.020	97	85	115			
Sample ID: C09020896-001AMS3	Sample Matrix Spike					Run: ICP3-C_090310A			03/10/09 16:09
Iron	3.63	mg/L	0.030	109	70	130			
Manganese	2.69	mg/L	0.020	107	70	130			
Sample ID: C09020896-001AMSD3	Sample Matrix Spike Duplicate					Run: ICP3-C_090310A			03/10/09 16:13
Iron	3.55	mg/L	0.030	106	70	130	2.3	20	
Manganese	2.64	mg/L	0.020	105	70	130	2	20	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7							Batch: R115623		
Sample ID: LRB	Method Blank		Run: ICP3-C_090306B				03/06/09 12:28		
Calcium	0.4	mg/L	0.02						
Iron	0.06	mg/L	0.0004						
Magnesium	0.5	mg/L	0.01						
Potassium	0.1	mg/L	0.005						
Silicon	0.004	mg/L	0.003						
Sodium	0.01	mg/L	0.006						
Silica	0.009	mg/L	0.005						
Sample ID: LFB	Laboratory Fortified Blank		Run: ICP3-C_090306B				03/06/09 12:33		
Calcium	25.0	mg/L	0.50	98	80	120			
Iron	2.50	mg/L	0.030	97	80	120			
Magnesium	24.9	mg/L	0.50	98	80	120			
Potassium	24.4	mg/L	0.50	97	80	120			
Silicon	2.57	mg/L	0.0025	103	80	120			
Sodium	25.1	mg/L	0.50	100	80	120			
Silica	5.50	mg/L	0.0054	103	80	120			
Sample ID: C09020884-001BMS	Sample Matrix Spike		Run: ICP3-C_090306B				03/06/09 14:55		
Calcium	253	mg/L	6.2	99	70	130			
Iron	2.54	mg/L	0.030	98	70	130			
Magnesium	247	mg/L	1.0	97	70	130			
Potassium	241	mg/L	1.0	92	70	130			
Silicon	7.47	mg/L	0.10	75	70	130			
Sodium	728	mg/L	1.0	84	70	130			
Silica	16.0	mg/L	0.21	75	70	130			
Sample ID: C09020884-001BMSD	Sample Matrix Spike Duplicate		Run: ICP3-C_090306B				03/06/09 15:00		
Calcium	251	mg/L	6.2	98	70	130	0.7	20	
Iron	2.51	mg/L	0.030	96	70	130	1.3	20	
Magnesium	246	mg/L	1.0	96	70	130	0.5	20	
Potassium	244	mg/L	1.0	93	70	130	1.3	20	
Silicon	7.40	mg/L	0.10	72	70	130	1	20	
Sodium	738	mg/L	1.0	88	70	130	1.4	20	
Silica	15.8	mg/L	0.21	72	70	130	1	20	

### Qualifiers:

RL - Reporting limit.

MDL - Minimum detectable concentration

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Batch: R116050		
<b>Sample ID: LRB</b>	Method Blank		Run: ICP3-C_090318A				03/18/09 14:31		
Calcium	0.4	mg/L	0.02						
Magnesium	0.4	mg/L							
Potassium	0.2	mg/L	0.005						
Sodium	0.03	mg/L	0.006						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank		Run: ICP3-C_090318A				03/18/09 14:35		
Calcium	26.0	mg/L	0.50	102	80	120			
Magnesium	26.1	mg/L	0.50	103	80	120			
Potassium	25.0	mg/L	0.50	99	80	120			
Sodium	25.3	mg/L	0.50	101	80	120			
<b>Sample ID: C09030455-002CMS</b>	Sample Matrix Spike		Run: ICP3-C_090318A				03/18/09 17:21		
Calcium	82.1	mg/L	1.0	85	70	130			
Magnesium	55.2	mg/L	1.0	85	70	130			
Potassium	51.7	mg/L	1.0	87	70	130			
Sodium	91.6	mg/L	1.0	96	70	130			
<b>Sample ID: C09030455-002CMSD</b>	Sample Matrix Spike Duplicate		Run: ICP3-C_090318A				03/18/09 17:26		
Calcium	85.8	mg/L	1.0	92	70	130	4.3	20	
Magnesium	58.0	mg/L	1.0	91	70	130	5	20	
Potassium	54.5	mg/L	1.0	93	70	130	5.4	20	
Sodium	93.3	mg/L	1.0	99	70	130	1.8	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/25/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R115192		
Sample ID: LRB	Method Blank		Run: ICPMS2-C_090225A				02/25/09 12:36		
Arsenic	ND	mg/L	0.0003						
Barium	ND	mg/L	3E-05						
Cadmium	ND	mg/L	6E-05						
Chromium	ND	mg/L	8E-05						
Manganese	ND	mg/L	5E-05						
Mercury	ND	mg/L	4E-05						
Molybdenum	ND	mg/L	4E-05						
Nickel	ND	mg/L	9E-05						
Silver	ND	mg/L	2E-05						
Uranium	ND	mg/L	8E-06						
Vanadium	ND	mg/L	9E-05						
Zinc	0.0007	mg/L	6E-05						
Sample ID: LFB	Laboratory Fortified Blank		Run: ICPMS2-C_090225A				02/25/09 12:43		
Arsenic	0.0504	mg/L	0.0010	101	85	115			
Barium	0.0509	mg/L	0.0010	102	85	115			
Cadmium	0.0510	mg/L	0.0010	102	85	115			
Chromium	0.0499	mg/L	0.0010	100	85	115			
Manganese	0.0486	mg/L	0.0010	97	85	115			
Mercury	0.00506	mg/L	0.0010	101	85	115			
Molybdenum	0.0509	mg/L	0.0010	102	85	115			
Nickel	0.0509	mg/L	0.0010	102	85	115			
Silver	0.0196	mg/L	0.0010	98	85	115			
Uranium	0.0506	mg/L	0.00030	101	85	115			
Vanadium	0.0496	mg/L	0.0010	99	85	115			
Zinc	0.0526	mg/L	0.0010	104	85	115			
Sample ID: C09020698-002BMS4	Sample Matrix Spike		Run: ICPMS2-C_090225A				02/25/09 20:28		
Arsenic	0.0537	mg/L	0.0010	103	70	130			
Barium	0.0519	mg/L	0.050	103	70	130			
Cadmium	0.0508	mg/L	0.010	102	70	130			
Chromium	0.0487	mg/L	0.040	97	70	130			
Manganese	0.0500	mg/L	0.010	97	70	130			
Mercury	0.00526	mg/L	0.0010	105	70	130			
Molybdenum	0.0600	mg/L	0.050	105	70	130			
Nickel	0.0498	mg/L	0.040	98	70	130			
Silver	0.0189	mg/L	0.010	95	70	130			
Uranium	0.0567	mg/L	0.00030	108	70	130			
Vanadium	0.0494	mg/L	0.040	99	70	130			
Zinc	0.0577	mg/L	0.010	86	70	130			
Sample ID: C09020698-002BMSD4	Sample Matrix Spike Duplicate		Run: ICPMS2-C_090225A				02/25/09 20:35		
Arsenic	0.0540	mg/L	0.0010	103	70	130	0.6	20	
Barium	0.0523	mg/L	0.050	104	70	130	0.7	20	
Cadmium	0.0508	mg/L	0.010	102	70	130	0.1	20	

Notes:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Project: LCTW 1

Report Date: 03/25/09

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R115192		
Sample ID: C09020698-002BMSD4	Sample Matrix Spike Duplicate				Run: ICPMS2-C_090225A		02/25/09 20:35		
Chromium	0.0487	mg/L	0.040	97	70	130	0.1	20	
Manganese	0.0502	mg/L	0.010	97	70	130	0.4	20	
Mercury	0.00531	mg/L	0.0010	106	70	130	0.9	20	
Molybdenum	0.0604	mg/L	0.050	106	70	130	0.7	20	
Nickel	0.0494	mg/L	0.040	97	70	130	0.8	20	
Silver	0.0190	mg/L	0.010	95	70	130	0.2	20	
Uranium	0.0557	mg/L	0.00030	106	70	130	1.8	20	
Vanadium	0.0495	mg/L	0.040	99	70	130	0.4	20	
Zinc	0.0559	mg/L	0.010	83	70	130	3.1	20	
Method: E200.8							Batch: R115667		
Sample ID: LRB	Method Blank				Run: ICPMS4-C_090309A		03/09/09 12:22		
Aluminum	ND	mg/L	0.0004						
Boron	0.0005	mg/L	0.0004						
Uranium	ND	mg/L	3E-05						
Sample ID: LFB	Laboratory Fortified Blank				Run: ICPMS4-C_090309A		03/09/09 12:29		
Aluminum	0.0505	mg/L	0.0010	101	85	115			
Boron	0.0481	mg/L	0.0010	95	85	115			
Uranium	0.0461	mg/L	0.00030	92	85	115			
Sample ID: C09020802-011CMS4	Sample Matrix Spike				Run: ICPMS4-C_090309A		03/09/09 15:19		
Aluminum	2.66	mg/L	0.10	103	70	130			
Boron	3.56	mg/L	0.10	103	70	130			
Uranium	2.49	mg/L	0.0013	100	70	130			
Sample ID: C09020802-011CMSD4	Sample Matrix Spike Duplicate				Run: ICPMS4-C_090309A		03/09/09 15:26		
Aluminum	2.72	mg/L	0.10	105	70	130	1.9	20	
Boron	3.54	mg/L	0.10	103	70	130	0.5	20	
Uranium	2.47	mg/L	0.0013	99	70	130	1	20	
Method: E200.8							Batch: R116005		
Sample ID: LRB	Method Blank				Run: ICPMS4-C_090317A		03/17/09 12:58		
Silver	ND	mg/L	4E-05						
Sample ID: LFB	Laboratory Fortified Blank				Run: ICPMS4-C_090317A		03/17/09 13:05		
Silver	0.0203	mg/L	0.0010	101	85	115			
Sample ID: C09030153-002BMS4	Sample Matrix Spike				Run: ICPMS4-C_090317A		03/17/09 15:08		
Silver	0.0189	mg/L	0.010	94	70	130			
Sample ID: C09030153-002BMSD4	Sample Matrix Spike Duplicate				Run: ICPMS4-C_090317A		03/17/09 15:15		
Silver	0.0193	mg/L	0.010	96	70	130	1.9	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0							Batch: R115160		
Sample ID: LCS	Laboratory Control Sample			Run: IC1-C_090224A			02/24/09 13:48		
Chloride	9.47	mg/L	1.0	95	90	110			
Sulfate	38.5	mg/L	1.0	96	90	110			
Sample ID: MBLK	Method Blank			Run: IC1-C_090224A			02/24/09 14:03		
Chloride	ND	mg/L	0.02						
Sulfate	ND	mg/L	0.06						
Sample ID: C09020784-002AMS	Sample Matrix Spike			Run: IC1-C_090224A			02/24/09 16:22		
Chloride	57.6	mg/L	1.0	102	90	110			
Sulfate	278	mg/L	1.0	104	90	110			
Sample ID: C09020784-002AMSD	Sample Matrix Spike Duplicate			Run: IC1-C_090224A			02/24/09 16:37		
Chloride	57.1	mg/L	1.0	101	90	110	0.9	20	
Sulfate	275	mg/L	1.0	103	90	110	0.8	20	
Sample ID: C09020802-012AMS	Sample Matrix Spike			Run: IC1-C_090224A			02/24/09 18:25		
Chloride	36.1	mg/L	1.0	94	90	110			
Sulfate	40.4	mg/L	1.0	99	90	110			
Sample ID: C09020802-012AMSD	Sample Matrix Spike Duplicate			Run: IC1-C_090224A			02/24/09 18:41		
Chloride	36.1	mg/L	1.0	95	90	110	0.2	20	
	40.7	mg/L	1.0	99	90	110	0.6	20	
Method: E300.0							Batch: R116010		
Sample ID: LCS	Laboratory Control Sample			Run: IC1-C_090316A			03/16/09 16:19		
Chloride	12.0	mg/L	1.0	96	90	110			
Sulfate	49.0	mg/L	1.0	98	90	110			
Sample ID: MBLK	Method Blank			Run: IC1-C_090316A			03/16/09 16:35		
Chloride	ND	mg/L	0.02						
Sulfate	ND	mg/L	0.06						
Sample ID: C09030406-001AMS	Sample Matrix Spike			Run: IC1-C_090316A			03/16/09 17:21		
Chloride	46.7	mg/L	1.0	94	90	110			
Sulfate	471	mg/L	1.0	97	90	110			
Sample ID: C09030406-001AMSD	Sample Matrix Spike Duplicate			Run: IC1-C_090316A			03/16/09 17:36		
Chloride	47.1	mg/L	1.0	95	90	110	0.8	20	
Sulfate	473	mg/L	1.0	98	90	110	0.4	20	

## Qualifiers:

RL - Reporting limit.

ND - Not detected at the reporting limit.

M - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: LCTW 1

Report Date: 03/24/09  
Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1							Analytical Run: SUB-B125320		
Sample ID: ICV Initial Calibration Verification Standard							02/25/09 10:07		
Nitrogen, Ammonia as N	5.26	mg/L	0.11	96	90	110			
Method: E350.1							Batch: B_R125320		
Sample ID: MBLK Method Blank							Run: SUB-B125320 02/25/09 10:08		
Nitrogen, Ammonia as N	ND	mg/L	0.02						
Sample ID: LFB Laboratory Fortified Blank							Run: SUB-B125320 02/25/09 10:09		
Nitrogen, Ammonia as N	1.02	mg/L	0.10	103	90	110			
Sample ID: B09021747-001AMS Sample Matrix Spike							Run: SUB-B125320 02/25/09 10:32		
Nitrogen, Ammonia as N	0.824	mg/L	0.10	84	90	110			S
Sample ID: B09021747-001AMSD Sample Matrix Spike Duplicate							Run: SUB-B125320 02/25/09 10:33		
Nitrogen, Ammonia as N	0.837	mg/L	0.10	85	90	110	1.6	10	S
Sample ID: B09021770-002CMS Sample Matrix Spike							Run: SUB-B125320 02/25/09 10:49		
Nitrogen, Ammonia as N	0.865	mg/L	0.10	88	90	110			S
Sample ID: B09021770-002CMSD Sample Matrix Spike Duplicate							Run: SUB-B125320 02/25/09 10:50		
Nitrogen, Ammonia as N	0.864	mg/L	0.10	88	90	110	0.1	10	S
Method: E351.2							Analytical Run: SUB-B125392		
Sample ID: ICV Initial Calibration Verification Standard							02/26/09 09:26		
Nitrogen, Kjeldahl, Total as N	5.44	mg/L	0.50	109	90	110			
Method: E351.2							Batch: B_37436		
Sample ID: MBLK-37436 Method Blank							Run: SUB-B125392 02/26/09 09:28		
Nitrogen, Kjeldahl, Total as N	ND	mg/L	0.1						
Sample ID: LFB Laboratory Fortified Blank							Run: SUB-B125392 02/26/09 09:29		
Nitrogen, Kjeldahl, Total as N	5.26	mg/L	0.50	105	90	110			
Sample ID: B09021730-002CMS Sample Matrix Spike							Run: SUB-B125392 02/26/09 09:32		
Nitrogen, Kjeldahl, Total as N	7.68	mg/L	0.50	103	90	110			
Sample ID: B09021730-002CMSD Sample Matrix Spike Duplicate							Run: SUB-B125392 02/26/09 09:33		
Nitrogen, Kjeldahl, Total as N	7.94	mg/L	0.50	108	90	110	3.3	10	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E351.2							Analytical Run: SUB-B125508		
Sample ID: ICV	Initial Calibration Verification Standard								02/27/09 15:31
Nitrogen, Kjeldahl, Total as N	5.29	mg/L	0.50	106	90	110			
Method: E351.2							Batch: B_37480		
Sample ID: MBLK	Method Blank								02/27/09 15:33
Nitrogen, Kjeldahl, Total as N	ND	mg/L	0.1						
Run: SUB-B125508									
Sample ID: LFB	Laboratory Fortified Blank								02/27/09 15:34
Nitrogen, Kjeldahl, Total as N	5.06	mg/L	0.50	101	90	110			
Run: SUB-B125508									
Sample ID: B09021964-001AMS	Sample Matrix Spike								02/27/09 15:40
Nitrogen, Kjeldahl, Total as N	6.98	mg/L	0.50	112	90	110			S
Run: SUB-B125508									
Sample ID: B09021964-001AMSD	Sample Matrix Spike Duplicate								02/27/09 15:41
Nitrogen, Kjeldahl, Total as N	6.27	mg/L	0.50	98	90	110	11	10	R
Method: E353.2							Analytical Run: SUB-B125376		
Sample ID: ICV	Initial Calibration Verification Standard								02/26/09 09:10
Nitrogen, Nitrate+Nitrite as N	35.2	mg/L	0.050	99	90	110			
Method: E353.2							Batch: B_R125376		
Sample ID: MBLK	Method Blank								02/26/09 09:11
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.002						
Run: SUB-B125376									
Sample ID: LFB	Laboratory Fortified Blank								02/26/09 09:13
Nitrogen, Nitrate+Nitrite as N	0.994	mg/L	0.050	101	90	110			
Run: SUB-B125376									
Sample ID: B09021848-001CMS	Sample Matrix Spike								02/26/09 11:28
Nitrogen, Nitrate+Nitrite as N	1.48	mg/L	0.050	102	90	110			
Run: SUB-B125376									
Sample ID: B09021848-001CMSD	Sample Matrix Spike Duplicate								02/26/09 11:29
Nitrogen, Nitrate+Nitrite as N	1.47	mg/L	0.050	101	90	110	0.4	10	

### Qualifiers:

R - Analyte reporting limit.

M - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: 022509_LCS_3	Laboratory Control Sample				Run: SATURNCA_090225A		02/25/09 11:55		
1,1,1,2-Tetrachloroethane	9.12	ug/L	1.0	91	70	130			
1,1,1-Trichloroethane	10.6	ug/L	1.0	106	70	130			
1,1,2,2-Tetrachloroethane	8.64	ug/L	1.0	86	70	130			
1,1,2-Trichloroethane	9.32	ug/L	1.0	93	70	130			
1,1-Dichloroethane	10.1	ug/L	1.0	101	70	130			
1,1-Dichloroethene	11.6	ug/L	1.0	116	70	130			
1,1-Dichloropropene	10.6	ug/L	1.0	106	70	130			
1,2,3-Trichloropropane	7.96	ug/L	1.0	80	70	130			
1,2-Dibromoethane	8.92	ug/L	1.0	89	70	130			
1,2-Dichlorobenzene	9.32	ug/L	1.0	93	70	130			
1,2-Dichloroethane	10.0	ug/L	1.0	100	70	130			
1,2-Dichloropropane	9.72	ug/L	1.0	97	70	130			
1,3-Dichlorobenzene	9.96	ug/L	1.0	100	70	130			
1,3-Dichloropropane	9.12	ug/L	1.0	91	70	130			
1,4-Dichlorobenzene	8.80	ug/L	1.0	88	70	130			
2,2-Dichloropropane	10.7	ug/L	1.0	107	70	130			
2-Chloroethyl vinyl ether	11.3	ug/L	1.0	113	70	130			
2-Chlorotoluene	10.2	ug/L	1.0	102	70	130			
4-Chlorotoluene	9.84	ug/L	1.0	98	70	130			
Benzene	10.7	ug/L	1.0	107	70	130			
Bromobenzene	10.0	ug/L	1.0	100	70	130			
Bromochloromethane	9.92	ug/L	1.0	99	70	130			
Bromodichloromethane	9.56	ug/L	1.0	96	70	130			
Bromoform	8.96	ug/L	1.0	90	70	130			
Bromomethane	9.36	ug/L	1.0	94	70	130			
Carbon tetrachloride	11.2	ug/L	1.0	112	70	130			
Chlorobenzene	10.0	ug/L	1.0	100	70	130			
Chlorodibromomethane	8.60	ug/L	1.0	86	70	130			
Chloroethane	11.0	ug/L	1.0	110	70	130			
Chloroform	10.4	ug/L	1.0	104	70	130			
Chloromethane	7.32	ug/L	1.0	73	70	130			
cis-1,2-Dichloroethene	10.5	ug/L	1.0	105	70	130			
cis-1,3-Dichloropropene	10.6	ug/L	1.0	106	70	130			
Dibromomethane	9.40	ug/L	1.0	94	70	130			
Dichlorodifluoromethane	7.84	ug/L	1.0	78	70	130			
Ethylbenzene	10.3	ug/L	1.0	103	70	130			
m+p-Xylenes	20.7	ug/L	1.0	103	70	130			
Methyl ethyl ketone	106	ug/L	20	106	70	130			
Methylene chloride	10.1	ug/L	1.0	101	70	130			
o-Xylene	10.3	ug/L	1.0	103	70	130			
Styrene	10.1	ug/L	1.0	101	70	130			
Tetrachloroethene	10.1	ug/L	1.0	101	70	130			
Toluene	10.8	ug/L	1.0	108	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: 022509_LCS_3	Laboratory Control Sample			Run: SATURNCA_090225A			02/25/09 11:55		
trans-1,2-Dichloroethene	10.2	ug/L	1.0	102	70	130			
trans-1,3-Dichloropropene	10.4	ug/L	1.0	104	70	130			
Trichloroethene	10.6	ug/L	1.0	106	70	130			
Trichlorofluoromethane	11.1	ug/L	1.0	111	70	130			
Vinyl chloride	8.28	ug/L	1.0	83	70	130			
Xylenes, Total:	31.0	ug/L	1.0	103	70	130			
Surr: 1,2-Dichlorobenzene-d4			1.0	100	80	120			
Surr: Dibromofluoromethane			1.0	110	80	120			
Surr: p-Bromofluorobenzene			1.0	107	80	120			
Surr: Toluene-d8			1.0	108	80	120			
Sample ID: 022509_MBLK_6	Method Blank			Run: SATURNCA_090225A			02/25/09 13:48		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						

### Qualifiers:

RPD: Reporting limit.

ND - Not detected at the reporting limit.

M: Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: 022509_MBLK_6	Method Blank		Run: SATURNCA_090225A				02/25/09 13:48		
cis-1,2-Dichloroethene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4			1.0	98	80	120			
Surr: Dibromofluoromethane			1.0	119	80	120			
Surr: p-Bromofluorobenzene			1.0	95	80	120			
Surr: Toluene-d8			1.0	103	80	120			
Sample ID: C09020802-012GMS							Run: SATURNCA_090225A		02/25/09 18:15
Sample Matrix Spike									
1,1,1,2-Tetrachloroethane	198	ug/L	20	99	70	130			
1,1,1-Trichloroethane	194	ug/L	20	97	70	130			
1,1,2,2-Tetrachloroethane	214	ug/L	20	107	70	130			
1,1,2-Trichloroethane	174	ug/L	20	87	70	130			
1,1-Dichloroethane	192	ug/L	20	96	70	130			
1,1-Dichloroethene	201	ug/L	20	100	70	130			
1,1-Dichloropropene	190	ug/L	20	95	70	130			
1,2,3-Trichloropropane	228	ug/L	20	114	70	130			
1,2-Dibromoethane	189	ug/L	20	94	70	130			
1,2-Dichlorobenzene	216	ug/L	20	108	70	130			
1,2-Dichloroethane	192	ug/L	20	96	70	130			
1,2-Dichloropropane	205	ug/L	20	102	70	130			
1,3-Dichlorobenzene	215	ug/L	20	108	70	130			
1,3-Dichloropropane	188	ug/L	20	94	70	130			
1,4-Dichlorobenzene	206	ug/L	20	103	70	130			
2,2-Dichloropropane	178	ug/L	20	89	70	130			
2-Chloroethyl vinyl ether	27.1	ug/L	20	14	70	130			S
2-Chlorotoluene	214	ug/L	20	107	70	130			
4-Chlorotoluene	214	ug/L	20	107	70	130			

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: C09020802-012GMS	Sample Matrix Spike			Run: SATURNCA_090225A			02/25/09 18:15		
Benzene	256	ug/L	20	110	70	130			
Bromobenzene	221	ug/L	20	110	70	130			
Bromochloromethane	139	ug/L	20	70	70	130			
Bromodichloromethane	205	ug/L	20	102	70	130			
Bromoform	204	ug/L	20	102	70	130			
Bromomethane	165	ug/L	20	82	70	130			
Carbon tetrachloride	194	ug/L	20	97	70	130			
Chlorobenzene	215	ug/L	20	108	70	130			
Chlorodibromomethane	185	ug/L	20	92	70	130			
Chloroethane	217	ug/L	20	108	70	130			
Chloroform	198	ug/L	20	99	70	130			
Chloromethane	130	ug/L	20	65	70	130			S
cis-1,2-Dichloroethene	201	ug/L	20	100	70	130			
cis-1,3-Dichloropropene	207	ug/L	20	104	70	130			
Dibromomethane	194	ug/L	20	97	70	130			
Dichlorodifluoromethane	134	ug/L	20	67	70	130			S
Ethylbenzene	226	ug/L	20	108	70	130			
m+p-Xylenes	467	ug/L	20	105	70	130			
Methyl ethyl ketone	1660	ug/L	400	83	70	130			
Methylene chloride	195	ug/L	20	98	70	130			
Monochlorobenzene	233	ug/L	20	106	70	130			
Styrene	218	ug/L	20	109	70	130			
Tetrachloroethene	219	ug/L	20	110	70	130			
Toluene	312	ug/L	20	114	70	130			
trans-1,2-Dichloroethene	194	ug/L	20	97	70	130			
trans-1,3-Dichloropropene	224	ug/L	20	112	70	130			
Trichloroethene	206	ug/L	20	103	70	130			
Trichlorofluoromethane	204	ug/L	20	102	70	130			
Vinyl chloride	150	ug/L	20	75	70	130			
Xylenes, Total	700	ug/L	20	105	70	130			
Surr: 1,2-Dichlorobenzene-d4			20	99	80	120			
Surr: Dibromofluoromethane			20	89	80	120			
Surr: p-Bromofluorobenzene			20	121	80	120			S
Surr: Toluene-d8			20	109	80	120			
Sample ID: C09020802-012GMSD	Sample Matrix Spike Duplicate			Run: SATURNCA_090225A			02/25/09 18:53		
1,1,1,2-Tetrachloroethane	191	ug/L	20	96	70	130	3.7	20	
1,1,1-Trichloroethane	234	ug/L	20	117	70	130	19	20	
1,1,2,2-Tetrachloroethane	202	ug/L	20	101	70	130	5.8	20	
1,1,2-Trichloroethane	185	ug/L	20	92	70	130	5.8	20	
1,1-Dichloroethane	221	ug/L	20	110	70	130	14	20	
1,1-Dichloroethene	215	ug/L	20	108	70	130	6.9	20	
1,1-Dichloropropene	232	ug/L	20	116	70	130	20	20	

### Qualifiers:

FL - Analyte reporting limit.

MD - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





## QA/QC Summary Report

Client: UR Energy USA Inc

Project: LCTW 1

Report Date: 03/24/09

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: C09020802-012GMSD		Sample Matrix Spike Duplicate		Run: SATURNCA_090225A			02/25/09 18:53		
1,2,3-Trichloropropane	187	ug/L	20	94	70	130	20	20	
1,2-Dibromoethane	186	ug/L	20	93	70	130	1.3	20	
1,2-Dichlorobenzene	214	ug/L	20	107	70	130	0.7	20	
1,2-Dichloroethane	218	ug/L	20	109	70	130	13	20	
1,2-Dichloropropane	214	ug/L	20	107	70	130	4.6	20	
1,3-Dichlorobenzene	205	ug/L	20	102	70	130	5	20	
1,3-Dichloropropane	188	ug/L	20	94	70	130	0	20	
1,4-Dichlorobenzene	197	ug/L	20	98	70	130	4.8	20	
2,2-Dichloropropane	223	ug/L	20	112	70	130	23	20	R
2-Chloroethyl vinyl ether	25.4	ug/L	20	13	70	130	6.4	20	S
2-Chlorotoluene	209	ug/L	20	104	70	130	2.6	20	
4-Chlorotoluene	214	ug/L	20	107	70	130	0.4	20	
Benzene	256	ug/L	20	110	70	130	0	20	
Bromobenzene	211	ug/L	20	106	70	130	4.4	20	
Bromochloromethane	205	ug/L	20	102	70	130	38	20	R
Bromodichloromethane	200	ug/L	20	100	70	130	2.4	20	
Bromoform	190	ug/L	20	95	70	130	7.3	20	
Bromomethane	193	ug/L	20	96	70	130	16	20	
Carbon tetrachloride	237	ug/L	20	118	70	130	20	20	
Chlorobenzene	216	ug/L	20	108	70	130	0.4	20	
Chlorodibromomethane	190	ug/L	20	95	70	130	3	20	
Chloroethane	221	ug/L	20	110	70	130	1.8	20	
Chloroform	234	ug/L	20	117	70	130	16	20	
Chloromethane	158	ug/L	20	79	70	130	19	20	
cis-1,2-Dichloroethene	230	ug/L	20	115	70	130	14	20	
cis-1,3-Dichloropropene	214	ug/L	20	107	70	130	3.4	20	
Dibromomethane	204	ug/L	20	102	70	130	5.2	20	
Dichlorodifluoromethane	158	ug/L	20	79	70	130	16	20	
Ethylbenzene	226	ug/L	20	108	70	130	0	20	
m+p-Xylenes	466	ug/L	20	105	70	130	0.3	20	
Methyl ethyl ketone	2120	ug/L	400	106	70	130	24	20	R
Methylene chloride	211	ug/L	20	106	70	130	7.9	20	
o-Xylene	234	ug/L	20	106	70	130	0.3	20	
Styrene	216	ug/L	20	108	70	130	0.7	20	
Tetrachloroethene	222	ug/L	20	111	70	130	1.1	20	
Toluene	306	ug/L	20	111	70	130	1.8	20	
trans-1,2-Dichloroethene	226	ug/L	20	113	70	130	15	20	
trans-1,3-Dichloropropene	224	ug/L	20	112	70	130	0	20	
Trichloroethene	215	ug/L	20	108	70	130	4.2	20	
Trichlorofluoromethane	250	ug/L	20	125	70	130	20	20	R
Vinyl chloride	182	ug/L	20	91	70	130	19	20	
Xylenes, Total	699	ug/L	20	105	70	130	0.1	20	
Surr: 1,2-Dichlorobenzene-d4			20	100	80	120			

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: LCTW 1

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R115214		
Sample ID: C09020802-012GMSD	Sample Matrix Spike Duplicate			Run: SATURNCA_090225A			02/25/09 18:53		
Surr: Dibromofluoromethane	20			104	80	120			
Surr: p-Bromofluorobenzene	20			118	80	120			
Surr: Toluene-d8	20			108	80	120			
Method: E900.0							Batch: GrAB-0614		
Sample ID: MB-GrAB-0614	Method Blank			Run: G5000W_090305A			03/07/09 08:48		
Gross Alpha	2	pCi/L							
Gross Alpha precision (±)	0.6	pCi/L							
Gross Alpha MDC	0.6	pCi/L							
Gross Beta	-0.2	pCi/L							U
Gross Beta precision (±)	1	pCi/L							
Gross Beta MDC	1	pCi/L							
Sample ID: UNAT-GrAB-0614	Laboratory Control Sample			Run: G5000W_090305A			03/07/09 08:48		
Gross Alpha	130	pCi/L	94		70	130			
Sample ID: Cs137-GrAB-0614	Laboratory Control Sample			Run: G5000W_090305A			03/07/09 08:48		
Gross Beta	87	pCi/L	94		70	130			
Sample ID: C09020904-003DMS	Sample Matrix Spike			Run: G5000W_090305A			03/08/09 00:27		
Gross Alpha	144	pCi/L	103		70	130			
Sample ID: C09020904-003DMSD	Sample Matrix Spike Duplicate			Run: G5000W_090305A			03/08/09 00:27		
Gross Alpha	128	pCi/L	92		70	130	11	16.5	
Sample ID: C09020904-003DMS	Sample Matrix Spike			Run: G5000W_090305A			03/08/09 00:27		
Gross Beta	106	pCi/L	109		70	130			
Sample ID: C09020904-003DMSD	Sample Matrix Spike Duplicate			Run: G5000W_090305A			03/08/09 00:27		
Gross Beta	102	pCi/L	104		70	130	4.2	15.4	

### Qualifiers:

R - Analyte reporting limit.

ND - Not detected at the reporting limit.

M - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Project: LCTW 1

Report Date: 03/24/09

Work Order: C09020802

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0							Batch: RA226-3495		
Sample ID: C09020933-001FMS	Sample Matrix Spike				Run: BERTHOLD 770-2_090227A		03/11/09 12:36		
Radium 226	16	pCi/L	97		70	130			
Sample ID: C09020933-001FMSD	Sample Matrix Spike Duplicate				Run: BERTHOLD 770-2_090227A		03/11/09 12:36		
Radium 226	16	pCi/L	100		70	130	3.9	23.9	
Sample ID: MB-RA226-3495	Method Blank				Run: BERTHOLD 770-2_090227A		03/11/09 14:33		
Radium 226	-0.1	pCi/L							U
Radium 226 precision ( $\pm$ )	0.08	pCi/L							
Radium 226 MDC	0.2	pCi/L							
Sample ID: LCS-RA226-3495	Laboratory Control Sample				Run: BERTHOLD 770-2_090227A		03/11/09 14:33		
Radium 226	8.2	pCi/L	105		70	130			
Method: RA-05							Batch: RA228-2556		
Sample ID: LCS-228-RA226-3495	Laboratory Control Sample				Run: TENNELEC-3_090227A		03/04/09 13:09		
Radium 228	7.04	pCi/L	79		70	130			
Sample ID: MB-RA226-3495	Method Blank				Run: TENNELEC-3_090227A		03/04/09 13:09		
Radium 228	0.04	pCi/L							U
Radium 228 precision ( $\pm$ )	0.7	pCi/L							
Radium 228 MDC	1	pCi/L							
Sample ID: C09020933-003FMS	Sample Matrix Spike				Run: TENNELEC-3_090227A		03/04/09 13:09		
Radium 228	15.5	pCi/L	91		70	130			
Sample ID: C09020933-003FMSD	Sample Matrix Spike Duplicate				Run: TENNELEC-3_090227A		03/04/09 13:09		
Radium 228	14.2	pCi/L	82		70	130	8.8	35.5	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# Chain of Custody and Analytical Request Record

Page \_\_\_\_ of \_\_\_\_

PLEASE PRINT- Provide as much information as possible.

Company Name: <b>UR Energy</b>			Project Name, PWS Permit, Etc. <b>LOTW #1</b>			Sample Origin State: <b>WV</b>		EPA Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>																						
Report Mail Address:			Contact Name: <b>Wes James</b>		Phone/Fax: <b>303-335-5255</b>		Email:		Sampler: (Please Print) <b>W. James</b>																					
Invoice Address:			Invoice Contact & Phone:				Purchase Order:		Quote/Bottle Order:																					
Special Report/Formats – ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC			Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		<b>ANALYSIS REQUESTED</b> <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <tr> <td>TDS</td> <td>Oil + Grease</td> <td>NOA</td> <td>PCBs</td> <td>Metals Total</td> <td>Metals Dissolved</td> <td>Sulfide</td> <td>Other</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>						TDS	Oil + Grease	NOA	PCBs	Metals Total	Metals Dissolved	Sulfide	Other	X	X	X	X	X	X	X	X	<b>RUSH</b> Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page  Comments: <i>please get conductivity ASAP + email to hdenworth@petrotek.com</i>		Shipped by: <b>hand</b> Cooler ID(s): <b>C1804</b> Receipt Temp: <b>2</b> °C On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles/Coolers <input type="checkbox"/> B <input type="checkbox"/> C Intact <input type="checkbox"/> Y <input type="checkbox"/> N Signature Match <input type="checkbox"/> Y <input type="checkbox"/> N	
					TDS	Oil + Grease	NOA	PCBs	Metals Total	Metals Dissolved	Sulfide	Other																		
X	X	X	X	X	X	X	X																							
<b>SEE ATTACHED</b> Normal Turnaround (TAT)																														
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)			<b>Collection Date</b>		<b>Collection Time</b>		<b>MATRIX</b>		LABORATORY USE ONLY																					
1 6843			2/22/09		0800		X X X X X X X X																							
2 #15 blank			2/22/09		19:30		X X X X X X X X																							
3 6473.5 blank			2/22/09		19:45		X X X X X X X X																							
4 #10 blank			2/22/09		19:30		X X X X X X X X																							
5 6292 blank			2/22/09		19:45		X X X X X X X X																							
6 7060A			2/22/09		19:00		X X X X X X X X																							
7 6842 blank			2/22/09		09:15		X X X X X X X X																							
8 6980 blank			2/22/09		09:05		X X X X X X X X																							
9 7060 B			2/22/09		1845		X X X X X X X X																							
10 6888 blank			2/22/09		0910		X X X X X X X X																							
Custody Record MUST be Signed		Relinquished by (print): <b>Wes James</b>		Date/Time: <b>09:30</b>		Signature: <i>[Signature]</i>		Received by (print): <b>Todd Smith</b>		Date/Time: <b>09:30</b>		Signature: <i>[Signature]</i>																		
		Relinquished by (print): <b>Todd Smith</b>		Date/Time: <b>12/10</b>		Signature: <i>[Signature]</i>		Received by (print):		Date/Time:		Signature:																		
		Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: <b>K Ward</b>		Date/Time: <b>2/23/09 12/10</b>		Signature: <i>[Signature]</i>																		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



# Chain of Custody and Analytical Request Record

Page \_\_\_\_ of \_\_\_\_

PLEASE PRINT- Provide as much information as possible.

Company Name: <b>UR Energy</b>			Project Name, PWS, Permit, Etc. <b>LCTW #1</b>			Sample Origin State:		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>												
Report Mail Address:			Contact Name: <b>Wes James</b>		Phone/Fax: <b>303 335-5255</b>		Email: <b>wjames@petrotek.com</b>		Sampler: (Please Print) <b>Wes James</b>											
Invoice Address:			Invoice Contact & Phone:				Purchase Order: <b>CO-1</b>		Quote/Bottle Order:											
Special Report/Formats – ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC			Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other	ANALYSIS REQUESTED										SEE ATTACHED	Normal Turnaround (TAT)	R U S H	Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page		Shipped by: <b>hand</b>	
																	Comments: <b>please get conductivity + email to helen@petrotek.com</b>		Cooler ID(s): <b>C-1932</b>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)			Collection Date	Collection Time	MATRIX													Receipt Temp <b>2</b> °C	On Ice <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1 AG-1			2/21/09	2145		X	X	X	X	X	X	X	X						Custody Seal Y <input checked="" type="checkbox"/> N	
2 7060 blank			2/22/09	0900		X	X	X	X	X	X	X	X						Bottles/Coolers B C	
3																			Intact Y N	
4																			Signature Match Y N	
5																				
6																				
7																				
8																				
9																				
10																				
Custody Record MUST be Signed	Relinquished by (print): <b>Wes James</b>		Date/Time: <b>2/23/09 10:30</b>		Signature: <b>[Signature]</b>		Received by (print): <b>Toad Smith</b>		Date/Time: <b>2-23-09 09:30</b>		Signature: <b>[Signature]</b>									
	Relinquished by (print): <b>Toad Smith</b>		Date/Time: <b>2/23/09 1210</b>		Signature: <b>[Signature]</b>		Received by (print):		Date/Time:		Signature:									
	Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: <b>K Ward</b>		Date/Time: <b>2/23/09 1210</b>		Signature: <b>[Signature]</b>									

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

# Energy Laboratories Inc

## Workorder Receipt Checklist



C09020802

UR Energy USA Inc

Login completed by: Corinne Wagner

Date and Time Received: 2/23/2009 12:10 PM

Reviewed by:

Received by: kw

Reviewed Date:

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

-----  
Contact and Corrective Action Comments:

None



CLIENT: UR Energy USA Inc  
Project: LCTW 1  
Sample Delivery Group: C09020802

Date: 25-Mar-09

## CASE NARRATIVE

### ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

### SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

### GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

### RADON IN AIR ANALYSIS

The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

### SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

### ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505

Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

### SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

### BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT  
eli-g - Energy Laboratories, Inc. - Gillette, WY  
eli-h - Energy Laboratories, Inc. - Helena, MT  
eli-r - Energy Laboratories, Inc. - Rapid City, SD  
eli-t - Energy Laboratories, Inc. - College Station, TX

### CERTIFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA  
Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

### ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER, WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting [www.energylab.com](http://www.energylab.com)

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page [www.energylab.com](http://www.energylab.com).

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT





## ANALYTICAL SUMMARY REPORT

March 25, 2009

UR Energy USA Inc

10758 W Centennial Rd Ste 200

Ken Caryl Ranch, CO 80127

Workorder No.: C09020918

Project Name: Lost Creek Test Well No. 1

Energy Laboratories, Inc. received the following 14 samples for UR Energy USA Inc on 2/25/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C09020918-001	BH1 T3	02/24/09 13:15	02/25/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C09020918-002	BH1 T4	02/24/09 13:15	02/25/09	Aqueous	Same As Above
C09020918-003	BH2 T1	02/24/09 13:50	02/25/09	Aqueous	Same As Above
C09020918-004	BH2 T2	02/24/09 13:50	02/25/09	Aqueous	Same As Above
C09020918-005	FC-2	02/25/09 12:15	02/25/09	Aqueous	Sample Filtering Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved E624 Purgeable Organics

## ANALYTICAL SUMMARY REPORT

C09020918-006 DW	02/24/09 09:30 02/25/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C09020918-007 Jet 1	02/24/09 06:00 02/25/09	Aqueous	Solids, Total Dissolved E624 Purgeable Organics
C09020918-008 Jet 2	02/24/09 06:30 02/25/09	Aqueous	Same As Above
C09020918-009 Jet 3	02/24/09 08:45 02/25/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C09020918-010 BH3 Blank	02/24/09 10:20 02/25/09	Aqueous	Solids, Total Dissolved E624 Purgeable Organics
C09020918-011 BH4 Blank	02/24/09 10:30 02/25/09	Aqueous	Same As Above
C09020918-012 BH1 Blank	02/24/09 10:10 02/25/09	Aqueous	Same As Above
C09020918-013 BH2 Blank	02/24/09 10:15 02/25/09	Aqueous	Same As Above
C09020918-014 FC	02/24/09 09:10 02/25/09	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Sample Filtering Metals Preparation by EPA 200.2

## ANALYTICAL SUMMARY REPORT

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

have any questions regarding these tests results, please call.

Report Approved By:

*Stephanie Waldrup*



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-001  
Client Sample ID: BH1 T3

Report Date: 03/25/09  
Collection Date: 02/24/09 13:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	2200	mg/L		1		A2320 B	02/26/09 20:24 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/26/09 20:24 / ljl
Bicarbonate as HCO <sub>3</sub>	2690	mg/L		1		A2320 B	02/26/09 20:24 / ljl
Calcium	51	mg/L	D	30		E200.7	03/06/09 16:52 / rdw
Chloride	4340	mg/L	D	2		E300.0	03/05/09 14:42 / ljl
Fluoride	1.8	mg/L		0.1		A4500-F C	03/04/09 17:29 / ljl
Magnesium	11	mg/L		1		E200.7	03/06/09 16:52 / rdw
Nitrogen, Ammonia as N	13.0	mg/L	D	0.1		E350.1	02/27/09 14:17 / eli-b
Nitrogen, Kjeldahl, Total as N	18	mg/L	D	1		E351.2	03/04/09 14:08 / eli-b
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L		0.05		E353.2	03/02/09 13:10 / eli-b
Nitrogen, Nitrite as N	0.2	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:24 / sp
Potassium	109	mg/L		1		E200.7	03/06/09 16:52 / rdw
Silica	20.9	mg/L		0.2		E200.7	03/06/09 16:52 / rdw
Sodium	3380	mg/L		1		E200.7	03/06/09 16:52 / rdw
Sulfate	115	mg/L	D	6		E300.0	03/05/09 14:42 / ljl
<b>NON-METALS</b>							
Sulfide	ND	mg/L		1		A4500-S F	02/26/09 14:42 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	17300	umhos/cm		1		A2510 B	02/26/09 14:05 / dd
pH	7.76	s.u.		0.01		A4500-H B	02/26/09 14:05 / dd
Solids, Total Dissolved TDS @ 180 C	12200	mg/L		10		A2540 C	02/26/09 13:59 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/02/09 21:58 / ts
Arsenic	0.056	mg/L		0.001		E200.8	03/02/09 21:58 / ts
Barium	1.2	mg/L		0.1		E200.8	03/02/09 21:58 / ts
Boron	1.9	mg/L	D	0.1		E200.7	03/06/09 16:52 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/02/09 21:58 / ts
Chromium	ND	mg/L		0.05		E200.8	03/02/09 21:58 / ts
Iron	0.26	mg/L		0.03		E200.7	03/06/09 16:52 / rdw
Manganese	0.18	mg/L		0.01		E200.8	03/02/09 21:58 / ts
Mercury	0.002	mg/L		0.001		E200.8	03/02/09 21:58 / ts
Molybdenum	0.1	mg/L		0.1		E200.8	03/02/09 21:58 / ts
Nickel	ND	mg/L		0.05		E200.8	03/02/09 21:58 / ts
Silver	ND	mg/L		0.01		E200.8	03/02/09 21:58 / ts
Uranium	0.0016	mg/L		0.0003		E200.8	03/02/09 21:58 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/02/09 21:58 / ts
Zinc	2.74	mg/L		0.01		E200.8	03/02/09 21:58 / ts

Report Definitions:  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-001  
Client Sample ID: BH1 T3

Report Date: 03/25/09  
Collection Date: 02/24/09 13:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	118	mg/L	D	0.5		E200.7	03/10/09 21:37 / rdw
Manganese	1.8	mg/L	D	0.5		E200.7	03/10/09 21:37 / rdw
<b>DATA QUALITY</b>							
A/C Balance (± 5)	-4.78	%				Calculation	03/13/09 08:25 / kbh
Anions	169	meq/L				Calculation	03/13/09 08:25 / kbh
Cations	154	meq/L				Calculation	03/13/09 08:25 / kbh
Solids, Total Dissolved Calculated	9350	mg/L				Calculation	03/13/09 08:25 / kbh
TDS Balance (0.80 - 1.20)	1.30					Calculation	03/13/09 08:25 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Benzene	266	ug/L		100		E624	02/26/09 19:00 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Bromoform	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Chloroform	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-001  
Client Sample ID: BH1 T3

Report Date: 03/25/09  
Collection Date: 02/24/09 13:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Ethylbenzene	256	ug/L		100		E624	02/26/09 19:00 / jlr
m+p-Xylenes	74.1	ug/L		1.0		E624	02/28/09 02:03 / jlr
Methyl ethyl ketone	42	ug/L		20		E624	02/28/09 02:03 / jlr
Methylene chloride	1.9	ug/L		1.0		E624	02/28/09 02:03 / jlr
o-Xylene	36.7	ug/L		1.0		E624	02/28/09 02:03 / jlr
Styrene	147	ug/L		100		E624	02/26/09 19:00 / jlr
Tetrachloroethene	6.3	ug/L		1.0		E624	02/28/09 02:03 / jlr
Toluene	292	ug/L		100		E624	02/26/09 19:00 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Trichloroethene	49.8	ug/L		1.0		E624	02/28/09 02:03 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/28/09 02:03 / jlr
Xylenes, Total	111	ug/L		1.0		E624	02/28/09 02:03 / jlr
Surr: 1,2-Dichlorobenzene-d4	131	%REC	S	80-120		E624	02/28/09 02:03 / jlr
Surr: Dibromofluoromethane	108	%REC		80-120		E624	02/28/09 02:03 / jlr
Surr: p-Bromofluorobenzene	116	%REC		80-120		E624	02/28/09 02:03 / jlr
Surr: Toluene-d8	112	%REC		80-120		E624	02/28/09 02:03 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	50	mg/L	*	5.4	10	E1664A	02/27/09 08:37 / bah

Report Definitions:  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
\* - The result exceeds the MCL.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-002  
Client Sample ID: BH1 T4

Report Date: 03/25/09  
Collection Date: 02/24/09 13:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	2780	mg/L		1		A2320 B	02/26/09 20:38 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/26/09 20:38 / ljl
Bicarbonate as HCO <sub>3</sub>	3390	mg/L		1		A2320 B	02/26/09 20:38 / ljl
Calcium	28	mg/L	D	2		E200.7	03/20/09 17:20 / cp
Chloride	3920	mg/L	D	2		E300.0	03/19/09 19:25 / ljl
Fluoride	2.2	mg/L		0.1		A4500-F C	03/04/09 17:35 / ljl
Magnesium	4	mg/L		1		E200.7	03/20/09 17:20 / cp
Nitrogen, Ammonia as N	12.3	mg/L	D	0.1		E350.1	02/27/09 14:18 / eli-b
Nitrogen, Kjeldahl, Total as N	17	mg/L	D	1		E351.2	03/06/09 09:31 / eli-b
Nitrogen, Nitrate+Nitrite as N	1.07	mg/L		0.05		E353.2	03/02/09 13:11 / eli-b
Nitrogen, Nitrite as N	0.2	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:24 / sp
Potassium	126	mg/L		1		E200.7	03/20/09 17:20 / cp
Silica	32.4	mg/L		0.2		E200.7	03/06/09 16:57 / rdw
Sodium	3850	mg/L	D	5		E200.7	03/20/09 17:20 / cp
Sulfate	108	mg/L	D	6		E300.0	03/19/09 19:25 / ljl
<b>NON-METALS</b>							
Sulfide	ND	mg/L		1		A4500-S F	02/26/09 14:50 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	17000	umhos/cm		1		A2510 B	02/26/09 14:07 / dd
pH	7.70	s.u.		0.01		A4500-H B	02/26/09 14:07 / dd
Solids, Total Dissolved TDS @ 180 C	11300	mg/L		10		A2540 C	02/26/09 14:09 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/02/09 22:32 / ts
Arsenic	0.061	mg/L		0.001		E200.8	03/02/09 22:32 / ts
Barium	3.8	mg/L		0.1		E200.8	03/02/09 22:32 / ts
Boron	1.9	mg/L	D	0.1		E200.7	03/06/09 16:57 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/02/09 22:32 / ts
Chromium	ND	mg/L		0.05		E200.8	03/02/09 22:32 / ts
Iron	0.09	mg/L		0.03		E200.7	03/06/09 16:57 / rdw
Manganese	0.16	mg/L		0.01		E200.8	03/02/09 22:32 / ts
Mercury	0.001	mg/L		0.001		E200.8	03/02/09 22:32 / ts
Molybdenum	0.1	mg/L		0.1		E200.8	03/02/09 22:32 / ts
Nickel	0.07	mg/L		0.05		E200.8	03/02/09 22:32 / ts
Silver	ND	mg/L		0.01		E200.8	03/02/09 22:32 / ts
Uranium	0.0021	mg/L		0.0003		E200.8	03/02/09 22:32 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/02/09 22:32 / ts
Zinc	4.36	mg/L		0.01		E200.8	03/02/09 22:32 / ts

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.





## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C09020918-002  
**Client Sample ID:** BH1 T4

**Report Date:** 03/25/09  
**Collection Date:** 02/24/09 13:15  
**Date Received:** 02/25/09  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	175	mg/L	D	0.5		E200.7	03/10/09 21:42 / rdw
Manganese	2.5	mg/L	D	0.5		E200.7	03/10/09 21:42 / rdw
<b>DATA QUALITY</b>							
A/C Balance (± 5)	1.14	%				Calculation	03/24/09 15:23 / kbh
Anions	169	meq/L				Calculation	03/24/09 15:23 / kbh
Cations	173	meq/L				Calculation	03/24/09 15:23 / kbh
Solids, Total Dissolved Calculated	9760	mg/L				Calculation	03/24/09 15:23 / kbh
TDS Balance (0.80 - 1.20)	1.16					Calculation	03/24/09 15:23 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Benzene	298	ug/L		100		E624	02/26/09 19:39 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Bromoform	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Chloroform	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr

**Report** RL - Analyte reporting limit.

MCL - Maximum contaminant level.

**Definitions:** QCL - Quality control limit.

ND - Not detected at the reporting limit.

D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-002  
Client Sample ID: BH1 T4

Report Date: 03/25/09  
Collection Date: 02/24/09 13:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Ethylbenzene	270	ug/L		100		E624	02/26/09 19:39 / jlr
m+p-Xylenes	60.2	ug/L		1.0		E624	02/28/09 02:41 / jlr
Methyl ethyl ketone	53	ug/L		20		E624	02/28/09 02:41 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
o-Xylene	30.5	ug/L		1.0		E624	02/28/09 02:41 / jlr
Styrene	226	ug/L		100		E624	02/26/09 19:39 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Toluene	484	ug/L		100		E624	02/26/09 19:39 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Trichloroethene	1.4	ug/L		1.0		E624	02/28/09 02:41 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/28/09 02:41 / jlr
Xylenes, Total	90.7	ug/L		1.0		E624	02/28/09 02:41 / jlr
Surr: 1,2-Dichlorobenzene-d4	138	%REC	S	80-120		E624	02/28/09 02:41 / jlr
Surr: Dibromofluoromethane	108	%REC		80-120		E624	02/28/09 02:41 / jlr
Surr: p-Bromofluorobenzene	122	%REC	S	80-120		E624	02/28/09 02:41 / jlr
Surr: Toluene-d8	111	%REC		80-120		E624	02/28/09 02:41 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	22	mg/L	*	5.3	10	E1664A	02/27/09 08:37 / bah

Report Definitions:  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
\* - The result exceeds the MCL.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-003  
Client Sample ID: BH2 T1

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	981	mg/L		1		A2320 B	02/26/09 20:46 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/26/09 20:46 / ljl
Bicarbonate as HCO <sub>3</sub>	1200	mg/L		1		A2320 B	02/26/09 20:46 / ljl
Calcium	116	mg/L		1		E200.7	03/16/09 12:16 / rdw
Chloride	5930	mg/L	D	4		E300.0	03/18/09 19:43 / ljl
Fluoride	1.9	mg/L		0.1		A4500-F C	03/04/09 17:39 / ljl
Magnesium	28	mg/L		1		E200.7	03/16/09 12:16 / rdw
Nitrogen, Ammonia as N	16.2	mg/L	D	0.2		E350.1	02/27/09 14:19 / eli-b
Nitrogen, Kjeldahl, Total as N	17	mg/L	D	2		E351.2	03/06/09 09:32 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.83	mg/L		0.05		E353.2	03/02/09 13:12 / eli-b
Nitrogen, Nitrite as N	0.2	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:24 / sp
Potassium	89	mg/L		1		E200.7	03/16/09 12:16 / rdw
Silica	31.7	mg/L		0.2		E200.7	03/06/09 17:01 / rdw
Sodium	3810	mg/L		1		E200.7	03/16/09 12:16 / rdw
Sulfate	98	mg/L	D	6		E300.0	03/16/09 18:38 / ljl
<b>NON-METALS</b>							
Sulfide	ND	mg/L		1		A4500-S F	02/26/09 14:53 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	19100	umhos/cm		1		A2510 B	02/26/09 14:09 / dd
pH	7.75	s.u.		0.01		A4500-H B	02/26/09 14:09 / dd
Solids, Total Dissolved TDS @ 180 C	19200	mg/L		10		A2540 C	02/26/09 14:09 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/02/09 22:39 / ts
Arsenic	0.040	mg/L		0.001		E200.8	03/02/09 22:39 / ts
Barium	2.4	mg/L		0.1		E200.8	03/02/09 22:39 / ts
Boron	1.3	mg/L	D	0.1		E200.7	03/06/09 17:01 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/02/09 22:39 / ts
Chromium	ND	mg/L		0.05		E200.8	03/02/09 22:39 / ts
Iron	0.08	mg/L		0.03		E200.7	03/06/09 17:01 / rdw
Manganese	0.13	mg/L		0.01		E200.8	03/02/09 22:39 / ts
Mercury	0.001	mg/L		0.001		E200.8	03/02/09 22:39 / ts
Molybdenum	ND	mg/L		0.1		E200.8	03/02/09 22:39 / ts
Nickel	0.16	mg/L		0.05		E200.8	03/02/09 22:39 / ts
Silver	ND	mg/L		0.01		E200.8	03/02/09 22:39 / ts
Uranium	0.0009	mg/L		0.0003		E200.8	03/02/09 22:39 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/02/09 22:39 / ts
Zinc	1.44	mg/L		0.01		E200.8	03/02/09 22:39 / ts

Report Definitions:  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-003  
Client Sample ID: BH2 T1

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	64.8	mg/L	D	0.5		E200.7	03/10/09 21:47 / rdw
Manganese	1.0	mg/L	D	0.5		E200.7	03/10/09 21:47 / rdw
<b>DATA QUALITY</b>							
A/C Balance ( $\pm 5$ )	-3.23	%				Calculation	03/24/09 15:30 / kbh
Anions	189	meq/L				Calculation	03/24/09 15:30 / kbh
Cations	177	meq/L				Calculation	03/24/09 15:30 / kbh
Solids, Total Dissolved Calculated	10700	mg/L				Calculation	03/24/09 15:30 / kbh
TDS Balance (0.80 - 1.20)	1.79					Calculation	03/24/09 15:30 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Benzene	106	ug/L		100		E624	02/26/09 20:17 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Bromoform	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Chloroform	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-003  
Client Sample ID: BH2 T1

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Ethylbenzene	130	ug/L		100		E624	02/26/09 20:17 / jlr
m+p-Xylenes	48.6	ug/L		1.0		E624	02/28/09 03:19 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/28/09 03:19 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
o-Xylene	24.7	ug/L		1.0		E624	02/28/09 03:19 / jlr
Styrene	83	ug/L		20		E624	03/02/09 16:06 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Toluene	145	ug/L		100		E624	02/26/09 20:17 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Trichloroethene	1.2	ug/L		1.0		E624	02/28/09 03:19 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/28/09 03:19 / jlr
Xylenes, Total	73.4	ug/L		1.0		E624	02/28/09 03:19 / jlr
Surr: 1,2-Dichlorobenzene-d4	102	%REC		80-120		E624	02/28/09 03:19 / jlr
Surr: Dibromofluoromethane	99.0	%REC		80-120		E624	02/28/09 03:19 / jlr
Surr: p-Bromofluorobenzene	115	%REC		80-120		E624	02/28/09 03:19 / jlr
Surr: Toluene-d8	116	%REC		80-120		E624	02/28/09 03:19 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	6.4	mg/L		5.2	10	E1664A	02/27/09 08:38 / bah

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-004  
Client Sample ID: BH2 T2

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	698	mg/L		1		A2320 B	02/26/09 20:55 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/26/09 20:55 / ljl
Bicarbonate as HCO <sub>3</sub>	851	mg/L		1		A2320 B	02/26/09 20:55 / ljl
Calcium	117	mg/L		1		E200.7	03/16/09 12:20 / rdw
Chloride	6320	mg/L	D	4		E300.0	03/18/09 19:58 / ljl
Fluoride	1.9	mg/L		0.1		A4500-F C	03/04/09 17:46 / ljl
Magnesium	29	mg/L		1		E200.7	03/16/09 12:20 / rdw
Nitrogen, Ammonia as N	17.1	mg/L	D	0.2		E350.1	02/27/09 14:21 / eli-b
Nitrogen, Kjeldahl, Total as N	22	mg/L	D	1		E351.2	03/04/09 14:10 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.05		E353.2	03/02/09 13:14 / eli-b
Nitrogen, Nitrite as N	0.3	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:24 / sp
Potassium	73	mg/L		1		E200.7	03/16/09 12:20 / rdw
Silica	31.9	mg/L		0.2		E200.7	03/06/09 17:06 / rdw
Sodium	3560	mg/L		1		E200.7	03/16/09 12:20 / rdw
Sulfate	81	mg/L	D	6		E300.0	03/16/09 18:53 / ljl
<b>NON-METALS</b>							
Sulfide	1	mg/L		1		A4500-S F	02/26/09 15:01 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	19500	umhos/cm		1		A2510 B	02/26/09 14:11 / dd
pH	7.67	s.u.		0.01		A4500-H B	02/26/09 14:11 / dd
Solids, Total Dissolved TDS @ 180 C	10900	mg/L		10		A2540 C	02/26/09 14:09 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/02/09 22:45 / ts
Arsenic	0.039	mg/L		0.001		E200.8	03/02/09 22:45 / ts
Barium	2.3	mg/L		0.1		E200.8	03/02/09 22:45 / ts
Boron	1.0	mg/L	D	0.1		E200.7	03/06/09 17:06 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/02/09 22:45 / ts
Chromium	ND	mg/L		0.05		E200.8	03/02/09 22:45 / ts
Iron	0.06	mg/L		0.03		E200.7	03/06/09 17:06 / rdw
Manganese	0.09	mg/L		0.01		E200.8	03/02/09 22:45 / ts
Mercury	ND	mg/L		0.001		E200.8	03/02/09 22:45 / ts
Molybdenum	ND	mg/L		0.1		E200.8	03/02/09 22:45 / ts
Nickel	0.12	mg/L		0.05		E200.8	03/02/09 22:45 / ts
Silver	ND	mg/L		0.01		E200.8	03/02/09 22:45 / ts
Uranium	ND	mg/L		0.0003		E200.8	03/02/09 22:45 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/02/09 22:45 / ts
Zinc	0.84	mg/L		0.01		E200.8	03/02/09 22:45 / ts

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-004  
Client Sample ID: BH2 T2

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	6.8	mg/L	D	0.5		E200.7	03/10/09 21:51 / rdw
Manganese	ND	mg/L	D	0.5		E200.7	03/10/09 21:51 / rdw
<b>DATA QUALITY</b>							
A/C Balance (± 5)	-7.71	%				Calculation	03/24/09 15:32 / kbh
Anions	194	meq/L				Calculation	03/24/09 15:32 / kbh
Cations	166	meq/L				Calculation	03/24/09 15:32 / kbh
Solids, Total Dissolved Calculated	10600	mg/L				Calculation	03/24/09 15:32 / kbh
TDS Balance (0.80 - 1.20)	1.03					Calculation	03/24/09 15:32 / kbh
- The Anion / Cation balance was confirmed by re-analysis.							
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Benzene	71.5	ug/L		1.0		E624	02/28/09 03:57 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Bromoform	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Chloroform	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-004  
Client Sample ID: BH2 T2

Report Date: 03/25/09  
Collection Date: 02/24/09 13:50  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Ethylbenzene	133	ug/L		100		E624	02/26/09 20:55 / jlr
m+p-Xylenes	123	ug/L		1.0		E624	02/28/09 03:57 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/28/09 03:57 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
o-Xylene	50.7	ug/L		1.0		E624	02/28/09 03:57 / jlr
Styrene	50.2	ug/L		1.0		E624	02/28/09 03:57 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Toluene	214	ug/L		100		E624	02/26/09 20:55 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/28/09 03:57 / jlr
Xylenes, Total	174	ug/L		1.0		E624	02/28/09 03:57 / jlr
Surr: 1,2-Dichlorobenzene-d4	106	%REC		80-120		E624	02/28/09 03:57 / jlr
Surr: Dibromofluoromethane	108	%REC		80-120		E624	02/28/09 03:57 / jlr
Surr: p-Bromofluorobenzene	117	%REC		80-120		E624	02/28/09 03:57 / jlr
Surr: Toluene-d8	112	%REC		80-120		E624	02/28/09 03:57 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	5.6	mg/L		5.2	10	E1664A	02/27/09 08:38 / bah

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-005  
Client Sample ID: FC-2

Report Date: 03/25/09  
Collection Date: 02/25/09 12:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	10300	mg/L		10		A2540 C	02/26/09 14:09 / ab
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	41.9	pCi/L	U		E900.0		03/08/09 00:27 / cgr
Gross Alpha precision (±)	31.7	pCi/L			E900.0		03/08/09 00:27 / cgr
Gross Alpha MDC	47.1	pCi/L			E900.0		03/08/09 00:27 / cgr
Gross Beta	68.6	pCi/L			E900.0		03/08/09 00:27 / cgr
Gross Beta precision (±)	30.2	pCi/L			E900.0		03/08/09 00:27 / cgr
Gross Beta MDC	48.6	pCi/L			E900.0		03/08/09 00:27 / cgr
Radium 226	11	pCi/L			E903.0		03/10/09 18:01 / trs
Radium 226 precision (±)	0.56	pCi/L			E903.0		03/10/09 18:01 / trs
Radium 226 MDC	0.13	pCi/L			E903.0		03/10/09 18:01 / trs
Radium 228	16.8	pCi/L			RA-05		03/05/09 12:14 / plj
Radium 228 precision (±)	1.1	pCi/L			RA-05		03/05/09 12:14 / plj
Radium 228 MDC	0.9	pCi/L			RA-05		03/05/09 12:14 / plj
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1-Dichloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1-Dichloroethene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,1-Dichloropropene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,2-Dibromoethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,2-Dichloroethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,2-Dichloropropane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,3-Dichloropropane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
2,2-Dichloropropane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
2-Chlorotoluene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
4-Chlorotoluene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Benzene	11.6	ug/L		1.0	E624		02/27/09 20:21 / jlr
Bromobenzene	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Bromochloromethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Bromodichloromethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Bromoform	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Bromomethane	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr
Carbon tetrachloride	ND	ug/L		1.0	E624		02/27/09 20:21 / jlr

Report RL - Analyte reporting limit.

MCL - Maximum contaminant level.

Definitions: QCL - Quality control limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-005  
Client Sample ID: FC-2

Report Date: 03/25/09  
Collection Date: 02/25/09 12:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Chlorobenzene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chloroform	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Ethylbenzene	9.8	ug/L		1.0		E624	02/27/09 20:21 / jlr
m+p-Xylenes	8.5	ug/L		1.0		E624	02/27/09 20:21 / jlr
Methyl ethyl ketone	62	ug/L		20		E624	02/27/09 20:21 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
o-Xylene	4.5	ug/L		1.0		E624	02/27/09 20:21 / jlr
Styrene	11.8	ug/L		1.0		E624	02/27/09 20:21 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Toluene	14.6	ug/L		1.0		E624	02/27/09 20:21 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chloroethene	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Chlorofluoromethane	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/27/09 20:21 / jlr
Xylenes, Total	13.0	ug/L		1.0		E624	02/27/09 20:21 / jlr
Surr: 1,2-Dichlorobenzene-d4	105	%REC		80-120		E624	02/27/09 20:21 / jlr
Surr: Dibromofluoromethane	112	%REC		80-120		E624	02/27/09 20:21 / jlr
Surr: p-Bromofluorobenzene	110	%REC		80-120		E624	02/27/09 20:21 / jlr
Surr: Toluene-d8	105	%REC		80-120		E624	02/27/09 20:21 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-006  
Client Sample ID: DW

Report Date: 03/25/09  
Collection Date: 02/24/09 09:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	4	mg/L		1		A2320 B	02/26/09 21:00 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	02/26/09 21:00 / ljl
Bicarbonate as HCO <sub>3</sub>	4	mg/L		1		A2320 B	02/26/09 21:00 / ljl
Calcium	ND	mg/L	D	1		E200.7	03/06/09 17:10 / rdw
Chloride	ND	mg/L		1		E300.0	03/05/09 15:44 / ljl
Fluoride	ND	mg/L		0.1		A4500-F C	03/04/09 18:05 / ljl
Magnesium	ND	mg/L		1		E200.7	03/06/09 17:10 / rdw
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	02/27/09 13:51 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	03/04/09 14:11 / eli-b
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	03/02/09 13:15 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:24 / sp
Potassium	ND	mg/L		1		E200.7	03/06/09 17:10 / rdw
Silica	ND	mg/L		0.2		E200.7	03/06/09 17:10 / rdw
Sodium	ND	mg/L		1		E200.7	03/06/09 17:10 / rdw
Sulfate	ND	mg/L		1		E300.0	03/05/09 15:44 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	02/26/09 15:12 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	ND	umhos/cm		1		A2510 B	02/26/09 14:18 / dd
pH	6.79	s.u.		0.01		A4500-H B	02/26/09 14:18 / dd
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	02/26/09 14:09 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/17/09 16:23 / sml
Arsenic	ND	mg/L		0.001		E200.8	03/03/09 00:28 / ts
Barium	ND	mg/L		0.1		E200.8	03/03/09 00:28 / ts
Boron	ND	mg/L		0.1		E200.7	03/06/09 17:10 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/03/09 00:28 / ts
Chromium	ND	mg/L		0.05		E200.8	03/03/09 00:28 / ts
Iron	ND	mg/L		0.03		E200.7	03/06/09 17:10 / rdw
Manganese	ND	mg/L		0.01		E200.8	03/03/09 00:28 / ts
Mercury	ND	mg/L		0.001		E200.8	03/03/09 00:28 / ts
Molybdenum	ND	mg/L		0.1		E200.8	03/03/09 00:28 / ts
Nickel	ND	mg/L		0.05		E200.8	03/03/09 00:28 / ts
Silver	ND	mg/L		0.01		E200.8	03/17/09 16:23 / sml
Uranium	ND	mg/L		0.0003		E200.8	03/03/09 00:28 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/03/09 00:28 / ts
Zinc	ND	mg/L		0.01		E200.8	03/03/09 00:28 / ts

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-006  
Client Sample ID: DW

Report Date: 03/25/09  
Collection Date: 02/24/09 09:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	ND	mg/L		0.03		E200.7	03/10/09 21:56 / rdw
Manganese	ND	mg/L	D	0.02		E200.7	03/10/09 21:56 / rdw
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	0.08	pCi/L	U			E900.0	03/08/09 00:27 / cgr
Gross Alpha precision (±)	0.5	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Alpha MDC	0.9	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Beta	-1	pCi/L	U			E900.0	03/08/09 00:27 / cgr
Gross Beta precision (±)	1.4	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Beta MDC	2.4	pCi/L				E900.0	03/08/09 00:27 / cgr
Radium 226	-0.01	pCi/L	U			E903.0	03/10/09 18:01 / trs
Radium 226 precision (±)	0.09	pCi/L				E903.0	03/10/09 18:01 / trs
Radium 226 MDC	0.17	pCi/L				E903.0	03/10/09 18:01 / trs
Radium 228	-0.1	pCi/L	U			RA-05	03/05/09 12:14 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	03/05/09 12:14 / plj
Radium 228 MDC	1.2	pCi/L				RA-05	03/05/09 12:14 / plj

### DATA QUALITY

Ion Balance (± 5)	-19.7	%			Calculation	03/13/09 08:38 / kbh
Anions	0.0733	meq/L			Calculation	03/13/09 08:38 / kbh
Cations	0.0491	meq/L			Calculation	03/13/09 08:38 / kbh

- The ion balance is not appropriate for near blank results.

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1-Dichloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1-Dichloroethene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,1-Dichloropropene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,2-Dibromoethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,2-Dichloroethane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,2-Dichloropropane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,3-Dichloropropane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
2,2-Dichloropropane	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
2-Chlorotoluene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr
4-Chlorotoluene	ND	ug/L		1.0	E624	02/26/09 18:23 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
U - Not detected at minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-006  
Client Sample ID: DW

Report Date: 03/25/09  
Collection Date: 02/24/09 09:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Bromoform	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Chloroform	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Ethylbenzene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
m+p-Xylenes	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/26/09 18:23 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
o-Xylene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Styrene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Toluene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Xylenes, Total	ND	ug/L		1.0		E624	02/26/09 18:23 / jlr
Surr: 1,2-Dichlorobenzene-d4	102	%REC		80-120		E624	02/26/09 18:23 / jlr
Surr: Dibromofluoromethane	116	%REC		80-120		E624	02/26/09 18:23 / jlr
Surr: p-Bromofluorobenzene	96.0	%REC		80-120		E624	02/26/09 18:23 / jlr
Surr: Toluene-d8	106	%REC		80-120		E624	02/26/09 18:23 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	02/27/09 08:38 / bah

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-007  
Client Sample ID: Jet 1

Report Date: 03/25/09  
Collection Date: 02/24/09 06:00  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	12700	mg/L		10		A2540 C	02/26/09 14:10 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichloroethyl vinyl ether	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
1,2-Dichlorotoluene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Benzene	62.1	ug/L		1.0		E624	03/02/09 18:39 / jlr
Bromobenzene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Bromoform	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Bromomethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Chloroethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Chloroform	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Chloromethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Dibromomethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Ethylbenzene	55.5	ug/L		1.0		E624	03/02/09 18:39 / jlr
m+p-Xylenes	7.9	ug/L		1.0		E624	03/02/09 18:39 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	03/02/09 18:39 / jlr
Methylene chloride	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
o-Xylene	3.7	ug/L		1.0		E624	03/02/09 18:39 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-007  
Client Sample ID: Jet 1

Report Date: 03/25/09  
Collection Date: 02/24/09 06:00  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	39.7	ug/L		1.0		E624	03/02/09 18:39 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Toluene	60.7	ug/L		1.0		E624	03/02/09 18:39 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Trichloroethene	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	03/02/09 18:39 / jlr
Xylenes, Total	11.6	ug/L		1.0		E624	03/02/09 18:39 / jlr
Surr: 1,2-Dichlorobenzene-d4	106	%REC		80-120		E624	03/02/09 18:39 / jlr
Surr: Dibromofluoromethane	131	%REC	S	80-120		E624	03/02/09 18:39 / jlr
Surr: p-Bromofluorobenzene	110	%REC		80-120		E624	03/02/09 18:39 / jlr
Surr: Toluene-d8	112	%REC		80-120		E624	03/02/09 18:39 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-008  
Client Sample ID: Jet 2

Report Date: 03/25/09  
Collection Date: 02/24/09 06:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	12300	mg/L		10		A2540 C	02/26/09 14:10 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
1,2-Dichloroethyl vinyl ether	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Benzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Bromobenzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Bromoform	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Bromomethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Chloroethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Chloroform	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Chloromethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Dibromomethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Ethylbenzene	1.4	ug/L		1.0		E624	03/02/09 19:18 / jlr
m+p-Xylenes	1.7	ug/L		1.0		E624	03/02/09 19:18 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	03/02/09 19:18 / jlr
Methylene chloride	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
o-Xylene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-008  
Client Sample ID: Jet 2

Report Date: 03/25/09  
Collection Date: 02/24/09 06:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	2.0	ug/L		1.0		E624	03/02/09 19:18 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Toluene	1.5	ug/L		1.0		E624	03/02/09 19:18 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Trichloroethene	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	03/02/09 19:18 / jlr
Xylenes, Total	1.7	ug/L		1.0		E624	03/02/09 19:18 / jlr
Surr: 1,2-Dichlorobenzene-d4	106	%REC		80-120		E624	03/02/09 19:18 / jlr
Surr: Dibromofluoromethane	119	%REC		80-120		E624	03/02/09 19:18 / jlr
Surr: p-Bromofluorobenzene	108	%REC		80-120		E624	03/02/09 19:18 / jlr
Surr: Toluene-d8	108	%REC		80-120		E624	03/02/09 19:18 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-009  
Client Sample ID: Jet 3

Report Date: 03/25/09  
Collection Date: 02/24/09 08:45  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	641	mg/L		1		A2320 B	02/26/09 21:08 / ljl
Carbonate as CO <sub>3</sub>	73	mg/L		1		A2320 B	02/26/09 21:08 / ljl
Bicarbonate as HCO <sub>3</sub>	634	mg/L		1		A2320 B	02/26/09 21:08 / ljl
Calcium	66	mg/L		1		E200.7	03/16/09 12:25 / rdw
Chloride	5160	mg/L	D	2		E300.0	03/16/09 19:09 / ljl
Fluoride	1.7	mg/L		0.1		A4500-F C	03/04/09 18:07 / ljl
Magnesium	18	mg/L		1		E200.7	03/16/09 12:25 / rdw
Nitrogen, Ammonia as N	18.1	mg/L	D	0.2		E350.1	02/27/09 15:32 / eli-b
Nitrogen, Kjeldahl, Total as N	21	mg/L	D	2		E351.2	03/04/09 14:12 / eli-b
Nitrogen, Nitrate+Nitrite as N	1.66	mg/L		0.05		E353.2	03/02/09 13:16 / eli-b
Nitrogen, Nitrite as N	0.4	mg/L	H	0.1		A4500-NO <sub>2</sub> B	02/27/09 14:26 / sp
Potassium	95	mg/L		1		E200.7	03/16/09 12:25 / rdw
Silica	20.3	mg/L		0.2		E200.7	03/06/09 17:37 / rdw
Sodium	3500	mg/L		1		E200.7	03/16/09 12:25 / rdw
Sulfate	170	mg/L	D	6		E300.0	03/16/09 19:09 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	02/26/09 15:15 / ja
<b>PHYSICAL PROPERTIES</b>							
Conductivity	17500	umhos/cm		1		A2510 B	02/26/09 14:23 / dd
pH	8.81	s.u.		0.01		A4500-H B	02/26/09 14:23 / dd
Solids, Total Dissolved TDS @ 180 C	14000	mg/L		10		A2540 C	02/26/09 14:11 / ab
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	03/17/09 16:30 / sml
Arsenic	0.025	mg/L		0.001		E200.8	03/03/09 00:34 / ts
Barium	1.2	mg/L		0.1		E200.8	03/03/09 00:34 / ts
Boron	1.6	mg/L	D	0.1		E200.7	03/06/09 17:37 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/03/09 00:34 / ts
Chromium	ND	mg/L		0.05		E200.8	03/03/09 00:34 / ts
Iron	0.08	mg/L		0.03		E200.7	03/06/09 17:37 / rdw
Manganese	0.06	mg/L		0.01		E200.8	03/03/09 00:34 / ts
Mercury	ND	mg/L		0.001		E200.8	03/03/09 00:34 / ts
Molybdenum	0.1	mg/L		0.1		E200.8	03/03/09 00:34 / ts
Nickel	ND	mg/L		0.05		E200.8	03/03/09 00:34 / ts
Silver	ND	mg/L		0.01		E200.8	03/17/09 16:30 / sml
Uranium	0.0009	mg/L		0.0003		E200.8	03/03/09 00:34 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/03/09 00:34 / ts
Zinc	0.64	mg/L		0.01		E200.8	03/03/09 00:34 / ts

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
H - Analysis performed past recommended holding time.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-009  
Client Sample ID: Jet 3

Report Date: 03/25/09  
Collection Date: 02/24/09 08:45  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS - TOTAL</b>							
Iron	40.6	mg/L	D	0.5		E200.7	03/10/09 22:05 / rdw
Manganese	0.6	mg/L	D	0.5		E200.7	03/10/09 22:05 / rdw
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	55.6	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Alpha precision (±)	30.2	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Alpha MDC	42.6	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Beta	68.2	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Beta precision (±)	31.6	pCi/L				E900.0	03/08/09 00:27 / cgr
Gross Beta MDC	50.9	pCi/L				E900.0	03/08/09 00:27 / cgr
Radium 226	4.2	pCi/L				E903.0	03/10/09 18:01 / trs
Radium 226 precision (±)	0.55	pCi/L				E903.0	03/10/09 18:01 / trs
Radium 226 MDC	0.31	pCi/L				E903.0	03/10/09 18:01 / trs
Radium 228	7.7	pCi/L				RA-05	03/05/09 12:14 / plj
Radium 228 precision (±)	1.6	pCi/L				RA-05	03/05/09 12:14 / plj
Radium 228 MDC	2.1	pCi/L				RA-05	03/05/09 12:14 / plj
<b>DATA QUALITY</b>							
A/C Balance (± 5)	-0.431	%				Calculation	03/19/09 07:49 / kbh
Anions	162	meq/L				Calculation	03/19/09 07:49 / kbh
Cations	161	meq/L				Calculation	03/19/09 07:49 / kbh
Solids, Total Dissolved Calculated	9430	mg/L				Calculation	03/19/09 07:49 / kbh
TDS Balance (0.80 - 1.20)	1.48					Calculation	03/19/09 07:49 / kbh
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-009  
Client Sample ID: Jet 3

Report Date: 03/25/09  
Collection Date: 02/24/09 08:45  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
2-Chlorotoluene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Benzene	40.6	ug/L		1.0		E624	03/02/09 19:56 / jlr
Bromobenzene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Bromoform	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Bromomethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Chloroethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Chloroform	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Chloromethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Dibromomethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Ethylbenzene	40.6	ug/L		1.0		E624	03/02/09 19:56 / jlr
m-Xylenes	7.6	ug/L		1.0		E624	03/02/09 19:56 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	03/02/09 19:56 / jlr
Methylene chloride	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
o-Xylene	3.8	ug/L		1.0		E624	03/02/09 19:56 / jlr
Styrene	60.7	ug/L		1.0		E624	03/02/09 19:56 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Toluene	37.6	ug/L		1.0		E624	03/02/09 19:56 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Trichloroethene	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	03/02/09 19:56 / jlr
Xylenes, Total	11.4	ug/L		1.0		E624	03/02/09 19:56 / jlr
Surr: 1,2-Dichlorobenzene-d4	107	%REC		80-120		E624	03/02/09 19:56 / jlr
Surr: Dibromofluoromethane	130	%REC	S	80-120		E624	03/02/09 19:56 / jlr
Surr: p-Bromofluorobenzene	108	%REC		80-120		E624	03/02/09 19:56 / jlr
Surr: Toluene-d8	104	%REC		80-120		E624	03/02/09 19:56 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	02/27/09 08:38 / bah

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-010  
Client Sample ID: BH3 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:20  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	153	mg/L		10		A2540 C	02/26/09 14:11 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Benzene	3.9	ug/L		1.0		E624	02/27/09 20:59 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Bromoform	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Chloroform	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Ethylbenzene	7.1	ug/L		1.0		E624	02/27/09 20:59 / jlr
m+p-Xylenes	11.1	ug/L		1.0		E624	02/27/09 20:59 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/27/09 20:59 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
o-Xylene	4.5	ug/L		1.0		E624	02/27/09 20:59 / jlr

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-010  
Client Sample ID: BH3 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:20  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	1.1	ug/L		1.0		E624	02/27/09 20:59 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Toluene	13.4	ug/L		1.0		E624	02/27/09 20:59 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/27/09 20:59 / jlr
Xylenes, Total	15.6	ug/L		1.0		E624	02/27/09 20:59 / jlr
Surr: 1,2-Dichlorobenzene-d4	109	%REC		80-120		E624	02/27/09 20:59 / jlr
Surr: Dibromofluoromethane	106	%REC		80-120		E624	02/27/09 20:59 / jlr
Surr: p-Bromofluorobenzene	120	%REC		80-120		E624	02/27/09 20:59 / jlr
Surr: Toluene-d8	103	%REC		80-120		E624	02/27/09 20:59 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-011  
Client Sample ID: BH4 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	48	mg/L		10		A2540 C	02/26/09 14:11 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Benzene	21.0	ug/L		1.0		E624	02/27/09 21:37 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Bromoform	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Chloroform	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Ethylbenzene	39.9	ug/L		1.0		E624	02/27/09 21:37 / jlr
m+p-Xylenes	49.0	ug/L		1.0		E624	02/27/09 21:37 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/27/09 21:37 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
o-Xylene	17.6	ug/L		1.0		E624	02/27/09 21:37 / jlr

Report: RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-011  
Client Sample ID: BH4 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:30  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	4.6	ug/L		1.0		E624	02/27/09 21:37 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Toluene	69.1	ug/L		1.0		E624	02/27/09 21:37 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/27/09 21:37 / jlr
Xylenes, Total	66.6	ug/L		1.0		E624	02/27/09 21:37 / jlr
Surr: 1,2-Dichlorobenzene-d4	122	%REC	S	80-120		E624	02/27/09 21:37 / jlr
Surr: Dibromofluoromethane	97.0	%REC		80-120		E624	02/27/09 21:37 / jlr
Surr: p-Bromofluorobenzene	128	%REC	S	80-120		E624	02/27/09 21:37 / jlr
Surr: Toluene-d8	107	%REC		80-120		E624	02/27/09 21:37 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-012  
Client Sample ID: BH1 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:10  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	18	mg/L		10		A2540 C	02/26/09 14:11 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Benzene	4.3	ug/L		1.0		E624	02/27/09 22:52 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Bromoform	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Chloroform	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Ethylbenzene	18.3	ug/L		1.0		E624	02/27/09 22:52 / jlr
m+p-Xylenes	4.7	ug/L		1.0		E624	02/27/09 22:52 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/27/09 22:52 / jlr
Methylene chloride	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
o-Xylene	2.0	ug/L		1.0		E624	02/27/09 22:52 / jlr

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-012  
Client Sample ID: BH1 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:10  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	2.5	ug/L		1.0		E624	02/27/09 22:52 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Toluene	102	ug/L		20		E624	02/27/09 22:15 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/27/09 22:52 / jlr
Xylenes, Total	6.7	ug/L		1.0		E624	02/27/09 22:52 / jlr
Surr: 1,2-Dichlorobenzene-d4	107	%REC		80-120		E624	02/27/09 22:52 / jlr
Surr: Dibromofluoromethane	98.0	%REC		80-120		E624	02/27/09 22:52 / jlr
Surr: p-Bromofluorobenzene	115	%REC		80-120		E624	02/27/09 22:52 / jlr
Surr: Toluene-d8	118	%REC		80-120		E624	02/27/09 22:52 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-013  
Client Sample ID: BH2 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Solids, Total Dissolved TDS @ 180 C	35	mg/L		10		A2540 C	02/26/09 14:11 / ab
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Benzene	13.1	ug/L		1.0		E624	02/28/09 04:35 / jlr
Bromobenzene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Bromoform	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Bromomethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Chloroethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Chloroform	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Chloromethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Dibromomethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Ethylbenzene	16.8	ug/L		1.0		E624	02/28/09 04:35 / jlr
m+p-Xylenes	22.6	ug/L		1.0		E624	02/28/09 04:35 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	02/28/09 04:35 / jlr
Methylene chloride	2.6	ug/L		1.0		E624	02/28/09 04:35 / jlr
o-Xylene	14.4	ug/L		1.0		E624	02/28/09 04:35 / jlr

Report RL - Analyte reporting limit.  
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-013  
Client Sample ID: BH2 Blank

Report Date: 03/25/09  
Collection Date: 02/24/09 10:15  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Styrene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Toluene	139	ug/L		100		E624	02/27/09 03:15 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Trichloroethene	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	02/28/09 04:35 / jlr
Xylenes, Total	37.0	ug/L		1.0		E624	02/28/09 04:35 / jlr
Surr: 1,2-Dichlorobenzene-d4	99.0	%REC		80-120		E624	02/28/09 04:35 / jlr
Surr: Dibromofluoromethane	104	%REC		80-120		E624	02/28/09 04:35 / jlr
Surr: p-Bromofluorobenzene	119	%REC		80-120		E624	02/28/09 04:35 / jlr
Surr: Toluene-d8	110	%REC		80-120		E624	02/28/09 04:35 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C09020918-014  
Client Sample ID: FC

Report Date: 03/25/09  
Collection Date: 02/24/09 09:10  
Date Received: 02/25/09  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Calcium	75	mg/L		1		E200.7	03/10/09 18:53 / rdw
Magnesium	21	mg/L		1		E200.7	03/10/09 18:53 / rdw
Potassium	99	mg/L		1		E200.7	03/10/09 18:53 / rdw
Silica	31.8	mg/L		0.2		E200.7	03/06/09 17:46 / rdw
Sodium	4080	mg/L		1		E200.7	03/10/09 18:53 / rdw
<b>METALS - DISSOLVED</b>							
Aluminum	4	mg/L	D	1		E200.7	03/10/09 18:53 / rdw
Arsenic	0.022	mg/L		0.001		E200.8	03/03/09 00:41 / ts
Barium	3.3	mg/L		0.1		E200.8	03/03/09 00:41 / ts
Boron	1.6	mg/L	D	0.1		E200.7	03/10/09 18:53 / rdw
Cadmium	ND	mg/L		0.01		E200.8	03/03/09 00:41 / ts
Chromium	ND	mg/L		0.05		E200.8	03/03/09 00:41 / ts
Iron	ND	mg/L		0.03		E200.7	03/10/09 18:53 / rdw
Manganese	0.22	mg/L		0.01		E200.8	03/03/09 00:41 / ts
Mercury	ND	mg/L		0.001		E200.8	03/03/09 00:41 / ts
Molybdenum	0.1	mg/L		0.1		E200.8	03/03/09 00:41 / ts
Nickel	ND	mg/L		0.05		E200.8	03/03/09 00:41 / ts
Silver	ND	mg/L		0.01		E200.8	03/17/09 16:16 / sml
Uranium	0.0005	mg/L		0.0003		E200.8	03/03/09 00:41 / ts
Vanadium	ND	mg/L		0.1		E200.8	03/03/09 00:41 / ts
Zinc	0.68	mg/L		0.01		E200.8	03/03/09 00:41 / ts
<b>METALS - TOTAL</b>							
Iron	28.5	mg/L	D	0.5		E200.7	03/10/09 22:10 / rdw
Manganese	0.6	mg/L	D	0.5		E200.7	03/10/09 22:10 / rdw

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix interference.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R115263
Sample ID: MBLK-1	3	Method Blank					Run: MANTECH_090226B			02/26/09 15:42
Alkalinity, Total as CaCO <sub>3</sub>		ND	mg/L	0.2						
Carbonate as CO <sub>3</sub>		ND	mg/L	1						
Bicarbonate as HCO <sub>3</sub>		ND	mg/L	1						
Sample ID: LCS-1										Batch: R115263
		Laboratory Control Sample					Run: MANTECH_090226B			02/26/09 15:49
Alkalinity, Total as CaCO <sub>3</sub>		196	mg/L	1.0	98	90	110			
Sample ID: C09020904-004AMS										Batch: R115263
		Sample Matrix Spike					Run: MANTECH_090226B			02/26/09 20:05
Alkalinity, Total as CaCO <sub>3</sub>		365	mg/L	1.0	97	80	120			
Sample ID: C09020904-004AMSD										Batch: R115263
		Sample Matrix Spike Duplicate					Run: MANTECH_090226B			02/26/09 20:12
Alkalinity, Total as CaCO <sub>3</sub>		368	mg/L	1.0	100	80	120	1	20	
Method: A2510 B										Analytical Run: ORION555A_090226B
Sample ID: ICV2_090226_2										Batch: 090226_2_PH-W_555A-1
		Initial Calibration Verification Standard								02/26/09 14:01
Conductivity		1510	umhos/cm	1.0	107	90	110			
Method: A2510 B										Batch: 090226_2_PH-W_555A-1
Sample ID: MBLK1_090226_2										Batch: 090226_2_PH-W_555A-1
		Method Blank					Run: ORION555A_090226B			02/26/09 13:55
Conductivity		0.3	umhos/cm	0.2						
Sample ID: C09020918-009ADUP										Batch: 090226_2_PH-W_555A-1
		Sample Duplicate					Run: ORION555A_090226B			02/26/09 14:25
Conductivity		17500	umhos/cm	1.0				0.2	10	
Method: A2540 C										Batch: 090226_1_SLDS-TDS-W
Sample ID: LCS2_090226										Batch: 090226_1_SLDS-TDS-W
		Laboratory Control Sample					Run: BAL-1_090226B			02/27/09 10:37
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Sample ID: MBLK2_090226										Batch: 090226_1_SLDS-TDS-W
		Method Blank					Run: BAL-1_090226B			02/28/09 10:37
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	6						
Sample ID: C09020918-008AMS										Batch: 090226_1_SLDS-TDS-W
		Sample Matrix Spike					Run: BAL-1_090226B			02/27/09 11:00
Solids, Total Dissolved TDS @ 180 C		22200	mg/L	10	99	90	110			
Sample ID: C09020918-008AMSD										Batch: 090226_1_SLDS-TDS-W
		Sample Matrix Spike Duplicate					Run: BAL-1_090226B			02/26/09 14:10
Solids, Total Dissolved TDS @ 180 C		22300	mg/L	10	99	90	110	0	10	

### Qualifiers:

RL: Reporting limit.

MDL: Minimum detectable concentration

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>										Batch: R115497
Sample ID: MBLK-1	Method Blank						Run: MANTECH_090304A			03/04/09 15:44
Fluoride		ND	mg/L	0.05						
<b>Sample ID: LCS-1</b>										03/04/09 15:47
Fluoride	Laboratory Control Sample						Run: MANTECH_090304A			
		1.00	mg/L	0.10	100	90	110			
<b>Sample ID: C09020904-004AMS</b>										03/04/09 17:23
Fluoride	Sample Matrix Spike						Run: MANTECH_090304A			
		1.21	mg/L	0.10	99	80	120			
<b>Sample ID: C09020904-004AMSD</b>										03/04/09 17:26
Fluoride	Sample Matrix Spike Duplicate						Run: MANTECH_090304A			
		1.23	mg/L	0.10	101	80	120	1.6	10	
<b>Sample ID: C09020989-001BMS</b>										03/04/09 18:24
Fluoride	Sample Matrix Spike						Run: MANTECH_090304A			
		1.51	mg/L	0.10	101	80	120			
<b>Sample ID: C09020989-001BMDS</b>										03/04/09 18:26
Fluoride	Sample Matrix Spike Duplicate						Run: MANTECH_090304A			
		1.51	mg/L	0.10	101	80	120	0	10	
<b>Method: A4500-H B</b>										Analytical Run: ORION555A_090226B
Sample ID: ICV1_090226_2	Initial Calibration Verification Standard									02/26/09 13:56
pH		6.85	s.u.	0.010	100	98	102			
<b>Method: A4500-H B</b>										Batch: 090226_2_PH-W_555A-1
Sample ID: C09020918-009ADUP	Sample Duplicate						Run: ORION555A_090226B			02/26/09 14:25
pH		8.82	s.u.	0.010				0.1	10	
<b>Method: A4500-NO2 B</b>										Analytical Run: HACH DR3000_090227B
Sample ID: ICV-2	Initial Calibration Verification Standard									02/27/09 14:24
Nitrogen, Nitrite as N		1.04	mg/L	0.10	104	90	110			
<b>Method: A4500-NO2 B</b>										Batch: A2009-02-27_6_NO2_02
Sample ID: MBLK-1	Method Blank						Run: HACH DR3000_090227B			02/27/09 14:24
Nitrogen, Nitrite as N		ND	mg/L	0.003						
<b>Sample ID: C09020918-006AMS</b>										02/27/09 14:25
Nitrogen, Nitrite as N	Sample Matrix Spike						Run: HACH DR3000_090227B			
		0.0467	mg/L	0.10	98	80	120			
<b>Sample ID: C09020918-006AMSD</b>										02/27/09 14:25
Nitrogen, Nitrite as N	Sample Matrix Spike Duplicate						Run: HACH DR3000_090227B			
		0.0465	mg/L	0.10	98	80	120		10	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-S F Analytical Run: TITRATION_090226B										
Sample ID: ICV-042808	Initial Calibration Verification Standard 02/26/09 13:52									
Sulfide		55.6	mg/L	1.0	99	80	120			
Method: A4500-S F Batch: 090226-SULFIDE-TTR-W										
Sample ID: MBLK7-090226	Method Blank Run: TITRATION_090226B 02/26/09 13:37									
Sulfide		ND	mg/L	0.1						
Sample ID: C09020918-009GMS	Sample Matrix Spike Run: TITRATION_090226B 02/26/09 15:20									
Sulfide		43.2	mg/L	1.0	96	80	120			
Sample ID: C09020918-009GMSD	Sample Matrix Spike Duplicate Run: TITRATION_090226B 02/26/09 15:24									
Sulfide		45.6	mg/L	1.0	102	80	120	5.4	20	
Method: E1664A Batch: 21653										
Sample ID: MBLK1_090227A	Method Blank Run: SPE1-C_090227A 02/27/09 08:39									
Oil & Grease (HEM)		ND	mg/L	5.0						
Sample ID: LCS1_090227A	Laboratory Control Sample Run: SPE1-C_090227A 02/27/09 08:39									
Oil & Grease (HEM)		39	mg/L	5.0	98	78	114			
Sample ID: LCSD_090227A	Laboratory Control Sample Duplicate Run: SPE1-C_090227A 02/27/09 08:39									
Oil & Grease (HEM)		38	mg/L	5.0	96	78	114	2.6	18	
Method: E200.7 Batch: 21674										
Sample ID: MB-21674	2	Method Blank Run: ICP3-C_090310A 03/10/09 21:28								
Iron		ND	mg/L	0.02						
Manganese		ND	mg/L	0.02						
Sample ID: LCS3-21674	2	Laboratory Control Sample Run: ICP3-C_090310A 03/10/09 21:33								
Iron		2.57	mg/L	0.030	103	85	115			
Manganese		2.52	mg/L	0.020	101	85	115			
Sample ID: C09020928-001CMS3	2	Sample Matrix Spike Run: ICP3-C_090310A 03/10/09 22:33								
Iron		3.41	mg/L	0.53	106	70	130			
Manganese		3.10	mg/L	0.50	124	70	130			
Sample ID: C09020928-001CMSD	2	Sample Matrix Spike Duplicate Run: ICP3-C_090310A 03/10/09 22:37								
Iron		3.50	mg/L	0.53	110	70	130	2.7	20	
Manganese		3.18	mg/L	0.50	127	70	130	2.5	20	
Sample ID: C09020937-008CMS	2	Sample Matrix Spike Run: ICP3-C_090310A 03/10/09 23:32								
Iron		28.2	mg/L	1.1	100	70	130			
Manganese		26.8	mg/L	1.0	103	70	130			
Sample ID: C09020937-008CMSD	2	Sample Matrix Spike Duplicate Run: ICP3-C_090310A 03/10/09 23:37								
Iron		27.9	mg/L	1.1	98	70	130	1.2	20	
Manganese		26.4	mg/L	1.0	101	70	130	1.5	20	

### Qualifiers:

RL: Reporting limit.

ND - Not detected at the reporting limit.

MD: Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R115623
Sample ID: LRB	8	Method Blank				Run: ICP3-C_090306B				03/06/09 12:28
Boron		0.02	mg/L	0.006						
Calcium		0.4	mg/L	0.02						
Iron		0.06	mg/L	0.0004						
Magnesium		0.5	mg/L	0.01						
Potassium		0.1	mg/L	0.005						
Silicon		0.004	mg/L	0.003						
Sodium		0.01	mg/L	0.006						
Silica		0.009	mg/L	0.005						
Sample ID: LFB	8	Laboratory Fortified Blank				Run: ICP3-C_090306B				03/06/09 12:33
Boron		2.55	mg/L	0.10	101	80	120			
Calcium		25.0	mg/L	0.50	98	80	120			
Iron		2.50	mg/L	0.030	97	80	120			
Magnesium		24.9	mg/L	0.50	98	80	120			
Potassium		24.4	mg/L	0.50	97	80	120			
Silicon		2.57	mg/L	0.0025	103	80	120			
Sodium		25.1	mg/L	0.50	100	80	120			
Silica		5.50	mg/L	0.0054	103	80	120			
Sample ID: C09020918-006CMS	8	Sample Matrix Spike				Run: ICP3-C_090306B				03/06/09 17:15
Boron		0.492	mg/L	0.10	96	70	130			
Calcium		49.9	mg/L	1.2	98	70	130			
Iron		0.483	mg/L	0.030	95	70	130			
Magnesium		49.8	mg/L	1.0	98	70	130			
Potassium		45.5	mg/L	1.0	88	70	130			
Silicon		0.366	mg/L	0.10	71	70	130			
Sodium		47.3	mg/L	1.0	91	70	130			
Silica		0.783	mg/L	0.21	71	70	130			
Sample ID: C09020918-006CMSD	8	Sample Matrix Spike Duplicate				Run: ICP3-C_090306B				03/06/09 17:19
Boron		0.503	mg/L	0.10	99	70	130	2.3	20	
Calcium		51.3	mg/L	1.2	101	70	130	2.9	20	
Iron		0.493	mg/L	0.030	97	70	130	1.9	20	
Magnesium		54.0	mg/L	1.0	106	70	130	8.1	20	
Potassium		49.2	mg/L	1.0	96	70	130	7.9	20	
Silicon		0.373	mg/L	0.10	73	70	130	2	20	
Sodium		49.3	mg/L	1.0	95	70	130	4.1	20	
Silica		0.799	mg/L	0.21	73	70	130	2	20	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R115709
Sample ID: LRB	Z Method Blank			Run: ICP3-C_090310A				03/10/09 14:55		
Aluminum		0.3	mg/L	0.04						
Boron		0.02	mg/L	0.006						
Calcium		0.4	mg/L	0.02						
Iron		0.05	mg/L	0.0004						
Magnesium		0.4	mg/L	0.01						
Potassium		0.1	mg/L	0.005						
Sodium		0.07	mg/L	0.006						
Sample ID: LFB	Z Laboratory Fortified Blank			Run: ICP3-C_090310A				03/10/09 14:59		
Aluminum		2.44	mg/L	0.10	90	80	120			
Boron		2.55	mg/L	0.10	101	80	120			
Calcium		25.2	mg/L	0.50	100	80	120			
Iron		2.51	mg/L	0.030	98	80	120			
Magnesium		24.9	mg/L	0.50	98	80	120			
Potassium		25.2	mg/L	0.50	98	80	120			
Sodium		25.8	mg/L	0.50	103	80	120			
Sample ID: C09020884-001BMS	Z Sample Matrix Spike			Run: ICP3-C_090310A				03/10/09 18:34		
Aluminum		4.16	mg/L	0.19	120	70	130			
Boron		3.15	mg/L	0.10	100	70	130			
Calcium		261	mg/L	1.0	103	70	130			
Iron		2.55	mg/L	0.030	101	70	130			
Magnesium		259	mg/L	1.0	104	70	130			
Potassium		239	mg/L	1.0	93	70	130			
Sodium		737	mg/L	1.0	95	70	130			
Sample ID: C09020884-001BMSD	Z Sample Matrix Spike Duplicate			Run: ICP3-C_090310A				03/10/09 18:39		
Aluminum		3.63	mg/L	0.19	99	70	130	14	20	
Boron		3.09	mg/L	0.10	97	70	130	2.1	20	
Calcium		250	mg/L	1.0	99	70	130	4	20	
Iron		2.47	mg/L	0.030	98	70	130	3.2	20	
Magnesium		248	mg/L	1.0	99	70	130	4.7	20	
Potassium		245	mg/L	1.0	96	70	130	2.6	20	
Sodium		738	mg/L	1.0	96	70	130	0.2	20	
Sample ID: C09030108-003BMS	Z Sample Matrix Spike			Run: ICP3-C_090310A				03/10/09 20:56		
Aluminum		0.57	mg/L	0.10	93	70	130			
Boron		0.47	mg/L	0.10	93	70	130			
Calcium		54	mg/L	0.50	93	70	130			
Iron		0.45	mg/L	0.030	91	70	130			
Magnesium		48	mg/L	0.50	92	70	130			
Potassium		50	mg/L	0.50	97	70	130			
Sodium		56	mg/L	0.50	96	70	130			

### Qualifiers:

RL: Reporting limit.

MDL: Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R115709
Sample ID: C09030108-003BMSD 7 Sample Matrix Spike Duplicate										Run: ICP3-C_090310A 03/10/09 21:01
Aluminum		0.59	mg/L	0.10	98	70	130	4	20	
Boron		0.48	mg/L	0.10	95	70	130	1.8	20	
Calcium		54	mg/L	0.50	92	70	130	0.8	20	
Iron		0.46	mg/L	0.030	92	70	130	1.7	20	
Magnesium		48	mg/L	0.50	91	70	130	1.2	20	
Potassium		49	mg/L	0.50	95	70	130	1.5	20	
Sodium		55	mg/L	0.50	95	70	130	1.5	20	
Method: E200.7										Batch: R115930
Sample ID: LRB 4 Method Blank										Run: ICP3-C_090316A 03/16/09 10:58
Calcium		0.4	mg/L	0.02						
Magnesium		0.4	mg/L							
Potassium		0.3	mg/L	0.005						
Sodium		0.09	mg/L	0.006						
Sample ID: LFB 4 Laboratory Fortified Blank										Run: ICP3-C_090316A 03/16/09 11:03
Calcium		25.6	mg/L	0.50	101	80	120			
Magnesium		25.9	mg/L	0.50	102	80	120			
Potassium		25.5	mg/L	0.50	101	80	120			
Sodium		26.0	mg/L	0.50	104	80	120			
Sample ID: C09030171-001DMS 4 Sample Matrix Spike										Run: ICP3-C_090316A 03/16/09 12:52
Calcium		52.1	mg/L	1.0	88	70	130			
Magnesium		46.0	mg/L	1.0	87	70	130			
Potassium		47.0	mg/L	1.0	91	70	130			
Sodium		51.5	mg/L	1.0	93	70	130			
Sample ID: C09030171-001DMSD 4 Sample Matrix Spike Duplicate										Run: ICP3-C_090316A 03/16/09 12:57
Calcium		55.2	mg/L	1.0	96	70	130	5.8	20	
Magnesium		49.8	mg/L	1.0	96	70	130	7.9	20	
Potassium		50.5	mg/L	1.0	99	70	130	7.1	20	
Sodium		51.9	mg/L	1.0	95	70	130	0.7	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R116166
Sample ID: MB-090320A	4	Method Blank				Run: ICP2-C_090313A				03/20/09 12:03
Calcium		0.1	mg/L	0.08						
Magnesium		0.06	mg/L	0.04						
Potassium		ND	mg/L	0.03						
Sodium		0.10	mg/L	0.08						
Sample ID: LFB-090320A	4	Laboratory Fortified Blank				Run: ICP2-C_090313A				03/20/09 12:07
Calcium		46.7	mg/L	0.50	93	85	125			
Magnesium		46.4	mg/L	0.50	93	85	125			
Potassium		45.8	mg/L	0.50	92	85	125			
Sodium		52.0	mg/L	0.50	104	85	125			
Sample ID: C09030062-001BMS2	4	Sample Matrix Spike				Run: ICP2-C_090313A				03/20/09 17:28
Calcium		189	mg/L	1.0	114	70	130			
Magnesium		127	mg/L	1.0	107	70	130			
Potassium		101	mg/L	1.0	99	70	130			
Sodium		108	mg/L	1.0	100	70	130			
Sample ID: C09030062-001BMSD	4	Sample Matrix Spike Duplicate				Run: ICP2-C_090313A				03/20/09 17:32
Calcium		182	mg/L	1.0	107	70	130	3.6	20	
Magnesium		121	mg/L	1.0	101	70	130	4.4	20	
Potassium		97.2	mg/L	1.0	95	70	130	3.6	20	
		103	mg/L	1.0	95	70	130	4.8	20	

### Qualifiers:

RL - Reporting limit.

MDL - Minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/25/09  
Work Order: C09020918

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R115389		
Sample ID: LRB	Method Blank		Run: ICPMS2-C_090302A				03/02/09 13:10		
Aluminum	0.004	mg/L	0.002						
Arsenic	ND	mg/L	0.0003						
Barium	ND	mg/L	3E-05						
Cadmium	ND	mg/L	6E-05						
Chromium	ND	mg/L	8E-05						
Manganese	ND	mg/L	5E-05						
Mercury	ND	mg/L	4E-05						
Molybdenum	ND	mg/L	4E-05						
Nickel	ND	mg/L	9E-05						
Silver	ND	mg/L	2E-05						
Uranium	ND	mg/L	8E-06						
Vanadium	ND	mg/L	9E-05						
Zinc	0.001	mg/L	6E-05						
Sample ID: LFB	Laboratory Fortified Blank		Run: ICPMS2-C_090302A				03/02/09 13:17		
Aluminum	0.0518	mg/L	0.0022	96	85	115			
Arsenic	0.0500	mg/L	0.0010	100	85	115			
Barium	0.0505	mg/L	0.0010	101	85	115			
Cadmium	0.0502	mg/L	0.0010	100	85	115			
Chromium	0.0510	mg/L	0.0010	102	85	115			
Manganese	0.0527	mg/L	0.0010	105	85	115			
Mercury	0.00501	mg/L	0.0010	100	85	115			
Molybdenum	0.0502	mg/L	0.0010	100	85	115			
Nickel	0.0499	mg/L	0.0010	100	85	115			
Silver	0.0201	mg/L	0.0010	100	85	115			
Uranium	0.0492	mg/L	0.00030	98	85	115			
Vanadium	0.0508	mg/L	0.0010	102	85	115			
Zinc	0.0530	mg/L	0.0010	103	85	115			
Sample ID: C09020914-002AMS4	Sample Matrix Spike		Run: ICPMS2-C_090302A				03/02/09 21:38		
Aluminum	0.0477	mg/L	0.040	95	70	130			
Arsenic	0.0605	mg/L	0.0010	94	70	130			
Barium	0.0735	mg/L	0.050	95	70	130			
Cadmium	0.0459	mg/L	0.010	92	70	130			
Chromium	0.0469	mg/L	0.040	92	70	130			
Manganese	0.0458	mg/L	0.010	91	70	130			
Mercury	0.00444	mg/L	0.0010	89	70	130			
Molybdenum	0.0489	mg/L	0.040	93	70	130			
Nickel	0.0428	mg/L	0.040	84	70	130			
Silver	0.0109	mg/L	0.010	55	70	130			S
Uranium	0.0524	mg/L	0.00030	94	70	130			
Vanadium	0.124	mg/L	0.10	93	70	130			
Zinc	0.0562	mg/L	0.010	99	70	130			

### Qualifiers:

RL - Analyte reporting limit.  
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/25/09  
Work Order: C09020918

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R115389		
Sample ID: C09020914-002AMSD4	Sample Matrix Spike Duplicate			Run: ICPMS2-C_090302A			03/02/09 21:44		
Aluminum	0.0525	mg/L	0.040	105	70	130	9.7	20	
Arsenic	0.0602	mg/L	0.0010	93	70	130	0.6	20	
Barium	0.0733	mg/L	0.050	95	70	130	0.2	20	
Cadmium	0.0460	mg/L	0.010	92	70	130	0.2	20	
Chromium	0.0465	mg/L	0.040	91	70	130	0.8	20	
Manganese	0.0453	mg/L	0.010	90	70	130	1	20	
Mercury	0.00451	mg/L	0.0010	90	70	130	1.5	20	
Molybdenum	0.0494	mg/L	0.040	94	70	130	0.9	20	
Nickel	0.0426	mg/L	0.040	84	70	130	0.6	20	
Silver	0.0110	mg/L	0.010	55	70	130	0.3	20	S
Uranium	0.0527	mg/L	0.00030	94	70	130	0.4	20	
Vanadium	0.123	mg/L	0.10	91	70	130	0.7	20	
Zinc	0.0555	mg/L	0.010	97	70	130	1.3	20	
Sample ID: C09020945-001BMS4	Sample Matrix Spike			Run: ICPMS2-C_090302A			03/03/09 01:08		
Aluminum	0.114	mg/L	0.10	80	70	130			
Arsenic	0.0552	mg/L	0.0010	107	70	130			
Barium	0.117	mg/L	0.10	106	70	130			
Cadmium	0.0527	mg/L	0.010	105	70	130			
Chromium	0.0521	mg/L	0.050	104	70	130			
Manganese	0.0559	mg/L	0.010	103	70	130			
Mercury	0.00497	mg/L	0.0010	99	70	130			
Molybdenum	0.0544	mg/L	0.050	105	70	130			
Nickel	0.0528	mg/L	0.050	104	70	130			
Silver	0.00999	mg/L	0.0090	50	70	130			S
Uranium	0.0542	mg/L	0.00030	107	70	130			
Vanadium	0.0548	mg/L	0.050	108	70	130			
Zinc	0.0579	mg/L	0.010	107	70	130			
Sample ID: C09020945-001BMSD4	Sample Matrix Spike Duplicate			Run: ICPMS2-C_090302A			03/03/09 01:15		
Aluminum	0.116	mg/L	0.10	85	70	130	2.1	20	
Arsenic	0.0562	mg/L	0.0010	109	70	130	1.7	20	
Barium	0.119	mg/L	0.10	110	70	130	1.9	20	
Cadmium	0.0538	mg/L	0.010	107	70	130	2	20	
Chromium	0.0523	mg/L	0.050	104	70	130	0.4	20	
Manganese	0.0567	mg/L	0.010	105	70	130	1.4	20	
Mercury	0.00513	mg/L	0.0010	103	70	130	3.1	20	
Molybdenum	0.0555	mg/L	0.050	108	70	130	2	20	
Nickel	0.0531	mg/L	0.050	104	70	130	0.6	20	
Silver	0.00997	mg/L	0.0090	50	70	130	0.2	20	S
Uranium	0.0548	mg/L	0.00030	108	70	130	1.1	20	
Vanadium	0.0550	mg/L	0.050	108	70	130	0.4	20	
Zinc	0.0582	mg/L	0.010	108	70	130	0.6	20	

### Qualifiers:

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.





## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R116005
Sample ID: LRB	2	Method Blank					Run: ICPMS4-C_090317A			03/17/09 12:58
Aluminum		ND	mg/L	0.0004						
Silver		ND	mg/L	4E-05						
Sample ID: LFB	2	Laboratory Fortified Blank					Run: ICPMS4-C_090317A			03/17/09 13:05
Aluminum		0.0504	mg/L	0.0010	101	85	115			
Silver		0.0203	mg/L	0.0010	101	85	115			
Sample ID: C09030153-002BMS4	2	Sample Matrix Spike					Run: ICPMS4-C_090317A			03/17/09 15:08
Aluminum		0.422	mg/L	0.10		70	130			A
Silver		0.0189	mg/L	0.010	94	70	130			
Sample ID: C09030153-002BMSD	2	Sample Matrix Spike Duplicate					Run: ICPMS4-C_090317A			03/17/09 15:15
Aluminum		0.422	mg/L	0.10		70	130	0	20	A
Silver		0.0193	mg/L	0.010	96	70	130	1.9	20	
Method: E300.0										Batch: R115621
Sample ID: LCS	2	Laboratory Control Sample					Run: IC1-C_090305A			03/05/09 12:54
Chloride		9.72	mg/L	1.0	97	90	110			
Sulfate		39.1	mg/L	1.0	98	90	110			
Sample ID: MBLK	2	Method Blank					Run: IC1-C_090305A			03/05/09 13:09
Chloride		ND	mg/L	0.02						
Sulfate		ND	mg/L	0.06						
Sample ID: C09020578-003AMS	2	Sample Matrix Spike					Run: IC1-C_090305A			03/05/09 14:11
Chloride		150	mg/L	1.0	105	90	110			
Sulfate		2290	mg/L	1.0		90	110			A
Sample ID: C09020578-003AMSD	2	Sample Matrix Spike Duplicate					Run: IC1-C_090305A			03/05/09 14:27
Chloride		151	mg/L	1.0	105	90	110	0.3	20	
Sulfate		2280	mg/L	1.0		90	110	0.5	20	A

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0										Batch: R116010
Sample ID: LCS	2	Laboratory Control Sample				Run: IC1-C_090316A				03/16/09 16:19
Chloride		12.0	mg/L	1.0	96	90	110			
Sulfate		49.0	mg/L	1.0	98	90	110			
Sample ID: MBLK	2	Method Blank				Run: IC1-C_090316A				03/16/09 16:35
Chloride		ND	mg/L	0.02						
Sulfate		ND	mg/L	0.06						
Sample ID: C09030406-001AMS	2	Sample Matrix Spike				Run: IC1-C_090316A				03/16/09 17:21
Chloride		46.7	mg/L	1.0	94	90	110			
Sulfate		471	mg/L	1.0	97	90	110			
Sample ID: C09030406-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC1-C_090316A				03/16/09 17:36
Chloride		47.1	mg/L	1.0	95	90	110	0.8	20	
Sulfate		473	mg/L	1.0	98	90	110	0.4	20	
Method: E300.0										Batch: R116083
Sample ID: LCS		Laboratory Control Sample				Run: IC1-C_090318A				03/18/09 18:56
Chloride		9.57	mg/L	1.0	96	90	110			
Sample ID: MBLK		Method Blank				Run: IC1-C_090318A				03/18/09 19:12
Chloride		ND	mg/L	0.02						
Sample ID: C09030355-001AMS		Sample Matrix Spike				Run: IC1-C_090318A				03/18/09 21:46
Chloride		115	mg/L	1.0	103	90	110			
Sample ID: C09030355-001AMSD		Sample Matrix Spike Duplicate				Run: IC1-C_090318A				03/18/09 22:01
Chloride		115	mg/L	1.0	101	90	110	0.6	20	
Method: E300.0										Batch: R116135
Sample ID: LCS	2	Laboratory Control Sample				Run: IC1-C_090319A				03/19/09 18:38
Chloride		9.53	mg/L	1.0	95	90	110			
Sulfate		37.9	mg/L	1.0	95	90	110			
Sample ID: MBLK	2	Method Blank				Run: IC1-C_090319A				03/19/09 18:54
Chloride		ND	mg/L	0.02						
Sulfate		ND	mg/L	0.06						
Sample ID: C09030465-002AMS	2	Sample Matrix Spike				Run: IC1-C_090319A				03/19/09 21:13
Chloride		67.7	mg/L	1.0	99	90	110			
Sulfate		257	mg/L	1.0	100	90	110			
Sample ID: C09030465-002AMSD	2	Sample Matrix Spike Duplicate				Run: IC1-C_090319A				03/19/09 21:28
Chloride		68.2	mg/L	1.0	100	90	110	0.8	20	
Sulfate		258	mg/L	1.0	101	90	110	0.6	20	

### Qualifiers:

RL: Reporting limit.

ND - Not detected at the reporting limit.

ML: Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1								Analytical Run: SUB-B125471		
Sample ID: ICV		Initial Calibration Verification Standard								02/27/09 10:41
Nitrogen, Ammonia as N		5.42	mg/L	0.11	99	90	110			
Method: E350.1								Batch: B_R125471		
Sample ID: MBLK		Method Blank				Run: SUB-B125471		02/27/09 10:42		
Nitrogen, Ammonia as N		0.04	mg/L	0.02						
Sample ID: LFB		Laboratory Fortified Blank				Run: SUB-B125471		02/27/09 10:44		
Nitrogen, Ammonia as N		1.03	mg/L	0.10	101	90	110			
Sample ID: B09021920-001BMS		Sample Matrix Spike				Run: SUB-B125471		02/27/09 14:46		
Nitrogen, Ammonia as N		1.03	mg/L	0.10	105	90	110			
Sample ID: B09021920-001BMSD		Sample Matrix Spike Duplicate				Run: SUB-B125471		02/27/09 14:47		
Nitrogen, Ammonia as N		1.03	mg/L	0.10	105	90	110	0.2	10	
Sample ID: B09022044-001GMS		Sample Matrix Spike				Run: SUB-B125471		02/27/09 15:23		
Nitrogen, Ammonia as N		1.13	mg/L	0.050	97	90	110			
Sample ID: B09022044-001GMSD		Sample Matrix Spike Duplicate				Run: SUB-B125471		02/27/09 15:24		
Nitrogen, Ammonia as N		1.20	mg/L	0.050	104	90	110	6.1	10	
Sample ID: C09020918-006E		Sample Matrix Spike				Run: SUB-B125471		02/27/09 13:52		
Nitrogen, Ammonia as N		0.738	mg/L	0.10	75	90	110			S
Sample ID: C09020918-006E		Sample Matrix Spike Duplicate				Run: SUB-B125471		02/27/09 13:53		
Nitrogen, Ammonia as N		0.737	mg/L	0.10	75	90	110	0.1	10	S
Sample ID: B09021945-003CMS		Sample Matrix Spike				Run: SUB-B125471		02/27/09 14:09		
Nitrogen, Ammonia as N		1.42	mg/L	0.10	103	90	110			
Sample ID: B09021945-003CMSD		Sample Matrix Spike Duplicate				Run: SUB-B125471		02/27/09 14:10		
Nitrogen, Ammonia as N		1.45	mg/L	0.10	106	90	110	1.9	10	

### Qualifiers:

RL - Analyte reporting limit.  
MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E351.2								Analytical Run: SUB-B125727		
Sample ID: ICV		Initial Calibration Verification Standard							03/04/09 14:02	
Nitrogen, Kjeldahl, Total as N		5.21	mg/L	0.50	104	90	110			
Method: E351.2								Batch: B_37563		
Sample ID: MBLK		Method Blank				Run: SUB-B125697		03/04/09 11:28		
Nitrogen, Kjeldahl, Total as N		0.1	mg/L	0.1						
Sample ID: LFB		Laboratory Fortified Blank				Run: SUB-B125697		03/04/09 11:29		
Nitrogen, Kjeldahl, Total as N		4.93	mg/L	0.50	97	90	110			
Sample ID: B09030135-002BMS		Sample Matrix Spike				Run: SUB-B125697		03/04/09 11:47		
Nitrogen, Kjeldahl, Total as N		46.7	mg/L	0.50	81	90	110			S
Sample ID: B09030135-002BMSD		Sample Matrix Spike Duplicate				Run: SUB-B125697		03/04/09 11:48		
Nitrogen, Kjeldahl, Total as N		47.2	mg/L	0.50	92	90	110	1.1	10	
Sample ID: MBLK		Method Blank				Run: SUB-B125727		03/04/09 14:05		
Nitrogen, Kjeldahl, Total as N		0.1	mg/L	0.1						
Sample ID: LFB		Laboratory Fortified Blank				Run: SUB-B125727		03/04/09 14:06		
Nitrogen, Kjeldahl, Total as N		5.14	mg/L	0.50	100	90	110			
Sample ID: B09030135-002BMS		Sample Matrix Spike				Run: SUB-B125727		03/04/09 14:13		
Nitrogen, Kjeldahl, Total as N		46.5	mg/L	0.50	55	90	110			S
Sample ID: B09030135-002BMSD		Sample Matrix Spike Duplicate				Run: SUB-B125727		03/04/09 14:14		
Nitrogen, Kjeldahl, Total as N		46.5	mg/L	0.50	55	90	110	0	10	S
Method: E351.2								Analytical Run: SUB-B125856		
Sample ID: ICV		Initial Calibration Verification Standard							03/06/09 09:25	
Nitrogen, Kjeldahl, Total as N		5.08	mg/L	0.50	102	90	110			
Method: E351.2								Batch: B_37590		
Sample ID: MB-37590		Method Blank				Run: SUB-B125856		03/06/09 09:27		
Nitrogen, Kjeldahl, Total as N		ND	mg/L	0.1						
Sample ID: LFB-37590		Laboratory Fortified Blank				Run: SUB-B125856		03/06/09 09:28		
Nitrogen, Kjeldahl, Total as N		5.19	mg/L	0.50	104	90	110			
Sample ID: B09022039-001BMS		Sample Matrix Spike				Run: SUB-B125856		03/06/09 09:30		
Nitrogen, Kjeldahl, Total as N		4.86	mg/L	0.50	97	90	110			
Sample ID: B09022039-001BMSD		Sample Matrix Spike Duplicate				Run: SUB-B125856		03/06/09 09:31		
Nitrogen, Kjeldahl, Total as N		4.89	mg/L	0.50	98	90	110	0.7	10	

### Qualifiers:

RL - Reporting limit.

MDL - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Analytical Run: SUB-B125536
Sample ID: ICV		Initial Calibration Verification Standard								03/02/09 09:08
Nitrogen, Nitrate+Nitrite as N		35.7	mg/L	0.050	101	90	110			
Method: E353.2										Batch: B_R125536
Sample ID: MBLK		Method Blank								Run: SUB-B125536 03/02/09 09:09
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.002						
Sample ID: LFB		Laboratory Fortified Blank								Run: SUB-B125536 03/02/09 09:10
Nitrogen, Nitrate+Nitrite as N		1.02	mg/L	0.050	104	90	110			
Sample ID: B09022044-001GMS		Sample Matrix Spike								Run: SUB-B125536 03/02/09 13:04
Nitrogen, Nitrate+Nitrite as N		0.982	mg/L	0.050	100	90	110			
Sample ID: B09022044-001GMSD		Sample Matrix Spike Duplicate								Run: SUB-B125536 03/02/09 13:05
Nitrogen, Nitrate+Nitrite as N		0.981	mg/L	0.050	100	90	110	0.1	10	
Sample ID: B09022053-001AMS		Sample Matrix Spike								Run: SUB-B125536 03/02/09 13:21
Nitrogen, Nitrate+Nitrite as N		1.62	mg/L	0.050	99	90	110			
Sample ID: B09022053-001AMSD		Sample Matrix Spike Duplicate								Run: SUB-B125536 03/02/09 13:22
Nitrogen, Nitrate+Nitrite as N		1.62	mg/L	0.050	99	90	110	0.1	10	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 03/24/09

Project: Lost Creek Test Well No. 1

Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115270
Sample ID: 022609_LCS_7	53	Laboratory Control Sample				Run: SATURNCA_090226A				02/26/09 16:29
1,1,1,2-Tetrachloroethane		10.8	ug/L	1.0	108	70	130			
1,1,1-Trichloroethane		10.6	ug/L	1.0	106	70	130			
1,1,2,2-Tetrachloroethane		10.3	ug/L	1.0	103	70	130			
1,1,2-Trichloroethane		9.68	ug/L	1.0	97	70	130			
1,1-Dichloroethane		10.6	ug/L	1.0	106	70	130			
1,1-Dichloroethene		11.2	ug/L	1.0	112	70	130			
1,1-Dichloropropene		10.7	ug/L	1.0	107	70	130			
1,2,3-Trichloropropane		10.1	ug/L	1.0	101	70	130			
1,2-Dibromoethane		10.4	ug/L	1.0	104	70	130			
1,2-Dichlorobenzene		10.8	ug/L	1.0	108	70	130			
1,2-Dichloroethane		9.92	ug/L	1.0	99	70	130			
1,2-Dichloropropane		11.5	ug/L	1.0	115	70	130			
1,3-Dichlorobenzene		11.4	ug/L	1.0	114	70	130			
1,3-Dichloropropane		10.4	ug/L	1.0	104	70	130			
1,4-Dichlorobenzene		10.2	ug/L	1.0	102	70	130			
2,2-Dichloropropane		10.6	ug/L	1.0	106	70	130			
2-Chloroethyl vinyl ether		12.5	ug/L	1.0	125	70	130			
2-Chlorotoluene		11.1	ug/L	1.0	111	70	130			
4-Chlorotoluene		11.2	ug/L	1.0	112	70	130			
Benzene		11.6	ug/L	1.0	116	70	130			
Bromobenzene		11.1	ug/L	1.0	111	70	130			
Bromochloromethane		6.72	ug/L	1.0	67	70	130			S
Bromodichloromethane		10.9	ug/L	1.0	109	70	130			
Bromoform		10.3	ug/L	1.0	103	70	130			
Bromomethane		9.92	ug/L	1.0	99	70	130			
Carbon tetrachloride		11.3	ug/L	1.0	113	70	130			
Chlorobenzene		11.4	ug/L	1.0	114	70	130			
Chlorodibromomethane		9.76	ug/L	1.0	98	70	130			
Chloroethane		11.2	ug/L	1.0	112	70	130			
Chloroform		10.6	ug/L	1.0	106	70	130			
Chloromethane		11.6	ug/L	1.0	116	70	130			
cis-1,2-Dichloroethene		10.7	ug/L	1.0	107	70	130			
cis-1,3-Dichloropropene		12.0	ug/L	1.0	120	70	130			
Dibromomethane		10.3	ug/L	1.0	103	70	130			
Dichlorodifluoromethane		7.40	ug/L	1.0	74	70	130			
Ethylbenzene		11.5	ug/L	1.0	115	70	130			
m+p-Xylenes		22.5	ug/L	1.0	113	70	130			
Methyl ethyl ketone		88.0	ug/L	20	88	70	130			
Methylene chloride		10.2	ug/L	1.0	102	70	130			
o-Xylene		11.4	ug/L	1.0	114	70	130			
Styrene		11.5	ug/L	1.0	115	70	130			
Tetrachloroethene		11.6	ug/L	1.0	116	70	130			
Toluene		11.8	ug/L	1.0	118	70	130			

### Qualifiers:

RL - Lower limit reporting limit.

ND - Not detected at the reporting limit.

MDL - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115270
Sample ID: 022609_LCS_7	53	Laboratory Control Sample			Run: SATURNCA_090226A			02/26/09 16:29		
trans-1,2-Dichloroethene		11.0	ug/L	1.0	110	70	130			
trans-1,3-Dichloropropene		12.4	ug/L	1.0	124	70	130			
Trichloroethene		11.7	ug/L	1.0	117	70	130			
Trichlorofluoromethane		11.2	ug/L	1.0	112	70	130			
Vinyl chloride		8.48	ug/L	1.0	85	70	130			
Xylenes, Total		34.0	ug/L	1.0	113	70	130			
Surr: 1,2-Dichlorobenzene-d4				1.0	99	80	120			
Surr: Dibromofluoromethane				1.0	95	80	120			
Surr: p-Bromofluorobenzene				1.0	105	80	120			
Surr: Toluene-d8				1.0	107	80	120			
Sample ID: 022609_MBLK_6	53	Method Blank			Run: SATURNCA_090226A			02/26/09 15:49		
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
1,1-Dichloropropene		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
1,3-Dichlorobenzene		ND	ug/L	1.0						
1,3-Dichloropropane		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
2,2-Dichloropropane		ND	ug/L	1.0						
2-Chloroethyl vinyl ether		ND	ug/L	1.0						
2-Chlorotoluene		ND	ug/L	1.0						
4-Chlorotoluene		ND	ug/L	1.0						
Benzene		ND	ug/L	1.0						
Bromobenzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115270
Sample ID: 022609_MBLK_6	53	Method Blank		Run: SATURNCA_090226A				02/26/09 15:49		
cis-1,3-Dichloropropene		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
Xylenes, Total		ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4				1.0	94	80	120			
Surr: Dibromofluoromethane				1.0	113	80	120			
Surr: p-Bromofluorobenzene				1.0	92	80	120			
Surr: Toluene-d8				1.0	97	80	120			
Sample ID: C09020918-013BMS	53	Sample Matrix Spike		Run: SATURNCA_090226A				02/27/09 03:53		
1,1,1,2-Tetrachloroethane		1040	ug/L	100	104	70	130			
1,1,1-Trichloroethane		1140	ug/L	100	114	70	130			
1,1,2,2-Tetrachloroethane		1080	ug/L	100	108	70	130			
1,1,2-Trichloroethane		1040	ug/L	100	104	70	130			
1,1-Dichloroethane		1090	ug/L	100	109	70	130			
1,1-Dichloroethene		1120	ug/L	100	112	70	130			
1,1-Dichloropropene		1180	ug/L	100	118	70	130			
1,2,3-Trichloropropane		1050	ug/L	100	105	70	130			
1,2-Dibromoethane		1040	ug/L	100	104	70	130			
1,2-Dichlorobenzene		1130	ug/L	100	113	70	130			
1,2-Dichloroethane		1240	ug/L	100	124	70	130			
1,2-Dichloropropane		1130	ug/L	100	113	70	130			
1,3-Dichlorobenzene		1100	ug/L	100	110	70	130			
1,3-Dichloropropane		1040	ug/L	100	104	70	130			
1,4-Dichlorobenzene		1070	ug/L	100	107	70	130			
2,2-Dichloropropane		940	ug/L	100	94	70	130			
2-Chloroethyl vinyl ether		464	ug/L	100	46	70	130			S
2-Chlorotoluene		1090	ug/L	100	109	70	130			
4-Chlorotoluene		1090	ug/L	100	109	70	130			
Benzene		1100	ug/L	100	110	70	130			
Bromobenzene		1060	ug/L	100	106	70	130			

### Qualifiers:

RL - Reporting limit.

MDL - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115270
Sample ID: C09020918-013BMS 53 Sample Matrix Spike										Run: SATURNCA_090226A 02/27/09 03:53
Bromochloromethane		1090	ug/L	100	109	70	130			
Bromodichloromethane		1110	ug/L	100	111	70	130			
Bromoform		960	ug/L	100	96	70	130			
Bromomethane		1050	ug/L	100	105	70	130			
Carbon tetrachloride		1190	ug/L	100	119	70	130			
Chlorobenzene		1040	ug/L	100	104	70	130			
Chlorodibromomethane		1000	ug/L	100	100	70	130			
Chloroethane		1140	ug/L	100	114	70	130			
Chloroform		1240	ug/L	100	124	70	130			
Chloromethane		732	ug/L	100	73	70	130			
cis-1,2-Dichloroethene		1160	ug/L	100	116	70	130			
cis-1,3-Dichloropropene		1110	ug/L	100	111	70	130			
Dibromomethane		1060	ug/L	100	106	70	130			
Dichlorodifluoromethane		768	ug/L	100	77	70	130			
Ethylbenzene		1060	ug/L	100	106	70	130			
m+p-Xylenes		2120	ug/L	100	106	70	130			
Methyl ethyl ketone		11200	ug/L	2000	112	70	130			
Methylene chloride		1140	ug/L	100	114	70	130			
o-Xylene		1060	ug/L	100	106	70	130			
Styrene		1110	ug/L	100	111	70	130			
Tetrachloroethene		1090	ug/L	100	109	70	130			
Toluene		1250	ug/L	100	111	70	130			
trans-1,2-Dichloroethene		1170	ug/L	100	117	70	130			
trans-1,3-Dichloropropene		1200	ug/L	100	120	70	130			
Trichloroethene		1100	ug/L	100	110	70	130			
Trichlorofluoromethane		1270	ug/L	100	127	70	130			
Vinyl chloride		888	ug/L	100	89	70	130			
Xylenes, Total		3180	ug/L	100	106	70	130			
Surr: 1,2-Dichlorobenzene-d4				100	106	80	120			
Surr: Dibromofluoromethane				100	106	80	120			
Surr: p-Bromofluorobenzene				100	112	80	120			
Surr: Toluene-d8				100	110	80	120			

Sample ID: C09020918-013BMSD 53 Sample Matrix Spike Duplicate										Run: SATURNCA_090226A 02/27/09 04:31
1,1,1,2-Tetrachloroethane		1000	ug/L	100	100	70	130	3.9	20	
1,1,1-Trichloroethane		1220	ug/L	100	122	70	130	7.1	20	
1,1,2,2-Tetrachloroethane		976	ug/L	100	98	70	130	10	20	
1,1,2-Trichloroethane		1000	ug/L	100	100	70	130	3.9	20	
1,1-Dichloroethane		1130	ug/L	100	113	70	130	3.2	20	
1,1-Dichloroethene		1140	ug/L	100	114	70	130	1.8	20	
1,1-Dichloropropene		1220	ug/L	100	122	70	130	2.7	20	
1,2,3-Trichloropropane		892	ug/L	100	89	70	130	16	20	
1,2-Dibromoethane		1020	ug/L	100	102	70	130	1.6	20	
1,2-Dichlorobenzene		1100	ug/L	100	110	70	130	3.2	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115270
Sample ID: C09020918-013BMSD 53 Sample Matrix Spike Duplicate										Run: SATURNCA_090226A 02/27/09 04:31
1,2-Dichloroethane		1260	ug/L	100	126	70	130	2.2	20	
1,2-Dichloropropane		1130	ug/L	100	113	70	130	0.4	20	
1,3-Dichlorobenzene		1060	ug/L	100	106	70	130	3.7	20	
1,3-Dichloropropane		980	ug/L	100	98	70	130	5.9	20	
1,4-Dichlorobenzene		988	ug/L	100	99	70	130	7.8	20	
2,2-Dichloropropane		1040	ug/L	100	104	70	130	10	20	
2-Chloroethyl vinyl ether		452	ug/L	100	45	70	130	2.6	20	S
2-Chlorotoluene		1050	ug/L	100	105	70	130	3.4	20	
4-Chlorotoluene		1040	ug/L	100	104	70	130	4.9	20	
Benzene		1140	ug/L	100	114	70	130	2.9	20	
Bromobenzene		1050	ug/L	100	105	70	130	0.8	20	
Bromochloromethane		1160	ug/L	100	116	70	130	6.4	20	
Bromodichloromethane		1140	ug/L	100	114	70	130	2.8	20	
Bromoform		976	ug/L	100	98	70	130	1.7	20	
Bromomethane		968	ug/L	100	97	70	130	8.3	20	
Carbon tetrachloride		1280	ug/L	100	128	70	130	6.8	20	
Chlorobenzene		1060	ug/L	100	106	70	130	1.1	20	
Chlorodibromomethane		948	ug/L	100	95	70	130	5.7	20	
Chloroethane		1200	ug/L	100	120	70	130	5.1	20	
Chloroform		1300	ug/L	100	130	70	130	4.7	20	
Chloromethane		824	ug/L	100	82	70	130	12	20	
cis-1,2-Dichloroethene		1240	ug/L	100	124	70	130	6	20	
cis-1,3-Dichloropropene		1100	ug/L	100	110	70	130	0.7	20	
Dibromomethane		1080	ug/L	100	108	70	130	2.6	20	
Dichlorodifluoromethane		824	ug/L	100	82	70	130	7	20	
Ethylbenzene		1100	ug/L	100	110	70	130	3.3	20	
m+p-Xylenes		2180	ug/L	100	109	70	130	2.6	20	
Methyl ethyl ketone		12200	ug/L	2000	122	70	130	8.6	20	
Methylene chloride		1180	ug/L	100	118	70	130	4.1	20	
o-Xylene		1090	ug/L	100	109	70	130	3	20	
Styrene		1150	ug/L	100	115	70	130	3.5	20	
Tetrachloroethene		1080	ug/L	100	108	70	130	0.4	20	
Toluene		1280	ug/L	100	115	70	130	2.5	20	
trans-1,2-Dichloroethene		1190	ug/L	100	119	70	130	1.4	20	
trans-1,3-Dichloropropene		1180	ug/L	100	118	70	130	1.7	20	
Trichloroethene		1140	ug/L	100	114	70	130	3.2	20	
Trichlorofluoromethane		1330	ug/L	100	133	70	130	4.3	20	S
Vinyl chloride		956	ug/L	100	96	70	130	7.4	20	
Xylenes, Total		3260	ug/L	100	109	70	130	2.7	20	
Surr: 1,2-Dichlorobenzene-d4				100	100	80	120			
Surr: Dibromofluoromethane				100	108	80	120			
Surr: p-Bromofluorobenzene				100	111	80	120			
Surr: Toluene-d8				100	110	80	120			

### Qualifiers:

RL: Reporting limit.

MDL: Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115348
Sample ID: 022709_LCS_8										02/27/09 15:57
53 Laboratory Control Sample										Run: SATURNCA_090227A
1,1,1,2-Tetrachloroethane		10.4	ug/L	1.0	104	70	130			
1,1,1-Trichloroethane		10.9	ug/L	1.0	109	70	130			
1,1,2,2-Tetrachloroethane		9.40	ug/L	1.0	94	70	130			
1,1,2-Trichloroethane		9.20	ug/L	1.0	92	70	130			
1,1-Dichloroethane		10.2	ug/L	1.0	102	70	130			
1,1-Dichloroethene		10.7	ug/L	1.0	107	70	130			
1,1-Dichloropropene		11.2	ug/L	1.0	112	70	130			
1,2,3-Trichloropropane		8.56	ug/L	1.0	86	70	130			
1,2-Dibromoethane		9.92	ug/L	1.0	99	70	130			
1,2-Dichlorobenzene		10.3	ug/L	1.0	103	70	130			
1,2-Dichloroethane		9.84	ug/L	1.0	98	70	130			
1,2-Dichloropropane		10.5	ug/L	1.0	105	70	130			
1,3-Dichlorobenzene		10.2	ug/L	1.0	102	70	130			
1,3-Dichloropropane		9.84	ug/L	1.0	98	70	130			
1,4-Dichlorobenzene		9.88	ug/L	1.0	99	70	130			
2,2-Dichloropropane		10.3	ug/L	1.0	103	70	130			
2-Chloroethyl vinyl ether		11.0	ug/L	1.0	110	70	130			
2-Chlorotoluene		10.3	ug/L	1.0	103	70	130			
4-Chlorotoluene		9.96	ug/L	1.0	100	70	130			
Benzene		11.1	ug/L	1.0	111	70	130			
Bromobenzene		10.4	ug/L	1.0	104	70	130			
Bromochloromethane		7.52	ug/L	1.0	75	70	130			
Bromodichloromethane		9.92	ug/L	1.0	99	70	130			
Bromoform		9.44	ug/L	1.0	94	70	130			
Bromomethane		9.64	ug/L	1.0	96	70	130			
Carbon tetrachloride		11.2	ug/L	1.0	112	70	130			
Chlorobenzene		10.8	ug/L	1.0	108	70	130			
Chlorodibromomethane		9.72	ug/L	1.0	97	70	130			
Chloroethane		11.0	ug/L	1.0	110	70	130			
Chloroform		10.6	ug/L	1.0	106	70	130			
Chloromethane		10.7	ug/L	1.0	107	70	130			
cis-1,2-Dichloroethene		11.1	ug/L	1.0	111	70	130			
cis-1,3-Dichloropropene		10.9	ug/L	1.0	109	70	130			
Dibromomethane		8.96	ug/L	1.0	90	70	130			
Dichlorodifluoromethane		6.96	ug/L	1.0	70	70	130			
Ethylbenzene		10.9	ug/L	1.0	109	70	130			
m+p-Xylenes		21.7	ug/L	1.0	109	70	130			
Methyl ethyl ketone		88.4	ug/L	20	88	70	130			
Methylene chloride		9.68	ug/L	1.0	97	70	130			
o-Xylene		10.6	ug/L	1.0	106	70	130			
Styrene		10.7	ug/L	1.0	107	70	130			
Tetrachloroethene		11.2	ug/L	1.0	112	70	130			
Toluene		10.6	ug/L	1.0	106	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115348
Sample ID: 022709_LCS_8	53	Laboratory Control Sample			Run: SATURNCA_090227A			02/27/09 15:57		
trans-1,2-Dichloroethene		11.1	ug/L	1.0	111	70	130			
trans-1,3-Dichloropropene		10.7	ug/L	1.0	107	70	130			
Trichloroethene		11.2	ug/L	1.0	112	70	130			
Trichlorofluoromethane		11.5	ug/L	1.0	115	70	130			
Vinyl chloride		8.48	ug/L	1.0	85	70	130			
Xylenes, Total		32.3	ug/L	1.0	108	70	130			
Surr: 1,2-Dichlorobenzene-d4				1.0	99	80	120			
Surr: Dibromofluoromethane				1.0	94	80	120			
Surr: p-Bromofluorobenzene				1.0	106	80	120			
Surr: Toluene-d8				1.0	101	80	120			
Sample ID: 022709_MBLK_11										02/27/09 17:50
	53	Method Blank			Run: SATURNCA_090227A					
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
1,1-Dichloropropene		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
Bromoethane		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
1,3-Dichlorobenzene		ND	ug/L	1.0						
1,3-Dichloropropane		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
2,2-Dichloropropane		ND	ug/L	1.0						
2-Chloroethyl vinyl ether		ND	ug/L	1.0						
2-Chlorotoluene		ND	ug/L	1.0						
4-Chlorotoluene		ND	ug/L	1.0						
Benzene		ND	ug/L	1.0						
Bromobenzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						

### Qualifiers:

RL: Reporting limit.

ND - Not detected at the reporting limit.

MDL: Minimum detectable concentration



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115348
Sample ID: 022709_MBLK_11	53	Method Blank		Run: SATURNCA_090227A				02/27/09 17:50		
cis-1,3-Dichloropropene		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
Xylenes, Total		ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4				1.0	100	80	120			
Surr: Dibromofluoromethane				1.0	117	80	120			
Surr: p-Bromofluorobenzene				1.0	97	80	120			
Surr: Toluene-d8				1.0	99	80	120			
Sample ID: C09020918-012BMS	53	Sample Matrix Spike		Run: SATURNCA_090227A				02/27/09 23:30		
1,1,1,2-Tetrachloroethane		174	ug/L	20	87	70	130			
1,1,1-Trichloroethane		206	ug/L	20	103	70	130			
1,1,2,2-Tetrachloroethane		202	ug/L	20	101	70	130			
1,1,2-Trichloroethane		182	ug/L	20	91	70	130			
1,1-Dichloroethane		192	ug/L	20	96	70	130			
1,1-Dichloroethene		182	ug/L	20	91	70	130			
1,1-Dichloropropene		220	ug/L	20	110	70	130			
1,2,3-Trichloropropane		200	ug/L	20	100	70	130			
1,2-Dibromoethane		187	ug/L	20	94	70	130			
1,2-Dichlorobenzene		214	ug/L	20	107	70	130			
1,2-Dichloroethane		215	ug/L	20	108	70	130			
1,2-Dichloropropane		209	ug/L	20	104	70	130			
1,3-Dichlorobenzene		209	ug/L	20	104	70	130			
1,3-Dichloropropane		175	ug/L	20	88	70	130			
1,4-Dichlorobenzene		203	ug/L	20	102	70	130			
2,2-Dichloropropane		196	ug/L	20	98	70	130			
2-Chloroethyl vinyl ether		ND	ug/L	20		70	130			S
2-Chlorotoluene		204	ug/L	20	102	70	130			
4-Chlorotoluene		202	ug/L	20	101	70	130			
Benzene		216	ug/L	20	106	70	130			
Bromobenzene		207	ug/L	20	104	70	130			

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115348
Sample ID: C09020918-012BMS										02/27/09 23:30
53 Sample Matrix Spike										Run: SATURNCA_090227A
Bromochloromethane		179	ug/L	20	90	70	130			
Bromodichloromethane		206	ug/L	20	103	70	130			
Bromoform		184	ug/L	20	92	70	130			
Bromomethane		168	ug/L	20	84	70	130			
Carbon tetrachloride		218	ug/L	20	109	70	130			
Chlorobenzene		200	ug/L	20	100	70	130			
Chlorodibromomethane		177	ug/L	20	88	70	130			
Chloroethane		197	ug/L	20	98	70	130			
Chloroform		213	ug/L	20	106	70	130			
Chloromethane		119	ug/L	20	60	70	130			S
cis-1,2-Dichloroethene		207	ug/L	20	104	70	130			
cis-1,3-Dichloropropene		214	ug/L	20	107	70	130			
Dibromomethane		193	ug/L	20	96	70	130			
Dichlorodifluoromethane		125	ug/L	20	62	70	130			S
Ethylbenzene		222	ug/L	20	102	70	130			
m+p-Xylenes		424	ug/L	20	105	70	130			
Methyl ethyl ketone		1910	ug/L	400	96	70	130			
Methylene chloride		187	ug/L	20	94	70	130			
o-Xylene		208	ug/L	20	103	70	130			
Styrene		211	ug/L	20	104	70	130			
1,1,1-Trichloroethane		210	ug/L	20	105	70	130			
Toluene		329	ug/L	20	105	70	130			
trans-1,2-Dichloroethene		205	ug/L	20	102	70	130			
trans-1,3-Dichloropropene		221	ug/L	20	110	70	130			
Trichloroethene		213	ug/L	20	106	70	130			
Trichlorofluoromethane		213	ug/L	20	106	70	130			
Vinyl chloride		162	ug/L	20	81	70	130			
Xylenes, Total		632	ug/L	20	104	70	130			
Surr: 1,2-Dichlorobenzene-d4				20	97	80	120			
Surr: Dibromofluoromethane				20	95	80	120			
Surr: p-Bromofluorobenzene				20	117	80	120			
Surr: Toluene-d8				20	113	80	120			
Sample ID: C09020918-012BMSD										02/28/09 00:09
53 Sample Matrix Spike Duplicate										Run: SATURNCA_090227A
1,1,1,2-Tetrachloroethane		185	ug/L	20	92	70	130	6.3	20	
1,1,1-Trichloroethane		210	ug/L	20	105	70	130	1.9	20	
1,1,2,2-Tetrachloroethane		220	ug/L	20	110	70	130	8.3	20	
1,1,2-Trichloroethane		188	ug/L	20	94	70	130	3	20	
1,1-Dichloroethane		198	ug/L	20	99	70	130	2.9	20	
1,1-Dichloroethene		194	ug/L	20	97	70	130	6.4	20	
1,1-Dichloropropene		218	ug/L	20	109	70	130	0.7	20	
1,2,3-Trichloropropane		258	ug/L	20	129	70	130	25	20	R
1,2-Dibromoethane		196	ug/L	20	98	70	130	4.6	20	
1,2-Dichlorobenzene		235	ug/L	20	118	70	130	9.3	20	

### Qualifiers:

R - Reporting limit.  
MDL - Minimum detectable concentration  
S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.  
R - RPD exceeds advisory limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115348
Sample ID: C09020918-012BMSD 53 Sample Matrix Spike Duplicate										Run: SATURNCA_090227A 02/28/09 00:09
1,2-Dichloroethane	209	ug/L	20	104	70	130	3	20		
1,2-Dichloropropane	219	ug/L	20	110	70	130	4.9	20		
1,3-Dichlorobenzene	228	ug/L	20	114	70	130	8.8	20		
1,3-Dichloropropane	191	ug/L	20	96	70	130	8.7	20		
1,4-Dichlorobenzene	214	ug/L	20	107	70	130	5.4	20		
2,2-Dichloropropane	188	ug/L	20	94	70	130	4.2	20		
2-Chloroethyl vinyl ether	ND	ug/L	20		70	130		20		S
2-Chlorotoluene	223	ug/L	20	112	70	130	9	20		
4-Chlorotoluene	218	ug/L	20	109	70	130	8	20		
Benzene	225	ug/L	20	110	70	130	4	20		
Bromobenzene	226	ug/L	20	113	70	130	8.5	20		
Bromochloromethane	163	ug/L	20	82	70	130	9.3	20		
Bromodichloromethane	216	ug/L	20	108	70	130	4.5	20		
Bromoform	199	ug/L	20	100	70	130	7.9	20		
Bromomethane	178	ug/L	20	89	70	130	5.6	20		
Carbon tetrachloride	230	ug/L	20	115	70	130	5	20		
Chlorobenzene	215	ug/L	20	108	70	130	7.3	20		
Chlorodibromomethane	190	ug/L	20	95	70	130	7.4	20		
Chloroethane	210	ug/L	20	105	70	130	6.3	20		
Chloroform	211	ug/L	20	106	70	130	0.8	20		
Chloromethane	122	ug/L	20	61	70	130	2	20		S
cis-1,2-Dichloroethene	205	ug/L	20	102	70	130	1.2	20		
cis-1,3-Dichloropropene	219	ug/L	20	110	70	130	2.6	20		
Dibromomethane	194	ug/L	20	97	70	130	0.8	20		
Dichlorodifluoromethane	134	ug/L	20	67	70	130	6.8	20		S
Ethylbenzene	236	ug/L	20	109	70	130	6.3	20		
m+p-Xylenes	431	ug/L	20	107	70	130	1.7	20		
Methyl ethyl ketone	1900	ug/L	400	95	70	130	0.4	20		
Methylene chloride	198	ug/L	20	99	70	130	5.8	20		
o-Xylene	220	ug/L	20	109	70	130	5.6	20		
Styrene	226	ug/L	20	112	70	130	6.6	20		
Tetrachloroethene	219	ug/L	20	110	70	130	4.5	20		
Toluene	338	ug/L	20	109	70	130	2.6	20		
trans-1,2-Dichloroethene	205	ug/L	20	102	70	130	0	20		
trans-1,3-Dichloropropene	224	ug/L	20	112	70	130	1.4	20		
Trichloroethene	218	ug/L	20	109	70	130	2.2	20		
Trichlorofluoromethane	219	ug/L	20	110	70	130	3	20		
Vinyl chloride	164	ug/L	20	82	70	130	1	20		
Xylenes, Total	651	ug/L	20	107	70	130	3	20		
Surr: 1,2-Dichlorobenzene-d4			20	102	80	120				
Surr: Dibromofluoromethane			20	93	80	120				
Surr: p-Bromofluorobenzene			20	117	80	120				
Surr: Toluene-d8			20	112	80	120				

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115396
Sample ID: 030209_LCS_5										03/02/09 14:10
53 Laboratory Control Sample										Run: SATURNCA_090302A
1,1,1,2-Tetrachloroethane		10.8	ug/L	1.0	108	70	130			
1,1,1-Trichloroethane		10.4	ug/L	1.0	104	70	130			
1,1,2,2-Tetrachloroethane		9.12	ug/L	1.0	91	70	130			
1,1,2-Trichloroethane		9.80	ug/L	1.0	98	70	130			
1,1-Dichloroethane		9.92	ug/L	1.0	99	70	130			
1,1-Dichloroethene		11.2	ug/L	1.0	112	70	130			
1,1-Dichloropropene		10.7	ug/L	1.0	107	70	130			
1,2,3-Trichloropropane		8.80	ug/L	1.0	88	70	130			
1,2-Dibromoethane		10.3	ug/L	1.0	103	70	130			
1,2-Dichlorobenzene		9.68	ug/L	1.0	97	70	130			
1,2-Dichloroethane		9.64	ug/L	1.0	96	70	130			
1,2-Dichloropropane		10.0	ug/L	1.0	100	70	130			
1,3-Dichlorobenzene		10.4	ug/L	1.0	104	70	130			
1,3-Dichloropropane		9.88	ug/L	1.0	99	70	130			
1,4-Dichlorobenzene		9.20	ug/L	1.0	92	70	130			
2,2-Dichloropropane		10.2	ug/L	1.0	102	70	130			
2-Chloroethyl vinyl ether		11.3	ug/L	1.0	113	70	130			
2-Chlorotoluene		10.1	ug/L	1.0	101	70	130			
4-Chlorotoluene		10.6	ug/L	1.0	106	70	130			
Bromobenzene		11.0	ug/L	1.0	110	70	130			
Bromobenzene		9.96	ug/L	1.0	100	70	130			
Bromochloromethane		8.00	ug/L	1.0	80	70	130			
Bromodichloromethane		9.60	ug/L	1.0	96	70	130			
Bromoform		9.84	ug/L	1.0	98	70	130			
Bromomethane		9.76	ug/L	1.0	98	70	130			
Carbon tetrachloride		10.8	ug/L	1.0	108	70	130			
Chlorobenzene		11.0	ug/L	1.0	110	70	130			
Chlorodibromomethane		9.80	ug/L	1.0	98	70	130			
Chloroethane		10.7	ug/L	1.0	107	70	130			
Chloroform		10.1	ug/L	1.0	101	70	130			
Chloromethane		6.60	ug/L	1.0	66	70	130			S
cis-1,2-Dichloroethene		10.6	ug/L	1.0	106	70	130			
cis-1,3-Dichloropropene		10.8	ug/L	1.0	108	70	130			
Dibromomethane		9.60	ug/L	1.0	96	70	130			
Dichlorodifluoromethane		6.44	ug/L	1.0	64	70	130			S
Ethylbenzene		11.2	ug/L	1.0	112	70	130			
m+p-Xylenes		21.9	ug/L	1.0	110	70	130			
Methyl ethyl ketone		83.6	ug/L	20	84	70	130			
Methylene chloride		10.0	ug/L	1.0	100	70	130			
o-Xylene		10.9	ug/L	1.0	109	70	130			
Styrene		10.9	ug/L	1.0	109	70	130			
Tetrachloroethene		11.4	ug/L	1.0	114	70	130			
Toluene		10.8	ug/L	1.0	108	70	130			

### Qualifiers:

RL - Reporting limit.

MDL - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115396
Sample ID: 030209_LCS_5	53	Laboratory Control Sample				Run: SATURNCA_090302A			03/02/09 14:10	
trans-1,2-Dichloroethene		10.5	ug/L	1.0	105	70	130			
trans-1,3-Dichloropropene		11.2	ug/L	1.0	112	70	130			
Trichloroethene		10.6	ug/L	1.0	106	70	130			
Trichlorofluoromethane		10.8	ug/L	1.0	108	70	130			
Vinyl chloride		7.60	ug/L	1.0	76	70	130			
Xylenes, Total		32.8	ug/L	1.0	109	70	130			
Surr: 1,2-Dichlorobenzene-d4				1.0	95	80	120			
Surr: Dibromofluoromethane				1.0	98	80	120			
Surr: p-Bromofluorobenzene				1.0	98	80	120			
Surr: Toluene-d8				1.0	107	80	120			
Sample ID: 030209_MBLK_7	53	Method Blank				Run: SATURNCA_090302A			03/02/09 15:27	
1,1,1,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,1-Trichloroethane		ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane		ND	ug/L	1.0						
1,1,2-Trichloroethane		ND	ug/L	1.0						
1,1-Dichloroethane		ND	ug/L	1.0						
1,1-Dichloroethene		ND	ug/L	1.0						
1,1-Dichloropropene		ND	ug/L	1.0						
1,2,3-Trichloropropane		ND	ug/L	1.0						
1,2-Dibromoethane		ND	ug/L	1.0						
1,2-Dichlorobenzene		ND	ug/L	1.0						
1,2-Dichloroethane		ND	ug/L	1.0						
1,2-Dichloropropane		ND	ug/L	1.0						
1,3-Dichlorobenzene		ND	ug/L	1.0						
1,3-Dichloropropane		ND	ug/L	1.0						
1,4-Dichlorobenzene		ND	ug/L	1.0						
2,2-Dichloropropane		ND	ug/L	1.0						
2-Chloroethyl vinyl ether		ND	ug/L	1.0						
2-Chlorotoluene		ND	ug/L	1.0						
4-Chlorotoluene		ND	ug/L	1.0						
Benzene		ND	ug/L	1.0						
Bromobenzene		ND	ug/L	1.0						
Bromochloromethane		ND	ug/L	1.0						
Bromodichloromethane		ND	ug/L	1.0						
Bromoform		ND	ug/L	1.0						
Bromomethane		ND	ug/L	1.0						
Carbon tetrachloride		ND	ug/L	1.0						
Chlorobenzene		ND	ug/L	1.0						
Chlorodibromomethane		ND	ug/L	1.0						
Chloroethane		ND	ug/L	1.0						
Chloroform		ND	ug/L	1.0						
Chloromethane		ND	ug/L	1.0						
cis-1,2-Dichloroethene		ND	ug/L	1.0						

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115396
Sample ID: 030209_MBLK_7	53	Method Blank		Run: SATURNCA_090302A				03/02/09 15:27		
cis-1,3-Dichloropropene		ND	ug/L	1.0						
Dibromomethane		ND	ug/L	1.0						
Dichlorodifluoromethane		ND	ug/L	1.0						
Ethylbenzene		ND	ug/L	1.0						
m+p-Xylenes		ND	ug/L	1.0						
Methyl ethyl ketone		ND	ug/L	20						
Methylene chloride		ND	ug/L	1.0						
o-Xylene		ND	ug/L	1.0						
Styrene		ND	ug/L	1.0						
Tetrachloroethene		ND	ug/L	1.0						
Toluene		ND	ug/L	1.0						
trans-1,2-Dichloroethene		ND	ug/L	1.0						
trans-1,3-Dichloropropene		ND	ug/L	1.0						
Trichloroethene		ND	ug/L	1.0						
Trichlorofluoromethane		ND	ug/L	1.0						
Vinyl chloride		ND	ug/L	1.0						
Xylenes, Total		ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4				1.0	99	80	120			
Surr: Dibromofluoromethane				1.0	84	80	120			
Surr: p-Bromofluorobenzene				1.0	86	80	120			
Surr: Toluene-d8				1.0	125	80	120			S

One internal standard is outside method parameters. Due to limited sample volumes, no reanalysis can be performed.

Sample ID: C09020918-003GMS	53	Sample Matrix Spike		Run: SATURNCA_090302A				03/02/09 16:44		
1,1,1,2-Tetrachloroethane	165	ug/L	20	82	70	130				
1,1,1-Trichloroethane	183	ug/L	20	92	70	130				
1,1,2,2-Tetrachloroethane	201	ug/L	20	100	70	130				
1,1,2-Trichloroethane	183	ug/L	20	92	70	130				
1,1-Dichloroethane	175	ug/L	20	88	70	130				
1,1-Dichloroethene	171	ug/L	20	86	70	130				
1,1-Dichloropropene	198	ug/L	20	99	70	130				
1,2,3-Trichloropropane	163	ug/L	20	82	70	130				
1,2-Dibromoethane	174	ug/L	20	87	70	130				
1,2-Dichlorobenzene	198	ug/L	20	99	70	130				
1,2-Dichloroethane	210	ug/L	20	105	70	130				
1,2-Dichloropropane	182	ug/L	20	91	70	130				
1,3-Dichlorobenzene	190	ug/L	20	95	70	130				
1,3-Dichloropropane	175	ug/L	20	88	70	130				
1,4-Dichlorobenzene	173	ug/L	20	86	70	130				
2,2-Dichloropropane	204	ug/L	20	102	70	130				
2-Chloroethyl vinyl ether	194	ug/L	20	97	70	130				
2-Chlorotoluene	177	ug/L	20	88	70	130				
4-Chlorotoluene	187	ug/L	20	94	70	130				
Benzene	260	ug/L	20	81	70	130				

### Qualifiers:

RPD - Reportable limit.

ND - Not detected at the reporting limit.

MS - Minimum detectable concentration

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115396
Sample ID: C09020918-003GMS 53 Sample Matrix Spike										Run: SATURNCA_090302A 03/02/09 16:44
Bromobenzene		178	ug/L	20	89	70	130			
Bromochloromethane		184	ug/L	20	92	70	130			
Bromodichloromethane		182	ug/L	20	91	70	130			
Bromoform		172	ug/L	20	86	70	130			
Bromomethane		161	ug/L	20	80	70	130			
Carbon tetrachloride		195	ug/L	20	98	70	130			
Chlorobenzene		185	ug/L	20	92	70	130			
Chlorodibromomethane		166	ug/L	20	83	70	130			
Chloroethane		184	ug/L	20	92	70	130			
Chloroform		196	ug/L	20	98	70	130			
Chloromethane		118	ug/L	20	59	70	130			S
cis-1,2-Dichloroethene		176	ug/L	20	88	70	130			
cis-1,3-Dichloropropene		194	ug/L	20	97	70	130			
Dibromomethane		178	ug/L	20	89	70	130			
Dichlorodifluoromethane		146	ug/L	20	73	70	130			
Ethylbenzene		294	ug/L	20	90	70	130			
m+p-Xylenes		407	ug/L	20	91	70	130			
Methyl ethyl ketone		2060	ug/L	400	103	70	130			
Methylene chloride		182	ug/L	20	91	70	130			
o-Xylene		206	ug/L	20	93	70	130			
Styrene		274	ug/L	20	96	70	130			
Tetrachloroethene		191	ug/L	20	96	70	130			
Toluene		312	ug/L	20	87	70	130			
trans-1,2-Dichloroethene		174	ug/L	20	87	70	130			
trans-1,3-Dichloropropene		214	ug/L	20	107	70	130			
Trichloroethene		185	ug/L	20	92	70	130			
Trichlorofluoromethane		198	ug/L	20	99	70	130			
Vinyl chloride		144	ug/L	20	72	70	130			
Xylenes, Total		614	ug/L	20	102	70	130			
Surr: 1,2-Dichlorobenzene-d4				20	99	80	120			
Surr: Dibromofluoromethane				20	99	80	120			
Surr: p-Bromofluorobenzene				20	108	80	120			
Surr: Toluene-d8				20	110	80	120			
Sample ID: C09020918-003GMSD 53 Sample Matrix Spike Duplicate										Run: SATURNCA_090302A 03/02/09 17:22
1,1,1,2-Tetrachloroethane		173	ug/L	20	86	70	130	4.7	20	
1,1,1-Trichloroethane		202	ug/L	20	101	70	130	10	20	
1,1,2,2-Tetrachloroethane		217	ug/L	20	108	70	130	7.7	20	
1,1,2-Trichloroethane		191	ug/L	20	96	70	130	4.3	20	
1,1-Dichloroethane		176	ug/L	20	88	70	130	0.5	20	
1,1-Dichloroethene		153	ug/L	20	76	70	130	11	20	
1,1-Dichloropropene		204	ug/L	20	102	70	130	3.2	20	
1,2,3-Trichloropropane		199	ug/L	20	100	70	130	20	20	
1,2-Dibromoethane		183	ug/L	20	92	70	130	4.9	20	

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624										Batch: R115396
Sample ID: C09020918-003GMSD 53 Sample Matrix Spike Duplicate										Run: SATURNCA_090302A 03/02/09 17:22
1,2-Dichlorobenzene	222	ug/L	20	111	70	130	11	20		
1,2-Dichloroethane	197	ug/L	20	98	70	130	6.3	20		
1,2-Dichloropropane	194	ug/L	20	97	70	130	6.4	20		
1,3-Dichlorobenzene	216	ug/L	20	108	70	130	13	20		
1,3-Dichloropropane	182	ug/L	20	91	70	130	4	20		
1,4-Dichlorobenzene	197	ug/L	20	98	70	130	13	20		
2,2-Dichloropropane	215	ug/L	20	108	70	130	5.3	20		
2-Chloroethyl vinyl ether	203	ug/L	20	102	70	130	4.8	20		
2-Chlorotoluene	210	ug/L	20	105	70	130	17	20		
4-Chlorotoluene	210	ug/L	20	105	70	130	12	20		
Benzene	282	ug/L	20	92	70	130	8	20		
Bromobenzene	204	ug/L	20	102	70	130	14	20		
Bromochloromethane	190	ug/L	20	95	70	130	3	20		
Bromodichloromethane	198	ug/L	20	99	70	130	8.4	20		
Bromoform	188	ug/L	20	94	70	130	8.9	20		
Bromomethane	175	ug/L	20	88	70	130	8.6	20		
Carbon tetrachloride	210	ug/L	20	105	70	130	7.1	20		
Chlorobenzene	205	ug/L	20	102	70	130	10	20		
Chlorodibromomethane	176	ug/L	20	88	70	130	6.1	20		
Chloroethane	188	ug/L	20	94	70	130	2.2	20		
Chloroform	200	ug/L	20	100	70	130	2	20		
Chloromethane	123	ug/L	20	62	70	130	4.7	20		S
cis-1,2-Dichloroethene	191	ug/L	20	96	70	130	8.3	20		
cis-1,3-Dichloropropene	202	ug/L	20	101	70	130	4	20		
Dibromomethane	192	ug/L	20	96	70	130	7.8	20		
Dichlorodifluoromethane	158	ug/L	20	79	70	130	7.9	20		
Ethylbenzene	324	ug/L	20	104	70	130	9.6	20		
m+p-Xylenes	463	ug/L	20	105	70	130	13	20		
Methyl ethyl ketone	1970	ug/L	400	98	70	130	4.8	20		
Methylene chloride	174	ug/L	20	87	70	130	4	20		
o-Xylene	226	ug/L	20	102	70	130	8.9	20		
Styrene	296	ug/L	20	106	70	130	7.6	20		
Tetrachloroethene	220	ug/L	20	110	70	130	14	20		
Toluene	338	ug/L	20	100	70	130	7.9	20		
trans-1,2-Dichloroethene	189	ug/L	20	94	70	130	7.9	20		
trans-1,3-Dichloropropene	211	ug/L	20	106	70	130	1.1	20		
Trichloroethene	206	ug/L	20	103	70	130	11	20		
Trichlorofluoromethane	210	ug/L	20	105	70	130	5.5	20		
Vinyl chloride	160	ug/L	20	80	70	130	11	20		
Xylenes, Total	689	ug/L	20	115	70	130	12	20		
Surr: 1,2-Dichlorobenzene-d4			20	103	80	120				
Surr: Dibromofluoromethane			20	96	80	120				
Surr: p-Bromofluorobenzene			20	120	80	120				

### Qualifiers:

RL: Reporting limit.

MDL: Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 03/24/09  
Work Order: C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624								Batch: R115396		
Sample ID: C09020918-003GMSD		53	Sample Matrix Spike Duplicate		Run: SATURNCA_090302A			03/02/09 17:22		
Surr: Toluene-d8				20	112	80	120			
Method: E900.0								Batch: GrAB-0614		
Sample ID: MB-GrAB-0614		6	Method Blank		Run: G5000W_090305A			03/07/09 08:48		
Gross Alpha		2	pCi/L							
Gross Alpha precision (±)		0.6	pCi/L							
Gross Alpha MDC		0.6	pCi/L							
Gross Beta		-0.2	pCi/L					U		
Gross Beta precision (±)		1	pCi/L							
Gross Beta MDC		1	pCi/L							
Sample ID: UNAT-GrAB-0614			Laboratory Control Sample		Run: G5000W_090305A			03/07/09 08:48		
Gross Alpha		130	pCi/L	94		70	130			
Sample ID: Cs137-GrAB-0614			Laboratory Control Sample		Run: G5000W_090305A			03/07/09 08:48		
Gross Beta		87	pCi/L	94		70	130			
Sample ID: C09020904-003DMS			Sample Matrix Spike		Run: G5000W_090305A			03/08/09 00:27		
Gross Alpha		144	pCi/L	103		70	130			
Sample ID: C09020904-003DMSD			Sample Matrix Spike Duplicate		Run: G5000W_090305A			03/08/09 00:27		
Gross Alpha		128	pCi/L	92		70	130	11	16.5	
Sample ID: C09020904-003DMS			Sample Matrix Spike		Run: G5000W_090305A			03/08/09 00:27		
Gross Beta		106	pCi/L	109		70	130			
Sample ID: C09020904-003DMSD			Sample Matrix Spike Duplicate		Run: G5000W_090305A			03/08/09 00:27		
Gross Beta		102	pCi/L	104		70	130	4.2	15.4	
Method: E903.0								Batch: RA226-3497		
Sample ID: TAP WATER-MS			Sample Matrix Spike		Run: BERTHOLD 770-2_090302B			03/10/09 21:43		
Radium 226		7.4	pCi/L	95		70	130			
Sample ID: TAP WATER-MSD			Sample Matrix Spike Duplicate		Run: BERTHOLD 770-2_090302B			03/10/09 21:43		
Radium 226		7.3	pCi/L	94		70	130	1.1	24.7	
Sample ID: MB-RA226-3497		3	Method Blank		Run: BERTHOLD 770-2_090302B			03/10/09 21:43		
Radium 226		-0.05	pCi/L					U		
Radium 226 precision (±)		0.09	pCi/L							
Radium 226 MDC		0.2	pCi/L							
Sample ID: LCS-RA226-3497			Laboratory Control Sample		Run: BERTHOLD 770-2_090302B			03/10/09 21:43		
Radium 226		7.2	pCi/L	92		70	130			

### Qualifiers:

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 03/24/09  
**Work Order:** C09020918

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05								Batch: RA228-2558		
Sample ID: LCS-228-RA226-3497	Laboratory Control Sample			Run: TENNELEC-3_090302A			03/05/09 12:14			
Radium 228		8.31pCi/L		86		70	130			
Sample ID: MB-RA226-3497	3	Method Blank		Run: TENNELEC-3_090302A			03/05/09 12:14			
Radium 228		0.6	pCi/L							U
Radium 228 precision (±)		0.8	pCi/L							
Radium 228 MDC		1	pCi/L							
Sample ID: TAP WATER-MS	Sample Matrix Spike			Run: TENNELEC-3_090302A			03/05/09 12:14			
Radium 228		8.23pCi/L		89		70	130			
Sample ID: TAP WATER-MSD	Sample Matrix Spike Duplicate			Run: TENNELEC-3_090302A			03/05/09 12:14			
Radium 228		9.32pCi/L		101		70	130	12	34.2	

### Qualifiers:

RL - Analyte reporting limit.

M - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# Chain of Custody and Analytical Request Record

Page \_\_\_\_ of \_\_\_\_

PLEASE PRINT- Provide as much information as possible.

Company Name: <u>VR Energy</u>	Project Name, PWS, Permit, Etc. <u>Lost Creek Test Well No. 1</u>	Sample Origin State: _____	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <u>10288 W. Chatfield Ave</u>	Contact Name: <u>Wes Jones</u> Phone/Fax: <u>(303) 335 5255</u>	Email: <u>Wes Jones @ petro-bk.com</u>	Sampler: (Please Print) <u>Wes Jones</u>
Invoice Address: <u>Littleton, CO 80127</u>	Invoice Contact & Phone: _____	Purchase Order: _____	Quote/Bottle Order: _____

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> DW           | <input type="checkbox"/> A2LA                      |
| <input type="checkbox"/> GSA          | <input type="checkbox"/> EDD/EDT (Electronic Data) |
| <input type="checkbox"/> POTW/WWTP    | Format: _____                                      |
| <input type="checkbox"/> State: _____ | <input type="checkbox"/> LEVEL IV                  |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> NELAC                     |

Number of Containers  
Sample Type: AW SVBO  
Air Water Soils/Solids  
Vegetation Bioassay Other

## ANALYSIS REQUESTED

TDS etc.	Nitrogen	Sulfide	Metals (fisheries)	Metals (total)	Pd/s	VOA	Oil/Grease	SEE ATTACHED	Normal Turnaround (TAT)
----------	----------	---------	--------------------	----------------	------	-----	------------	--------------	-------------------------

**R  
U  
S  
H**

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by:

Hand  
Cooler ID(s):  
3163-000  
2098

Receipt Temp  
5 °C

On Ice:  
Yes ☒ No ☐

Custody Seal Y ☒ N

Bottles/Coolers B C

Intact Y N

Signature Match Y N

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX
<sup>1</sup> BH 1-t3	2/24	13:15	
<sup>2</sup> BH 1-t4	2/24	13:15	
<sup>3</sup> BH 2-t1	2/24	13:50	
<sup>4</sup> BH 2-t2	2/24	13:52	
<sup>5</sup> FC-2	2/25/09	12:15	
<sup>6</sup> DW	2/24	09:30	
<sup>7</sup> Jet 1	2/24	6:00	AV CONWAW
<sup>8</sup> Jet 2	2/24	6:30	AV CONWAW
<sup>9</sup> Jet 3	2/24	08:45	
<sup>10</sup>			

LABORATORY USE ONLY

**Custody  
Record  
MUST be  
Signed**

Relinquished by (print): Wes Jones Date/Time: 2/25 @ 4:15 Signature: [Signature]  
Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_  
Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Sample Disposal: Return to Client: \_\_\_\_\_ Lab Disposal: \_\_\_\_\_

Received by Laboratory: R. Baldura Date/Time: 2-25-09 10:15 Signature: [Signature]

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

# Chain of Custody and Analytical Request Record

Page \_\_\_\_ of \_\_\_\_

PLEASE PRINT- Provide such information as possible.

Company Name: <b>UR Energy</b>	Project Name, PWS, Permit, Etc. <b>Lost Creek Test Well No. 1</b>	Sample Origin State:	EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: <b>10288 W. Chatfield Ave</b>	Contact Name: <b>Wes Jones (303) 335-5255</b>	Phone/Fax:	Sampler: (Please Print) <b>Wes Jones</b>
Invoice Address: <b>Lafayette CO 80127</b>	Invoice Contact & Phone:	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> DW           | <input type="checkbox"/> A2LA                      |
| <input type="checkbox"/> GSA          | <input type="checkbox"/> EDD/EDT (Electronic Data) |
| <input type="checkbox"/> POTWWWT      | Format: _____                                      |
| <input type="checkbox"/> State: _____ | <input type="checkbox"/> LEVEL IV                  |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> NELAC                     |

Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other	ANALYSIS REQUESTED												R U S H  Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page  Comments:	Shipped by: <b>Hand</b>
	SEE ATTACHED														Cooler ID(s):
													Receipt Temp <b>5</b> °C		
													On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
													Custody Seal <b>Y N</b>		
													Bottles/Coolers <b>B C</b>		
													Intact <b>Y N</b>		
													Signature Match <b>Y N</b>		

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX
BH3 Blank	2/24	10:20	X X
BH4 Blank	2/24	10:30	X X
BH1 Blank	2/24	10:10	X X
BH2 Blank	2/24	10:15	X X
5 FC	2/24	9:10	X X
6			
7			
8			
9			
10			

<b>Custody Record MUST be Signed</b>	Relinquished by (print): _____ Date/Time: _____ Signature: _____	Received by (print): _____ Date/Time: _____ Signature: _____
	Relinquished by (print): _____ Date/Time: _____ Signature: _____	Received by (print): _____ Date/Time: _____ Signature: _____
	Sample Disposal: Return to Client: _____ Lab Disposal: _____	Received by Laboratory: <b>[Signature]</b> Date/Time: <b>2/25/09 16:15</b> Signature: <b>[Signature]</b>

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



# Energy Laboratories Inc

## Workorder Receipt Checklist



UR Energy USA Inc

C09020918

Login completed by: Corinne Wagner

Date and Time Received: 2/25/2009 4:45 PM

Reviewed by:

Received by: pb

Reviewed Date:

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	5°C On Ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



CLIENT: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Sample Delivery Group: C09020918

Date: 24-Mar-09

## CASE NARRATIVE

### ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

### SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

### GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

### RADON IN AIR ANALYSIS

The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

### SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

### ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505

Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

### SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

### BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT  
eli-g - Energy Laboratories, Inc. - Gillette, WY  
eli-h - Energy Laboratories, Inc. - Helena, MT  
eli-r - Energy Laboratories, Inc. - Rapid City, SD  
eli-t - Energy Laboratories, Inc. - College Station, TX

### CERTIFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA  
Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

### ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER, WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting [www.energylab.com](http://www.energylab.com)

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page [www.energylab.com](http://www.energylab.com).

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT



## ANALYTICAL SUMMARY REPORT

February 03, 2009

UR Energy USA Inc  
10758 W Centennial Rd Ste 200  
Ken Caryl Ranch, CO 80127

Workorder No.: C08120345

Project Name: Lost Creek Test Well No. 1

Energy Laboratories, Inc. received the following 8 samples for UR Energy USA Inc on 12/9/2008 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C08120345-001	5A LC Test	12/08/08 23:55	12/09/08	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C08120345-002	2A LC Test	12/08/08 14:00	12/09/08	Aqueous	Same As Above
C08120345-003	3A LS Test	12/08/08 19:55	12/09/08	Aqueous	Same As Above
C08120345-004	EB1A LC Test	12/08/08 11:35	12/09/08	Aqueous	Same As Above
C08120345-005	EB1B LC Test	12/08/08 11:45	12/09/08	Aqueous	Same As Above
C08120345-006	BB LC Test	12/08/08 21:50	12/09/08	Aqueous	Same As Above
C08120345-007	AB LC Test	12/08/08 21:45	12/09/08	Aqueous	Same As Above
C08120345-008	Trip Blank	12/08/08 00:00	12/09/08	Aqueous	E624 Purgeable Organics

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

*Stephanie Waldrop*



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C08120345-001  
Client Sample ID: 5A LC Test

Report Date: 02/03/09  
Collection Date: 12/08/08 23:55  
Date Received: 12/09/08  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	504	mg/L		1		A2320 B	12/11/08 22:34 / ljl
Carbonate as CO <sub>3</sub>	44	mg/L		1		A2320 B	12/11/08 22:34 / ljl
Bicarbonate as HCO <sub>3</sub>	526	mg/L		1		A2320 B	12/11/08 22:34 / ljl
Calcium	27	mg/L		1		E200.7	12/31/08 12:59 / cp
Chloride	63	mg/L		1		E300.0	12/12/08 22:36 / ljl
Fluoride	2.6	mg/L		0.1		A4500-F C	12/12/08 11:55 / ljl
Magnesium	ND	mg/L		1		E200.7	12/31/08 12:59 / cp
Nitrogen, Ammonia as N	14.0	mg/L	D	0.2		E350.1	12/18/08 10:11 / eli-b
Nitrogen, Kjeldahl, Total as N	14	mg/L	D	1		E351.2	12/17/08 08:34 / eli-b
Nitrogen, Nitrate+Nitrite as N	16.1	mg/L		0.05		E353.2	12/17/08 12:15 / eli-b
Nitrogen, Nitrite as N	5.4	mg/L	DH	0.3		A4500-NO <sub>2</sub> B	12/11/08 08:28 / jal
Potassium	12	mg/L		1		E200.7	12/31/08 12:59 / cp
Silica	17.4	mg/L		0.2		E200.7	12/29/08 12:03 / cp
Sodium	544	mg/L	D	8		E200.7	12/31/08 12:59 / cp
Sulfate	372	mg/L		1		E300.0	12/12/08 22:36 / ljl
<b>NON-METALS</b>							
Sulfide	10	mg/L		1		A4500-S F	12/15/08 11:26 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	2200	umhos/cm		1		A2510 B	12/10/08 12:59 / dd
pH	8.80	s.u.		0.01		A4500-H B	12/10/08 12:59 / dd
Solids, Total Dissolved TDS @ 180 C	2210	mg/L		10		A2540 C	12/10/08 12:22 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	1.0	mg/L		0.1		E200.8	12/15/08 17:10 / ts
Barium	1.8	mg/L		0.1		E200.8	12/13/08 13:02 / ts
Boron	0.5	mg/L		0.1		E200.7	12/29/08 12:03 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:02 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:02 / ts
Iron	0.31	mg/L		0.03		E200.7	12/29/08 12:03 / cp
Manganese	0.04	mg/L		0.01		E200.8	12/13/08 13:02 / ts
Molybdenum	0.6	mg/L		0.1		E200.8	12/13/08 13:02 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:02 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:10 / ts
Uranium	0.0160	mg/L		0.0003		E200.8	12/13/08 13:02 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:02 / ts
Zinc	0.09	mg/L		0.01		E200.8	12/13/08 13:02 / ts
<b>METALS - TOTAL</b>							
Iron	2.50	mg/L		0.03		E200.7	12/11/08 22:10 / cp
Manganese	0.07	mg/L		0.01		E200.7	12/11/08 22:10 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-001  
**Client Sample ID:** 5A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 23:55  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	88.2	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	11.9	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	9.9	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	38.1	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	7.3	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	11.1	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	2.2	pCi/L				E903.0	01/11/09 15:14 / jah
Radium 226 precision (±)	0.33	pCi/L				E903.0	01/11/09 15:14 / jah
Radium 226 MDC	0.18	pCi/L				E903.0	01/11/09 15:14 / jah
Radium 228	0.2	pCi/L	U			RA-05	01/05/09 12:27 / plj
Radium 228 precision (±)	0.8	pCi/L				RA-05	01/05/09 12:27 / plj
Radium 228 MDC	1.3	pCi/L				RA-05	01/05/09 12:27 / plj

### DATA QUALITY

A/C Balance (± 5)	11.6	%				Calculation	01/06/09 17:21 / sdw
Anions	20.9	meq/L				Calculation	01/06/09 17:21 / sdw
Cations	26.3	meq/L				Calculation	01/06/09 17:21 / sdw
Solids, Total Dissolved Calculated	1420	mg/L				Calculation	01/06/09 17:21 / sdw
TDS Balance (0.80 - 1.20)	1.56					Calculation	01/06/09 17:21 / sdw

- The Anion / Cation balance was confirmed by re-analysis.

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Benzene	7.5	ug/L		2.0		E624	12/17/08 23:54 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-001  
**Client Sample ID:** 5A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 23:55  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Bromodichloromethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Chlorodibromomethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Chloroform	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Ethylbenzene	3.1	ug/L		2.0		E624	12/17/08 23:54 / jlr
m+p-Xylenes	10.2	ug/L		2.0		E624	12/17/08 23:54 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/17/08 23:54 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
o-Xylene	5.6	ug/L		2.0		E624	12/17/08 23:54 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Toluene	15.1	ug/L		2.0		E624	12/17/08 23:54 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Trichloroethene	10.5	ug/L		2.0		E624	12/17/08 23:54 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 23:54 / jlr
Xylenes, Total	15.8	ug/L		2.0		E624	12/17/08 23:54 / jlr
Surr: 1,2-Dichlorobenzene-d4	105	%REC		80-120		E624	12/17/08 23:54 / jlr
Surr: Dibromofluoromethane	117	%REC		80-120		E624	12/17/08 23:54 / jlr
Surr: p-Bromofluorobenzene	101	%REC		80-120		E624	12/17/08 23:54 / jlr
Surr: Toluene-d8	92.0	%REC		80-120		E624	12/17/08 23:54 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.1	10	E1664A	12/15/08 15:14 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-002  
**Client Sample ID:** 2A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 14:00  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	498	mg/L		1		A2320 B	12/11/08 22:42 / ljl
Carbonate as CO <sub>3</sub>	54	mg/L		1		A2320 B	12/11/08 22:42 / ljl
Bicarbonate as HCO <sub>3</sub>	498	mg/L		1		A2320 B	12/11/08 22:42 / ljl
Calcium	18	mg/L		1		E200.7	12/31/08 13:11 / cp
Chloride	68	mg/L		1		E300.0	12/12/08 23:23 / ljl
Fluoride	2.8	mg/L		0.1		A4500-F C	12/12/08 11:59 / ljl
Magnesium	ND	mg/L		1		E200.7	12/31/08 13:11 / cp
Nitrogen, Ammonia as N	14.0	mg/L		0.1		E350.1	12/18/08 10:12 / eli-b
Nitrogen, Kjeldahl, Total as N	16	mg/L	D	1		E351.2	12/17/08 08:35 / eli-b
Nitrogen, Nitrate+Nitrite as N	24.1	mg/L		0.05		E353.2	12/17/08 12:17 / eli-b
Nitrogen, Nitrite as N	13.8	mg/L	DH	0.7		A4500-NO <sub>2</sub> B	12/11/08 08:29 / jal
Potassium	15	mg/L		1		E200.7	12/31/08 13:11 / cp
Silica	25.6	mg/L		0.2		E200.7	12/29/08 12:07 / cp
Sodium	553	mg/L	D	8		E200.7	12/31/08 13:11 / cp
Sulfate	385	mg/L		1		E300.0	12/12/08 23:23 / ljl

### NON-METALS

Sulfide	12	mg/L		1		A4500-S F	12/15/08 11:30 / jdp
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### PHYSICAL PROPERTIES

Conductivity	2270	umhos/cm		1		A2510 B	12/10/08 13:02 / dd
pH	8.94	s.u.		0.01		A4500-H B	12/10/08 13:02 / dd
Solids, Total Dissolved TDS @ 180 C	2130	mg/L		10		A2540 C	12/10/08 12:23 / sp

### METALS - DISSOLVED

Aluminum	0.7	mg/L		0.1		E200.8	12/15/08 17:17 / ts
Barium	0.4	mg/L		0.1		E200.8	12/13/08 13:09 / ts
Boron	0.4	mg/L		0.1		E200.7	12/29/08 12:07 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:09 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:09 / ts
Iron	0.44	mg/L		0.03		E200.7	12/29/08 12:07 / cp
Manganese	0.02	mg/L		0.01		E200.8	12/13/08 13:09 / ts
Molybdenum	0.5	mg/L		0.1		E200.8	12/13/08 13:09 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:09 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:17 / ts
Uranium	0.0092	mg/L		0.0003		E200.8	12/13/08 13:09 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:09 / ts
Zinc	0.25	mg/L		0.01		E200.8	12/13/08 13:09 / ts

### METALS - TOTAL

Iron	6.02	mg/L		0.03		E200.7	12/11/08 22:14 / cp
Manganese	0.07	mg/L		0.01		E200.7	12/11/08 22:14 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C08120345-002  
Client Sample ID: 2A LC Test

Report Date: 02/03/09  
Collection Date: 12/08/08 14:00  
Date Received: 12/09/08  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	72.7	pCi/L				E900.0	01/24/09 11:28 / cgr
Gross Alpha precision (±)	9.9	pCi/L				E900.0	01/24/09 11:28 / cgr
Gross Alpha MDC	8.4	pCi/L				E900.0	01/24/09 11:28 / cgr
Gross Beta	23.7	pCi/L				E900.0	01/24/09 11:28 / cgr
Gross Beta precision (±)	7.2	pCi/L				E900.0	01/24/09 11:28 / cgr
Gross Beta MDC	11.4	pCi/L				E900.0	01/24/09 11:28 / cgr
Radium 226	3.4	pCi/L				E903.0	01/11/09 16:45 / jah
Radium 226 precision (±)	0.41	pCi/L				E903.0	01/11/09 16:45 / jah
Radium 226 MDC	0.19	pCi/L				E903.0	01/11/09 16:45 / jah
Radium 228	8.4	pCi/L				RA-05	01/05/09 12:27 / plj
Radium 228 precision (±)	1.1	pCi/L				RA-05	01/05/09 12:27 / plj
Radium 228 MDC	1.3	pCi/L				RA-05	01/05/09 12:27 / plj

### DATA QUALITY

A/C Balance (± 5)	9.61	%				Calculation	01/06/09 17:22 / sdw
Anions	21.7	meq/L				Calculation	01/06/09 17:22 / sdw
Cations	26.4	meq/L				Calculation	01/06/09 17:22 / sdw
Solids, Total Dissolved Calculated	1480	mg/L				Calculation	01/06/09 17:22 / sdw
TDS Balance (0.80 - 1.20)	1.44					Calculation	01/06/09 17:22 / sdw

- The Anion / Cation balance was confirmed by re-analysis.

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Benzene	8.6	ug/L		2.0		E624	12/18/08 00:32 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr

Report Definitions: RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-002  
**Client Sample ID:** 2A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 14:00  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromochloromethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Bromodichloromethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Bromoform	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Chlorodibromomethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Chloroform	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
m+p-Xylenes	4.3	ug/L		2.0		E624	12/18/08 00:32 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/18/08 00:32 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
o-Xylene	2.9	ug/L		2.0		E624	12/18/08 00:32 / jlr
Styrene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Toluene	14.2	ug/L		2.0		E624	12/18/08 00:32 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Trichloroethene	30.6	ug/L		2.0		E624	12/18/08 00:32 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/18/08 00:32 / jlr
Xylenes, Total	7.1	ug/L		2.0		E624	12/18/08 00:32 / jlr
Surr: 1,2-Dichlorobenzene-d4	96.0	%REC		80-120		E624	12/18/08 00:32 / jlr
Surr: Dibromofluoromethane	122	%REC	S	80-120		E624	12/18/08 00:32 / jlr
Surr: p-Bromofluorobenzene	95.0	%REC		80-120		E624	12/18/08 00:32 / jlr
Surr: Toluene-d8	100	%REC		80-120		E624	12/18/08 00:32 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	12/15/08 15:14 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-003  
**Client Sample ID:** 3A LS Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 19:55  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	531	mg/L		1		A2320 B	12/11/08 22:51 / ljl
Carbonate as CO <sub>3</sub>	38	mg/L		1		A2320 B	12/11/08 22:51 / ljl
Bicarbonate as HCO <sub>3</sub>	571	mg/L		1		A2320 B	12/11/08 22:51 / ljl
Calcium	17	mg/L		1		E200.7	12/31/08 13:19 / cp
Chloride	63	mg/L		1		E300.0	12/12/08 23:38 / ljl
Fluoride	3.5	mg/L		0.1		A4500-F C	12/12/08 12:02 / ljl
Magnesium	ND	mg/L		1		E200.7	12/31/08 13:19 / cp
Nitrogen, Ammonia as N	9.4	mg/L	D	0.2		E350.1	12/18/08 10:14 / eli-b
Nitrogen, Kjeldahl, Total as N	11	mg/L	D	1		E351.2	12/17/08 08:36 / eli-b
Nitrogen, Nitrate+Nitrite as N	18.5	mg/L		0.05		E353.2	12/17/08 12:29 / eli-b
Nitrogen, Nitrite as N	4.5	mg/L	DH	0.2		A4500-NO <sub>2</sub> B	12/11/08 08:29 / jal
Potassium	11	mg/L		1		E200.7	12/31/08 13:19 / cp
Silica	22.3	mg/L		0.2		E200.7	12/29/08 12:41 / cp
Sodium	576	mg/L	D	8		E200.7	12/31/08 13:19 / cp
Sulfate	380	mg/L		1		E300.0	12/12/08 23:38 / ljl
<b>NON-METALS</b>							
Sulfide	4	mg/L		1		A4500-S F	12/15/08 11:35 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	2270	umhos/cm		1		A2510 B	12/10/08 13:05 / dd
pH	8.78	s.u.		0.01		A4500-H B	12/10/08 13:05 / dd
Solids, Total Dissolved TDS @ 180 C	2340	mg/L		10		A2540 C	12/10/08 12:23 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	0.1	mg/L		0.1		E200.8	12/15/08 17:24 / ts
Barium	0.2	mg/L		0.1		E200.8	12/13/08 13:16 / ts
Boron	0.5	mg/L		0.1		E200.7	12/29/08 12:41 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:16 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:16 / ts
Iron	0.26	mg/L		0.03		E200.7	12/29/08 12:41 / cp
Manganese	0.01	mg/L		0.01		E200.8	12/13/08 13:16 / ts
Molybdenum	0.5	mg/L		0.1		E200.8	12/13/08 13:16 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:16 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:24 / ts
Uranium	0.0063	mg/L		0.0003		E200.8	12/13/08 13:16 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:16 / ts
Zinc	0.14	mg/L		0.01		E200.8	12/13/08 13:16 / ts
<b>METALS - TOTAL</b>							
Iron	2.67	mg/L		0.03		E200.7	12/11/08 22:18 / cp
Manganese	0.04	mg/L		0.01		E200.7	12/11/08 22:18 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-003  
**Client Sample ID:** 3A LS Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 19:55  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	35.7	pCi/L			E900.0		01/05/09 22:09 / cgr
Gross Alpha precision (±)	9.0	pCi/L			E900.0		01/05/09 22:09 / cgr
Gross Alpha MDC	10.2	pCi/L			E900.0		01/05/09 22:09 / cgr
Gross Beta	20.2	pCi/L			E900.0		01/05/09 22:09 / cgr
Gross Beta precision (±)	7.0	pCi/L			E900.0		01/05/09 22:09 / cgr
Gross Beta MDC	11.1	pCi/L			E900.0		01/05/09 22:09 / cgr
Radium 226	1.7	pCi/L			E903.0		01/11/09 18:15 / jah
Radium 226 precision (±)	0.29	pCi/L			E903.0		01/11/09 18:15 / jah
Radium 226 MDC	0.18	pCi/L			E903.0		01/11/09 18:15 / jah
Radium 228	2.2	pCi/L			RA-05		01/05/09 12:27 / plj
Radium 228 precision (±)	0.8	pCi/L			RA-05		01/05/09 12:27 / plj
Radium 228 MDC	1.3	pCi/L			RA-05		01/05/09 12:27 / plj

### DATA QUALITY

A/C Balance (± 5)	10.5	%			Calculation		01/06/09 17:23 / sdw
Anions	21.8	meq/L			Calculation		01/06/09 17:23 / sdw
Cations	26.9	meq/L			Calculation		01/06/09 17:23 / sdw
Solids, Total Dissolved Calculated	1480	mg/L			Calculation		01/06/09 17:23 / sdw
TDS Balance (0.80 - 1.20)	1.58				Calculation		01/06/09 17:23 / sdw

- The Anion / Cation balance was confirmed by re-analysis.

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1-Dichloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1-Dichloroethene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,1-Dichloropropene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,2-Dibromoethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,2-Dichloroethane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,2-Dichloropropane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,3-Dichloropropane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
2,2-Dichloropropane	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
2-Chlorotoluene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
4-Chlorotoluene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr
Benzene	9.0	ug/L		2.0	E624		12/17/08 15:01 / jlr
Bromobenzene	ND	ug/L		2.0	E624		12/17/08 15:01 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-003  
**Client Sample ID:** 3A LS Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 19:55  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Bromodichloromethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Chlorodibromomethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Chloroform	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
m+p-Xylenes	3.9	ug/L		2.0		E624	12/17/08 15:01 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/17/08 15:01 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
o-Xylene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Toluene	16.6	ug/L		2.0		E624	12/17/08 15:01 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Trichloroethene	54.6	ug/L		2.0		E624	12/17/08 15:01 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 15:01 / jlr
Xylenes, Total	5.9	ug/L		2.0		E624	12/17/08 15:01 / jlr
Surr: 1,2-Dichlorobenzene-d4	125	%REC	S	80-120		E624	12/17/08 15:01 / jlr
Surr: Dibromofluoromethane	107	%REC		80-120		E624	12/17/08 15:01 / jlr
Surr: p-Bromofluorobenzene	96.0	%REC		80-120		E624	12/17/08 15:01 / jlr
Surr: Toluene-d8	102	%REC		80-120		E624	12/17/08 15:01 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	12/15/08 15:14 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-004  
**Client Sample ID:** EB1A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	139	mg/L		1		A2320 B	12/11/08 22:58 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	12/11/08 22:58 / ljl
Bicarbonate as HCO <sub>3</sub>	169	mg/L		1		A2320 B	12/11/08 22:58 / ljl
Calcium	62	mg/L		1		E200.7	12/29/08 12:49 / cp
Chloride	4	mg/L		1		E300.0	12/12/08 23:53 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/12/08 12:05 / ljl
Magnesium	7	mg/L		1		E200.7	12/29/08 12:49 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	12/17/08 14:19 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/17/08 08:42 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.05		E353.2	12/17/08 12:30 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:29 / jal
Potassium	4	mg/L		1		E200.7	12/29/08 12:49 / cp
Silica	38.4	mg/L		0.2		E200.7	12/29/08 12:49 / cp
Sodium	8	mg/L	D	2		E200.7	12/29/08 12:49 / cp
Sulfate	41	mg/L		1		E300.0	12/12/08 23:53 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	12/15/08 09:29 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	276	umhos/cm		1		A2510 B	12/10/08 13:08 / dd
pH	7.85	s.u.		0.01		A4500-H B	12/10/08 13:08 / dd
Solids, Total Dissolved TDS @ 180 C	246	mg/L		10		A2540 C	12/10/08 12:23 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/15/08 17:31 / ts
Barium	ND	mg/L		0.1		E200.8	12/13/08 13:23 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 12:49 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:23 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:23 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 12:49 / cp
Manganese	ND	mg/L		0.01		E200.8	12/13/08 13:23 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/13/08 13:23 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:23 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:31 / ts
Uranium	0.0092	mg/L		0.0003		E200.8	12/13/08 13:23 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:23 / ts
Zinc	0.09	mg/L		0.01		E200.8	12/13/08 13:23 / ts
<b>METALS - TOTAL</b>							
Iron	0.23	mg/L		0.03		E200.7	12/11/08 22:34 / cp
Manganese	ND	mg/L		0.01		E200.7	12/11/08 22:34 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-004  
**Client Sample ID:** EB1A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	6.9	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	1.4	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	1.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	17.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	1.9	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	2.7	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	-0.008	pCi/L	U			E903.0	01/05/09 12:11 / jah
Radium 226 precision (±)	0.11	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 226 MDC	0.20	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 228	0.6	pCi/L	U			RA-05	12/30/08 10:37 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	12/30/08 10:37 / plj
Radium 228 MDC	1.1	pCi/L				RA-05	12/30/08 10:37 / plj
<b>DATA QUALITY</b>							
A/C Balance (± 5)	3.90	%				Calculation	12/30/08 11:17 / sdw
Anions	3.78	meq/L				Calculation	12/30/08 11:17 / sdw
Cations	4.09	meq/L				Calculation	12/30/08 11:17 / sdw
Solids, Total Dissolved Calculated	259	mg/L				Calculation	12/30/08 11:17 / sdw
TDS Balance (0.80 - 1.20)	0.950					Calculation	12/30/08 11:17 / sdw
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Benzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-004  
**Client Sample ID:** EB1A LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromodichloromethane	9.7	ug/L		2.0		E624	12/17/08 15:39 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Chlorodibromomethane	4.9	ug/L		2.0		E624	12/17/08 15:39 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Chloroform	12.7	ug/L		2.0		E624	12/17/08 15:39 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
m+p-Xylenes	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/17/08 15:39 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
o-Xylene	2.6	ug/L		2.0		E624	12/17/08 15:39 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Toluene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Trichloroethene	5.7	ug/L		2.0		E624	12/17/08 15:39 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 15:39 / jlr
Xylenes, Total	3.8	ug/L		2.0		E624	12/17/08 15:39 / jlr
Surr: 1,2-Dichlorobenzene-d4	104	%REC		80-120		E624	12/17/08 15:39 / jlr
Surr: Dibromofluoromethane	126	%REC	S	80-120		E624	12/17/08 15:39 / jlr
Surr: p-Bromofluorobenzene	103	%REC		80-120		E624	12/17/08 15:39 / jlr
Surr: Toluene-d8	104	%REC		80-120		E624	12/17/08 15:39 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	8.6	mg/L		5.1	10	E1664A	12/12/08 14:25 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-005  
**Client Sample ID:** EB1B LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:45  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	138	mg/L		1		A2320 B	12/11/08 23:05 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	12/11/08 23:05 / ljl
Bicarbonate as HCO <sub>3</sub>	169	mg/L		1		A2320 B	12/11/08 23:05 / ljl
Calcium	62	mg/L		1		E200.7	12/29/08 12:53 / cp
Chloride	4	mg/L		1		E300.0	12/13/08 00:40 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/12/08 12:08 / ljl
Magnesium	7	mg/L		1		E200.7	12/29/08 12:53 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	12/17/08 14:26 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/24/08 10:09 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.05		E353.2	12/17/08 12:31 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:30 / jal
Potassium	4	mg/L		1		E200.7	12/29/08 12:53 / cp
Silica	39.2	mg/L		0.2		E200.7	12/29/08 12:53 / cp
Sodium	8	mg/L	D	2		E200.7	12/29/08 12:53 / cp
Sulfate	41	mg/L		1		E300.0	12/13/08 00:40 / ljl
<b>NON-METALS</b>							
Sulfide	4	mg/L		1		A4500-S F	12/15/08 09:32 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	280	umhos/cm		1		A2510 B	12/10/08 13:11 / dd
pH	7.82	s.u.		0.01		A4500-H B	12/10/08 13:11 / dd
Solids, Total Dissolved TDS @ 180 C	246	mg/L		10		A2540 C	12/10/08 12:24 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/15/08 17:37 / ts
Barium	ND	mg/L		0.1		E200.8	12/13/08 13:29 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 12:53 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:29 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:29 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 12:53 / cp
Manganese	ND	mg/L		0.01		E200.8	12/13/08 13:29 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/13/08 13:29 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:29 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:37 / ts
Uranium	0.0089	mg/L		0.0003		E200.8	12/13/08 13:29 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:29 / ts
Zinc	0.06	mg/L		0.01		E200.8	12/13/08 13:29 / ts
<b>METALS - TOTAL</b>							
Iron	0.06	mg/L		0.03		E200.7	12/11/08 22:38 / cp
Manganese	ND	mg/L		0.01		E200.7	12/11/08 22:38 / cp

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.





## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-005  
**Client Sample ID:** EB1B LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:45  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	10.1	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	1.6	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	1.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	8.1	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	1.7	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	2.7	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	-0.2	pCi/L	U			E903.0	01/05/09 12:11 / jah
Radium 226 precision (±)	0.08	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 226 MDC	0.20	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 228	0.2	pCi/L	U			RA-05	12/30/08 10:37 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	12/30/08 10:37 / plj
Radium 228 MDC	1.1	pCi/L				RA-05	12/30/08 10:37 / plj
<b>DATA QUALITY</b>							
A/C Balance (± 5)	4.31	%				Calculation	12/30/08 11:17 / sdw
Anions	3.78	meq/L				Calculation	12/30/08 11:17 / sdw
Cations	4.12	meq/L				Calculation	12/30/08 11:17 / sdw
Solids, Total Dissolved Calculated	260	mg/L				Calculation	12/30/08 11:17 / sdw
TDS Balance (0.80 - 1.20)	0.950					Calculation	12/30/08 11:17 / sdw
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Benzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-005  
**Client Sample ID:** EB1B LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 11:45  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromodichloromethane	7.6	ug/L		2.0		E624	12/17/08 16:17 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Chlorodibromomethane	5.1	ug/L		2.0		E624	12/17/08 16:17 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Chloroform	11.5	ug/L		2.0		E624	12/17/08 16:17 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
m+p-Xylenes	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/17/08 16:17 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
o-Xylene	2.1	ug/L		2.0		E624	12/17/08 16:17 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Toluene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Trichloroethene	8.2	ug/L		2.0		E624	12/17/08 16:17 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 16:17 / jlr
Xylenes, Total	3.1	ug/L		2.0		E624	12/17/08 16:17 / jlr
Surr: 1,2-Dichlorobenzene-d4	92.0	%REC		80-120		E624	12/17/08 16:17 / jlr
Surr: Dibromofluoromethane	120	%REC		80-120		E624	12/17/08 16:17 / jlr
Surr: p-Bromofluorobenzene	94.0	%REC		80-120		E624	12/17/08 16:17 / jlr
Surr: Toluene-d8	94.0	%REC		80-120		E624	12/17/08 16:17 / jlr
<b>ORGANIC CHARACTERISTICS</b>							
Oil & Grease (HEM)	ND	mg/L		9.3	10	E1664A	12/15/08 15:13 / bah

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-006  
**Client Sample ID:** BB LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 21:50  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	34	mg/L		1		A2320 B	12/11/08 23:10 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	12/11/08 23:10 / ljl
Bicarbonate as HCO <sub>3</sub>	41	mg/L		1		A2320 B	12/11/08 23:10 / ljl
Calcium	4	mg/L		1		E200.7	12/29/08 12:57 / cp
Chloride	ND	mg/L		1		E300.0	12/13/08 00:55 / ljl
Fluoride	ND	mg/L		0.1		A4500-F C	12/12/08 12:13 / ljl
Magnesium	ND	mg/L		1		E200.7	12/29/08 12:57 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	12/17/08 14:27 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/24/08 10:10 / eli-b
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.05		E353.2	12/17/08 12:32 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:30 / jal
Potassium	ND	mg/L		1		E200.7	12/29/08 12:57 / cp
Silica	1.6	mg/L		0.2		E200.7	12/29/08 12:57 / cp
Sodium	4	mg/L	D	2		E200.7	12/29/08 12:57 / cp
Sulfate	6	mg/L		1		E300.0	12/13/08 00:55 / ljl
<b>NON-METALS</b>							
Sulfide	4	mg/L		1		A4500-S F	12/15/08 09:35 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	23	umhos/cm		1		A2510 B	12/10/08 13:14 / dd
pH	7.33	s.u.		0.01		A4500-H B	12/10/08 13:14 / dd
Solids, Total Dissolved TDS @ 180 C	28	mg/L		10		A2540 C	12/10/08 12:25 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/15/08 17:44 / ts
Barium	0.1	mg/L		0.1		E200.8	12/13/08 13:36 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 12:57 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 13:36 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 13:36 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 12:57 / cp
Manganese	0.03	mg/L		0.01		E200.8	12/13/08 13:36 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/13/08 13:36 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 13:36 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 17:44 / ts
Uranium	ND	mg/L		0.0003		E200.8	12/13/08 13:36 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 13:36 / ts
Zinc	0.03	mg/L		0.01		E200.8	12/13/08 13:36 / ts
<b>METALS - TOTAL</b>							
Iron	0.94	mg/L		0.03		E200.7	12/11/08 22:42 / cp
Manganese	0.04	mg/L		0.01		E200.7	12/11/08 22:42 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-006  
**Client Sample ID:** BB LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 21:50  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	0.09	pCi/L	U			E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	0.6	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	1	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	-2	pCi/L	U			E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	1.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	2.6	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	0.02	pCi/L	U			E903.0	01/05/09 12:11 / jah
Radium 226 precision (±)	0.12	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 226 MDC	0.20	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 228	-0.03	pCi/L	U			RA-05	12/30/08 10:37 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	12/30/08 10:37 / plj
Radium 228 MDC	1.1	pCi/L				RA-05	12/30/08 10:37 / plj

### DATA QUALITY

A/C Balance (± 5)	-30.9	%				Calculation	12/30/08 11:18 / sdw
Anions	0.810	meq/L				Calculation	12/30/08 11:18 / sdw
Cations	0.427	meq/L				Calculation	12/30/08 11:18 / sdw
Solids, Total Dissolved Calculated	38.0	mg/L				Calculation	12/30/08 11:18 / sdw
TDS Balance (0.80 - 1.20)	0.740					Calculation	12/30/08 11:18 / sdw

- The ion balance is not appropriate for near blank results.

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Benzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-006  
**Client Sample ID:** BB LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 21:50  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Bromodichloromethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Chlorodibromomethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Chloroform	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
m+p-Xylenes	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Methyl ethyl ketone	ND	ug/L		40		E624	12/17/08 16:55 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
o-Xylene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Toluene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Trichloroethene	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Xylenes, Total	ND	ug/L		2.0		E624	12/17/08 16:55 / jlr
Surr: 1,2-Dichlorobenzene-d4	104	%REC		80-120		E624	12/17/08 16:55 / jlr
Surr: Dibromofluoromethane	128	%REC	S	80-120		E624	12/17/08 16:55 / jlr
Surr: p-Bromofluorobenzene	98.0	%REC		80-120		E624	12/17/08 16:55 / jlr
Surr: Toluene-d8	93.0	%REC		80-120		E624	12/17/08 16:55 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.0	10	E1664A	12/15/08 13:56 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## LABORATORY ANALYTICAL REPORT

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1  
Lab ID: C08120345-007  
Client Sample ID: AB LC Test

Report Date: 02/03/09  
Collection Date: 12/08/08 21:45  
Date Received: 12/09/08  
Matrix: Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	139	mg/L		1		A2320 B	12/11/08 23:23 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	12/11/08 23:23 / ljl
Bicarbonate as HCO <sub>3</sub>	170	mg/L		1		A2320 B	12/11/08 23:23 / ljl
Calcium	62	mg/L		1		E200.7	12/29/08 13:01 / cp
Chloride	4	mg/L		1		E300.0	12/13/08 01:10 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/12/08 12:19 / ljl
Magnesium	7	mg/L		1		E200.7	12/29/08 13:01 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	12/17/08 14:28 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/17/08 08:43 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.05		E353.2	12/17/08 12:33 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:30 / jal
Potassium	4	mg/L		1		E200.7	12/29/08 13:01 / cp
Silica	38.1	mg/L		0.2		E200.7	12/29/08 13:01 / cp
Sodium	8	mg/L	D	2		E200.7	12/29/08 13:01 / cp
Sulfate	41	mg/L		1		E300.0	12/13/08 01:10 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	12/15/08 10:04 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	276	umhos/cm		1		A2510 B	12/10/08 13:18 / dd
pH	7.83	s.u.		0.01		A4500-H B	12/10/08 13:18 / dd
Solids, Total Dissolved TDS @ 180 C	249	mg/L		10		A2540 C	12/10/08 12:25 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/15/08 18:18 / ts
Barium	ND	mg/L		0.1		E200.8	12/13/08 14:10 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 13:01 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/13/08 14:10 / ts
Chromium	ND	mg/L		0.05		E200.8	12/13/08 14:10 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 13:01 / cp
Manganese	ND	mg/L		0.01		E200.8	12/13/08 14:10 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/13/08 14:10 / ts
Nickel	ND	mg/L		0.05		E200.8	12/13/08 14:10 / ts
Silver	ND	mg/L		0.01		E200.8	12/15/08 18:18 / ts
Uranium	0.0094	mg/L		0.0003		E200.8	12/13/08 14:10 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/13/08 14:10 / ts
Zinc	ND	mg/L		0.01		E200.8	12/13/08 14:10 / ts
<b>METALS - TOTAL</b>							
Iron	ND	mg/L		0.03		E200.7	12/11/08 22:46 / cp
Manganese	ND	mg/L		0.01		E200.7	12/11/08 22:46 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-007  
**Client Sample ID:** AB LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 21:45  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	9.7	pCi/L				E900.0	01/06/09 10:29 / cgr
Gross Alpha precision (±)	1.6	pCi/L				E900.0	01/06/09 10:29 / cgr
Gross Alpha MDC	1.5	pCi/L				E900.0	01/06/09 10:29 / cgr
Gross Beta	6.2	pCi/L				E900.0	01/06/09 10:29 / cgr
Gross Beta precision (±)	1.7	pCi/L				E900.0	01/06/09 10:29 / cgr
Gross Beta MDC	2.7	pCi/L				E900.0	01/06/09 10:29 / cgr
Radium 226	0.04	pCi/L		U		E903.0	01/05/09 12:11 / jah
Radium 226 precision (±)	0.13	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 226 MDC	0.21	pCi/L				E903.0	01/05/09 12:11 / jah
Radium 228	0.1	pCi/L		U		RA-05	12/30/08 10:37 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	12/30/08 10:37 / plj
Radium 228 MDC	1.1	pCi/L				RA-05	12/30/08 10:37 / plj

### DATA QUALITY

A/C Balance (± 5)	3.40	%				Calculation	12/30/08 11:19 / sdw
Anions	3.79	meq/L				Calculation	12/30/08 11:19 / sdw
Cations	4.05	meq/L				Calculation	12/30/08 11:19 / sdw
Solids, Total Dissolved Calculated	258	mg/L				Calculation	12/30/08 11:19 / sdw
TDS Balance (0.80 - 1.20)	0.970					Calculation	12/30/08 11:19 / sdw

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1,1-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1,2-Trichloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,1-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,2,3-Trichloropropane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,2-Dibromoethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,2-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,2-Dichloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,3-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,3-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
1,4-Dichlorobenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
2,2-Dichloropropane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
2-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
4-Chlorotoluene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Benzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Bromobenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Bromochloromethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-007  
**Client Sample ID:** AB LC Test

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08 21:45  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromodichloromethane	8.6	ug/L		2.0		E624	12/17/08 18:11 / jlr
Bromoform	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Bromomethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Carbon tetrachloride	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Chlorobenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Chlorodibromomethane	5.1	ug/L		2.0		E624	12/17/08 18:11 / jlr
Chloroethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Chloroform	12.9	ug/L		2.0		E624	12/17/08 18:11 / jlr
Chloromethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
cis-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
cis-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Dibromomethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Dichlorodifluoromethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Ethylbenzene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
m+p-Xylenes	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Methyl ethyl ketone	42	ug/L		40		E624	12/17/08 18:11 / jlr
Methylene chloride	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
o-Xylene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Styrene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Tetrachloroethene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Toluene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
trans-1,2-Dichloroethene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
trans-1,3-Dichloropropene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Trichloroethene	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Trichlorofluoromethane	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Vinyl chloride	ND	ug/L		2.0		E624	12/17/08 18:11 / jlr
Xylenes, Total	2.6	ug/L		2.0		E624	12/17/08 18:11 / jlr
Surr: 1,2-Dichlorobenzene-d4	104	%REC		80-120		E624	12/17/08 18:11 / jlr
Surr: Dibromofluoromethane	118	%REC		80-120		E624	12/17/08 18:11 / jlr
Surr: p-Bromofluorobenzene	107	%REC		80-120		E624	12/17/08 18:11 / jlr
Surr: Toluene-d8	96.0	%REC		80-120		E624	12/17/08 18:11 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L	5.3	10	E1664A	12/15/08 13:56 / bah
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**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-008  
**Client Sample ID:** Trip Blank

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Benzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Bromobenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Bromodichloromethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Bromoform	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Bromomethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Chlorodibromomethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Chloroethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Chloroform	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Chloromethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Dibromomethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Ethylbenzene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
m+p-Xylenes	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	12/16/08 15:39 / jlr
Methylene chloride	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
o-Xylene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Styrene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Toluene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120345-008  
**Client Sample ID:** Trip Blank

**Report Date:** 02/03/09  
**Collection Date:** 12/08/08  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Trichloroethene	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Xylenes, Total	ND	ug/L		1.0		E624	12/16/08 15:39 / jlr
Surr: 1,2-Dichlorobenzene-d4	104	%REC		80-120		E624	12/16/08 15:39 / jlr
Surr: Dibromofluoromethane	142	%REC	S	80-120		E624	12/16/08 15:39 / jlr
Surr: p-Bromofluorobenzene	98.0	%REC		80-120		E624	12/16/08 15:39 / jlr
Surr: Toluene-d8	95.0	%REC		80-120		E624	12/16/08 15:39 / jlr

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 02/03/09  
**Work Order:** C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A2320 B</b>									Batch: R112168
<b>Sample ID: MBLK</b>	Method Blank						Run: MANTECH_081211A		12/11/08 21:29
Alkalinity, Total as CaCO <sub>3</sub>	ND	mg/L	0.2						
Carbonate as CO <sub>3</sub>	ND	mg/L	1						
Bicarbonate as HCO <sub>3</sub>	ND	mg/L	1						
<b>Sample ID: LCS</b>	Laboratory Control Sample						Run: MANTECH_081211A		12/11/08 21:36
Alkalinity, Total as CaCO <sub>3</sub>	200	mg/L	1.0	100	90	110			
<b>Sample ID: C08120330-002AMS</b>	Sample Matrix Spike						Run: MANTECH_081211A		12/11/08 22:18
Alkalinity, Total as CaCO <sub>3</sub>	267	mg/L	1.0	103	80	120			
<b>Sample ID: C08120330-002AMSD</b>	Sample Matrix Spike Duplicate						Run: MANTECH_081211A		12/11/08 22:25
Alkalinity, Total as CaCO <sub>3</sub>	265	mg/L	1.0	101	80	120	0.7	20	
<b>Method: A2510 B</b>									Analytical Run: ORION555A_081210B
<b>Sample ID: ICV2_081210_2</b>	Initial Calibration Verification Standard								12/10/08 12:55
Conductivity	1450	umhos/cm	1.0	102	90	110			
<b>Method: A2510 B</b>									Batch: 081210_2_PH-W_555A-1
<b>Sample ID: MBLK1_081210_2</b>	Method Blank						Run: ORION555A_081210B		12/10/08 12:52
Conductivity	0.4	umhos/cm	0.2						
<b>Sample ID: C08120348-001BDUP</b>	Sample Duplicate						Run: ORION555A_081210B		12/10/08 13:26
Conductivity	260	umhos/cm	1.0				0.3	10	
<b>Method: A2540 C</b>									Batch: 081210A-SLDS-TDS-W
<b>Sample ID: MBLK1_081210A</b>	Method Blank						Run: BAL-1_081210B		12/10/08 12:17
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	6						
<b>Sample ID: LCS1_081210A</b>	Laboratory Control Sample						Run: BAL-1_081210B		12/10/08 12:18
Solids, Total Dissolved TDS @ 180 C	1000	mg/L	10	100	90	110			
<b>Sample ID: C08120345-005AMS</b>	Sample Matrix Spike						Run: BAL-1_081210B		12/10/08 12:24
Solids, Total Dissolved TDS @ 180 C	2260	mg/L	10	101	90	110			
<b>Sample ID: C08120345-005AMSD</b>	Sample Matrix Spike Duplicate						Run: BAL-1_081210B		12/10/08 12:24
Solids, Total Dissolved TDS @ 180 C	2260	mg/L	10	101	90	110	0.1	10	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C									Batch: R112233
Sample ID: MBLK-1	Method Blank								Run: MANTECH_081212A 12/12/08 11:29
Fluoride	ND	mg/L	0.05						
Sample ID: LCS-1	Laboratory Control Sample								Run: MANTECH_081212A 12/12/08 11:32
Fluoride	0.960	mg/L	0.10	96	90	110			
Sample ID: C08120345-007AMS	Sample Matrix Spike								Run: MANTECH_081212A 12/12/08 12:22
Fluoride	1.51	mg/L	0.10	99	80	120			
Sample ID: C08120345-007AMSD	Sample Matrix Spike Duplicate								Run: MANTECH_081212A 12/12/08 12:25
Fluoride	1.51	mg/L	0.10	99	80	120	0	10	
Method: A4500-H B									Analytical Run: ORION555A_081210B
Sample ID: ICV1_081210_2	Initial Calibration Verification Standard								12/10/08 12:54
pH	6.86	s.u.	0.010	100	98	102			
Method: A4500-H B									Batch: 081210_2_PH-W_555A-1
Sample ID: C08120348-001BDUP	Sample Duplicate								Run: ORION555A_081210B 12/10/08 13:26
pH	7.03	s.u.	0.010				0.1	10	
Method: A4500-NO2 B									Analytical Run: HACH DR3000_081211 12/11/08 08:27
Sample ID: ICV-2	Initial Calibration Verification Standard								12/11/08 08:27
Nitrogen, Nitrite as N	0.951	mg/L	0.10	95	90	110			
Method: A4500-NO2 B									Batch: A2008-12-11_6_NO2_01
Sample ID: MBLK-1	Method Blank								Run: HACH DR3000_081211A 12/11/08 08:27
Nitrogen, Nitrite as N	ND	mg/L	0.003						
Sample ID: C08120330-002AMS	Sample Matrix Spike								Run: HACH DR3000_081211A 12/11/08 08:28
Nitrogen, Nitrite as N	0.0573	mg/L	0.10	98	80	120			
Sample ID: C08120330-002AMSD	Sample Matrix Spike Duplicate								Run: HACH DR3000_081211A 12/11/08 08:28
Nitrogen, Nitrite as N	0.0584	mg/L	0.10	100	80	120	0	10	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-S F					Analytical Run: TITRATION_081215A				
Sample ID: ICV-042808	Initial Calibration Verification Standard								12/15/08 08:56
Sulfide	93.6	mg/L	1.0	94	80	120			
Method: A4500-S F					Batch: 081215-SULFIDE-TTR-W				
Sample ID: MBLK7-081215	Method Blank								Run: TITRATION_081215A 12/15/08 08:50
Sulfide	ND	mg/L	0.1						
Sample ID: C08120345-007FMS	Sample Matrix Spike								Run: TITRATION_081215A 12/15/08 10:10
Sulfide	24.0	mg/L	1.0	105	80	120			
Sample ID: C08120345-007FMSD	Sample Matrix Spike Duplicate								Run: TITRATION_081215A 12/15/08 10:14
Sulfide	23.2	mg/L	1.0	101	80	120	3.4	20	
Method: E1664A					Batch: 20833				
Sample ID: MBLK1_081212A	Method Blank								Run: SPE1-C_081212A 12/12/08 14:12
Oil & Grease (HEM)	ND	mg/L	5.0						
Sample ID: LCS1_081212A	Laboratory Control Sample								Run: SPE1-C_081212A 12/12/08 14:12
Oil & Grease (HEM)	37	mg/L	5.0	94	78	114			
Sample ID: LCSD_081212A	Laboratory Control Sample Duplicate								Run: SPE1-C_081212A 12/12/08 14:12
Oil & Grease (HEM)	38	mg/L	5.0	94	78	114		18	
Method: E200.7					Batch: 20804				
Sample ID: MB-20804	Method Blank								Run: ICP2-C_081211A 12/11/08 21:41
Iron	ND	mg/L	0.009						
Manganese	ND	mg/L	0.0003						
Sample ID: LCS3-20804	Laboratory Control Sample								Run: ICP2-C_081211A 12/11/08 21:45
Iron	2.59	mg/L	0.030	104	85	115			
Manganese	2.47	mg/L	0.010	99	85	115			
Sample ID: C08120345-007DMS3	Sample Matrix Spike								Run: ICP2-C_081211A 12/11/08 22:50
Iron	2.71	mg/L	0.030	108	70	130			
Manganese	2.58	mg/L	0.010	103	70	130			
Sample ID: C08120345-007DMSD3	Sample Matrix Spike Duplicate								Run: ICP2-C_081211A 12/11/08 22:54
Iron	2.57	mg/L	0.030	102	70	130	5.3	20	
Manganese	2.41	mg/L	0.010	97	70	130	6.7	20	

## Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Batch: R112823		
<b>Sample ID: MB-081229A</b>	Method Blank		Run: ICP2-C_081229A				12/29/08 11:30		
Boron	0.02	mg/L	0.008						
Calcium	ND	mg/L	0.1						
Iron	ND	mg/L	0.005						
Magnesium	ND	mg/L	0.04						
Potassium	ND	mg/L	0.02						
Silicon	ND	mg/L	0.02						
Sodium	ND	mg/L	0.8						
Silica	ND	mg/L	0.04						
<b>Sample ID: LFB-081229A</b>	Laboratory Fortified Blank		Run: ICP2-C_081229A				12/29/08 11:34		
Boron	1.12	mg/L	0.10	110	85	125			
Calcium	53.2	mg/L	0.50	106	85	125			
Iron	1.03	mg/L	0.030	103	85	125			
Magnesium	52.8	mg/L	0.50	106	85	125			
Potassium	47.2	mg/L	0.50	94	85	125			
Silicon	0.368	mg/L	0.021	92	85	125			
Sodium	50.6	mg/L	0.77	101	85	125			
Silica	0.787	mg/L	0.044	92	85	125			
<b>Sample ID: C08120345-002BMS2</b>	Sample Matrix Spike		Run: ICP2-C_081229A				12/29/08 12:12		
Boron	2.65	mg/L	0.10	110	70	130			
Calcium	124	mg/L	1.0	106	70	130			
Iron	2.52	mg/L	0.030	104	70	130			
Magnesium	106	mg/L	1.0	105	70	130			
Potassium	105	mg/L	1.0	90	70	130			
Silicon	12.5	mg/L	0.10		70	130			A
Sodium	669	mg/L	1.5		70	130			A
Silica	26.8	mg/L	0.21		70	130			A
<b>Sample ID: C08120345-002BMSD2</b>	Sample Matrix Spike Duplicate		Run: ICP2-C_081229A				12/29/08 12:15		
Boron	2.68	mg/L	0.10	112	70	130	1.4	20	
Calcium	126	mg/L	1.0	108	70	130	1.8	20	
Iron	2.59	mg/L	0.030	108	70	130	2.6	20	
Magnesium	108	mg/L	1.0	108	70	130	2.1	20	
Potassium	106	mg/L	1.0	91	70	130	0.8	20	
Silicon	12.7	mg/L	0.10		70	130	1.5	20	A
Sodium	671	mg/L	1.5		70	130	0.4	20	A
Silica	27.2	mg/L	0.21		70	130	1.5	20	A

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7							Batch: R112945		
Sample ID: MB-081231A	Method Blank		Run: ICP2-C_081231A				12/31/08 12:51		
Calcium	ND	mg/L	0.1						
Magnesium	ND	mg/L	0.04						
Potassium	ND	mg/L	0.02						
Sodium	ND	mg/L	0.8						
Sample ID: LFB-081231A	Laboratory Fortified Blank		Run: ICP2-C_081231A				12/31/08 12:55		
Calcium	53.1	mg/L	0.50	106	85	125			
Magnesium	52.1	mg/L	0.50	104	85	125			
Potassium	45.7	mg/L	0.50	91	85	125			
Sodium	50.9	mg/L	0.77	102	85	125			
Sample ID: C08120345-001BMS2	Sample Matrix Spike		Run: ICP2-C_081231A				12/31/08 13:03		
Calcium	552	mg/L	1.1	105	70	130			
Magnesium	519	mg/L	1.0	104	70	130			
Potassium	460	mg/L	1.0	90	70	130			
Sodium	1070	mg/L	7.6	106	70	130			
Sample ID: C08120345-001BMDS2	Sample Matrix Spike Duplicate		Run: ICP2-C_081231A				12/31/08 13:07		
Calcium	550	mg/L	1.1	105	70	130	0.4	20	
Magnesium	519	mg/L	1.0	104	70	130	0	20	
Potassium	460	mg/L	1.0	90	70	130	0.2	20	
Sodium	1070	mg/L	7.6	105	70	130	0.3	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: R112237		
<b>Sample ID: LRB</b>	Method Blank		Run: ICPMS2-C_081212A				12/12/08 13:49		
Barium	6E-05	mg/L	3E-05						
Cadmium	ND	mg/L	1E-05						
Chromium	5E-05	mg/L	4E-05						
Manganese	ND	mg/L	5E-05						
Molybdenum	ND	mg/L	5E-05						
Nickel	ND	mg/L	0.0007						
Uranium	ND	mg/L	1E-05						
Vanadium	8E-05	mg/L	3E-05						
Zinc	ND	mg/L	0.0003						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank		Run: ICPMS2-C_081212A				12/12/08 13:56		
Barium	0.0522	mg/L	0.0010	104	85	115			
Cadmium	0.0519	mg/L	0.0010	104	85	115			
Chromium	0.0525	mg/L	0.0010	105	85	115			
Manganese	0.0522	mg/L	0.0010	104	85	115			
Molybdenum	0.0511	mg/L	0.0010	102	85	115			
Nickel	0.0527	mg/L	0.0010	105	85	115			
Uranium	0.0518	mg/L	0.00030	104	85	115			
Vanadium	0.0525	mg/L	0.0010	105	85	115			
Zinc	0.0535	mg/L	0.0010	107	85	115			
<b>Sample ID: C08120345-007BMS4</b>	Sample Matrix Spike		Run: ICPMS2-C_081212A				12/13/08 14:17		
Barium	0.0782	mg/L	0.10	95	70	130			
Cadmium	0.0496	mg/L	0.010	99	70	130			
Chromium	0.0493	mg/L	0.050	99	70	130			
Manganese	0.0501	mg/L	0.010	99	70	130			
Molybdenum	0.0759	mg/L	0.10	100	70	130			
Nickel	0.0503	mg/L	0.050	101	70	130			
Uranium	0.0595	mg/L	0.00030	100	70	130			
Vanadium	0.0508	mg/L	0.10	100	70	130			
Zinc	0.0591	mg/L	0.010	99	70	130			
<b>Sample ID: C08120345-007BMSD4</b>	Sample Matrix Spike Duplicate		Run: ICPMS2-C_081212A				12/13/08 14:24		
Barium	0.0801	mg/L	0.10	99	70	130	0	20	
Cadmium	0.0501	mg/L	0.010	100	70	130	0.9	20	
Chromium	0.0504	mg/L	0.050	101	70	130	2.3	20	
Manganese	0.0515	mg/L	0.010	102	70	130	2.7	20	
Molybdenum	0.0759	mg/L	0.10	100	70	130	0	20	
Nickel	0.0504	mg/L	0.050	101	70	130	0	20	
Uranium	0.0602	mg/L	0.00030	102	70	130	1.2	20	
Vanadium	0.0519	mg/L	0.10	102	70	130	0	20	
Zinc	0.0586	mg/L	0.010	98	70	130	0.9	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R112308		
Sample ID: LRB	Method Blank		Run: ICPMS2-C_081215A			12/15/08 14:00			
Aluminum	0.005	mg/L	0.0001						
Silver	4E-05	mg/L	3E-05						
Sample ID: LFB	Laboratory Fortified Blank		Run: ICPMS2-C_081215A			12/15/08 14:07			
Aluminum	0.0518	mg/L	0.0010	94	85	115			
Silver	0.0207	mg/L	0.0010	103	85	115			
Sample ID: C08120114-006BMS4	Sample Matrix Spike		Run: ICPMS2-C_081215A			12/15/08 16:57			
Aluminum	0.0509	mg/L	0.10	97	70	130			
Silver	0.0124	mg/L	0.010	62	70	130			S
Sample ID: C08120114-006BMSD4	Sample Matrix Spike Duplicate		Run: ICPMS2-C_081215A			12/15/08 17:03			
Aluminum	0.0507	mg/L	0.10	97	70	130	0	20	
Silver	0.0129	mg/L	0.010	65	70	130	4.5	20	S
Method: E300.0							Batch: R112242		
Sample ID: LCS	Laboratory Control Sample		Run: IC1-C_081212A			12/12/08 15:25			
Chloride	10.0	mg/L	1.0	100	90	110			
Sulfate	40.7	mg/L	1.0	102	90	110			
Sample ID: MBLK	Method Blank		Run: IC1-C_081212A			12/12/08 15:40			
Chloride	ND	mg/L	0.02						
Sulfate	ND	mg/L	0.06						
Sample ID: C08120345-004AMS	Sample Matrix Spike		Run: IC1-C_081212A			12/13/08 00:09			
Chloride	53.1	mg/L	1.0	100	90	110			
Sulfate	231	mg/L	1.0	97	90	110			
Sample ID: C08120345-004AMSD	Sample Matrix Spike Duplicate		Run: IC1-C_081212A			12/13/08 00:24			
Chloride	53.5	mg/L	1.0	101	90	110	0.8	20	
Sulfate	233	mg/L	1.0	98	90	110	0.9	20	
Method: E350.1							Batch: B_R122286		
Sample ID: MBLK	Method Blank		Run: SUB-B122286			12/17/08 13:13			
Nitrogen, Ammonia as N	ND	mg/L	0.02						
Sample ID: LFB	Laboratory Fortified Blank		Run: SUB-B122286			12/17/08 13:15			
Nitrogen, Ammonia as N	1.02	mg/L	0.10	103	90	110			
Sample ID: C08120345-004E	Sample Matrix Spike		Run: SUB-B122286			12/17/08 14:20			
Nitrogen, Ammonia as N	1.01	mg/L	0.10	103	90	110			
Sample ID: C08120345-004E	Sample Matrix Spike Duplicate		Run: SUB-B122286			12/17/08 14:21			
Nitrogen, Ammonia as N	0.949	mg/L	0.10	97	90	110	6.3	10	

## Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1							Batch: B_R122334		
Sample ID: MBLK	Method Blank					Run: SUB-B122334			12/18/08 09:40
Nitrogen, Ammonia as N	ND	mg/L	0.02						
Sample ID: LFB	Laboratory Fortified Blank					Run: SUB-B122334			12/18/08 09:42
Nitrogen, Ammonia as N	1.03	mg/L	0.10	104	90	110			
Sample ID: B08121052-001CMS	Sample Matrix Spike					Run: SUB-B122334			12/18/08 10:04
Nitrogen, Ammonia as N	0.874	mg/L	0.10	89	90	110			S
Sample ID: B08121052-001CMSD	Sample Matrix Spike Duplicate					Run: SUB-B122334			12/18/08 10:05
Nitrogen, Ammonia as N	0.881	mg/L	0.10	90	90	110	0.8	10	
Method: E351.2							Batch: B_R122243		
Sample ID: MBLK	Method Blank					Run: SUB-B122243			12/17/08 08:26
Nitrogen, Kjeldahl, Total as N	ND	mg/L	0.1						
Sample ID: LFB	Laboratory Fortified Blank					Run: SUB-B122243			12/17/08 08:26
Nitrogen, Kjeldahl, Total as N	5.08	mg/L	0.50	102	90	110			
Sample ID: B08121198-001AMS	Sample Matrix Spike					Run: SUB-B122243			12/17/08 08:39
Nitrogen, Kjeldahl, Total as N	5.56	mg/L	0.50	84	90	110			S
Sample ID: B08121198-001AMSD	Sample Matrix Spike Duplicate					Run: SUB-B122243			12/17/08 08:39
Nitrogen, Kjeldahl, Total as N	4.89	mg/L	0.50	70	90	110	13	10	SR
Method: E351.2							Batch: B_R122606		
Sample ID: MBLK	Method Blank					Run: SUB-B122606			12/24/08 10:00
Nitrogen, Kjeldahl, Total as N	ND	mg/L	0.1						
Sample ID: LFB	Laboratory Fortified Blank					Run: SUB-B122606			12/24/08 10:01
Nitrogen, Kjeldahl, Total as N	5.16	mg/L	0.50	103	90	110			
Sample ID: B08121662-001CMS	Sample Matrix Spike					Run: SUB-B122606			12/24/08 10:13
Nitrogen, Kjeldahl, Total as N	9.92	mg/L	0.50	108	90	110			
Sample ID: B08121662-001CMSD	Sample Matrix Spike Duplicate					Run: SUB-B122606			12/24/08 10:14
Nitrogen, Kjeldahl, Total as N	9.85	mg/L	0.50	106	90	110	0.7	10	

### Qualifiers:

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

**Client:** UR Energy USA Inc

**Report Date:** 02/03/09

**Project:** Lost Creek Test Well No. 1

**Work Order:** C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E353.2</b>							Batch: B_R122260		
<b>Sample ID: MBLK</b>	Method Blank		Run: SUB-B122260				12/17/08 09:40		
Nitrogen, Nitrate+Nitrite as N	0.004	mg/L	0.002						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank		Run: SUB-B122260				12/17/08 09:42		
Nitrogen, Nitrate+Nitrite as N	0.976	mg/L	0.050	99	90	110			
<b>Sample ID: B08121059-001CMS</b>	Sample Matrix Spike		Run: SUB-B122260				12/17/08 12:21		
Nitrogen, Nitrate+Nitrite as N	1.59	mg/L	0.050	106	90	110			
<b>Sample ID: B08121059-001CMSD</b>	Sample Matrix Spike Duplicate		Run: SUB-B122260				12/17/08 12:23		
Nitrogen, Nitrate+Nitrite as N	1.59	mg/L	0.050	106	90	110	0.1	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112391		
Sample ID: 121608_LCS_3	Laboratory Control Sample			Run: SATURNCA_081216A			12/16/08 10:58		
1,1,1,2-Tetrachloroethane	8.60	ug/L	1.0	86	70	130			
1,1,1-Trichloroethane	11.6	ug/L	1.0	116	70	130			
1,1,2,2-Tetrachloroethane	10.1	ug/L	1.0	101	70	130			
1,1,2-Trichloroethane	12.2	ug/L	1.0	122	70	130			
1,1-Dichloroethane	10.7	ug/L	1.0	107	70	130			
1,1-Dichloroethene	11.8	ug/L	1.0	118	70	130			
1,1-Dichloropropene	10.8	ug/L	1.0	108	70	130			
1,2,3-Trichloropropane	11.2	ug/L	1.0	112	70	130			
1,2-Dibromoethane	11.0	ug/L	1.0	110	70	130			
1,2-Dichlorobenzene	9.76	ug/L	1.0	98	70	130			
1,2-Dichloroethane	11.5	ug/L	1.0	115	70	130			
1,2-Dichloropropane	9.80	ug/L	1.0	98	70	130			
1,3-Dichlorobenzene	10.6	ug/L	1.0	106	70	130			
1,3-Dichloropropane	9.80	ug/L	1.0	98	70	130			
1,4-Dichlorobenzene	9.92	ug/L	1.0	99	70	130			
2,2-Dichloropropane	10.4	ug/L	1.0	104	70	130			
2-Chloroethyl vinyl ether	9.40	ug/L	1.0	94	70	130			
2-Chlorotoluene	10.9	ug/L	1.0	109	70	130			
4-Chlorotoluene	11.3	ug/L	1.0	113	70	130			
Benzene	11.9	ug/L	1.0	119	70	130			
Bromobenzene	9.04	ug/L	1.0	90	70	130			
Bromochloromethane	10.3	ug/L	1.0	103	70	130			
Bromodichloromethane	11.1	ug/L	1.0	111	70	130			
Bromoform	10.2	ug/L	1.0	102	70	130			
Bromomethane	11.1	ug/L	1.0	111	70	130			
Carbon tetrachloride	10.7	ug/L	1.0	107	70	130			
Chlorobenzene	11.1	ug/L	1.0	111	70	130			
Chlorodibromomethane	11.4	ug/L	1.0	114	70	130			
Chloroethane	11.6	ug/L	1.0	116	70	130			
Chloroform	12.4	ug/L	1.0	124	70	130			
Chloromethane	9.96	ug/L	1.0	100	70	130			
cis-1,2-Dichloroethene	10.4	ug/L	1.0	104	70	130			
cis-1,3-Dichloropropene	10.7	ug/L	1.0	107	70	130			
Dibromomethane	10.2	ug/L	1.0	102	70	130			
Dichlorodifluoromethane	8.04	ug/L	1.0	80	70	130			
Ethylbenzene	10.2	ug/L	1.0	102	70	130			
m+p-Xylenes	20.7	ug/L	1.0	103	70	130			
Methyl ethyl ketone	109	ug/L	20	109	70	130			
Methylene chloride	11.2	ug/L	1.0	112	70	130			
o-Xylene	10.0	ug/L	1.0	100	70	130			
Styrene	10.0	ug/L	1.0	100	70	130			
Tetrachloroethene	12.2	ug/L	1.0	122	70	130			
Toluene	11.0	ug/L	1.0	110	70	130			
trans-1,2-Dichloroethene	9.80	ug/L	1.0	98	70	130			
trans-1,3-Dichloropropene	11.1	ug/L	1.0	111	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112391		
Sample ID: 121608_LCS_3	Laboratory Control Sample			Run: SATURNCA_081216A			12/16/08 10:58		
Trichloroethene	11.2	ug/L	1.0	112	70	130			
Trichlorofluoromethane	10.8	ug/L	1.0	108	70	130			
Vinyl chloride	8.80	ug/L	1.0	88	70	130			
Xylenes, Total	30.7	ug/L	1.0	102	70	130			
Surr: 1,2-Dichlorobenzene-d4			1.0	97	80	120			
Surr: Dibromofluoromethane			1.0	110	80	120			
Surr: p-Bromofluorobenzene			1.0	92	80	120			
Surr: Toluene-d8			1.0	105	80	120			
Sample ID: 121608_MBLK_6	Method Blank			Run: SATURNCA_081216A			12/16/08 12:54		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 02/03/09  
**Work Order:** C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112391		
Sample ID: 121608_MBLK_6	Method Blank		Run: SATURNCA_081216A				12/16/08 12:54		
Ethylbenzene	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4			1.0	82	80	120			
Surr: Dibromofluoromethane			1.0	125	80	120			S
Surr: p-Bromofluorobenzene			1.0	83	80	120			
Surr: Toluene-d8			1.0	97	80	120			
Sample ID: C08120439-003BMS							Run: SATURNCA_081216A		
Sample Matrix Spike		12/16/08 23:54							
1,1,1,2-Tetrachloroethane	195	ug/L	20	98	70	130			
1,1,1-Trichloroethane	217	ug/L	20	108	70	130			
1,1,2,2-Tetrachloroethane	178	ug/L	20	89	70	130			
1,1,2-Trichloroethane	218	ug/L	20	109	70	130			
1,1-Dichloroethane	192	ug/L	20	96	70	130			
1,1-Dichloroethene	221	ug/L	20	110	70	130			
1,1-Dichloropropene	207	ug/L	20	104	70	130			
1,2,3-Trichloropropane	227	ug/L	20	114	70	130			
1,2-Dibromoethane	197	ug/L	20	98	70	130			
1,2-Dichlorobenzene	177	ug/L	20	88	70	130			
1,2-Dichloroethane	240	ug/L	20	120	70	130			
1,2-Dichloropropane	206	ug/L	20	103	70	130			
1,3-Dichlorobenzene	202	ug/L	20	101	70	130			
1,3-Dichloropropane	189	ug/L	20	94	70	130			
1,4-Dichlorobenzene	194	ug/L	20	97	70	130			
2,2-Dichloropropane	106	ug/L	20	53	70	130			S
2-Chloroethyl vinyl ether	189	ug/L	20	94	70	130			
2-Chlorotoluene	222	ug/L	20	111	70	130			
4-Chlorotoluene	231	ug/L	20	116	70	130			
Benzene	229	ug/L	20	114	70	130			
Bromobenzene	187	ug/L	20	94	70	130			
Bromochloromethane	186	ug/L	20	93	70	130			
Bromodichloromethane	224	ug/L	20	112	70	130			
Bromoform	195	ug/L	20	98	70	130			
Bromomethane	197	ug/L	20	98	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
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Method: E624

Batch: R112391

Sample ID: C08120439-003BMS

Sample Matrix Spike

Run: SATURNCA\_081216A

12/16/08 23:17

Carbon tetrachloride	219	ug/L	20	110	70	130			
Chlorobenzene	210	ug/L	20	105	70	130			
Chlorodibromomethane	206	ug/L	20	103	70	130			
Chloroethane	236	ug/L	20	118	70	130			
Chloroform	250	ug/L	20	125	70	130			
Chloromethane	179	ug/L	20	90	70	130			
cis-1,2-Dichloroethene	211	ug/L	20	106	70	130			
cis-1,3-Dichloropropene	199	ug/L	20	100	70	130			
Dibromomethane	210	ug/L	20	105	70	130			
Dichlorodifluoromethane	159	ug/L	20	80	70	130			
Ethylbenzene	174	ug/L	20	87	70	130			
m+p-Xylenes	357	ug/L	20	89	70	130			
Methyl ethyl ketone	2340	ug/L	400	117	70	130			
Methylene chloride	237	ug/L	20	118	70	130			
o-Xylene	176	ug/L	20	88	70	130			
Styrene	196	ug/L	20	98	70	130			
Tetrachloroethene	203	ug/L	20	102	70	130			
Toluene	206	ug/L	20	103	70	130			
trans-1,2-Dichloroethene	210	ug/L	20	105	70	130			
trans-1,3-Dichloropropene	202	ug/L	20	101	70	130			
Trichloroethene	225	ug/L	20	112	70	130			
Trichlorofluoromethane	214	ug/L	20	107	70	130			
Vinyl chloride	167	ug/L	20	84	70	130			
Xylenes, Total	533	ug/L	20	89	70	130			
Surr: 1,2-Dichlorobenzene-d4			20	94	80	120			
Surr: Dibromofluoromethane			20	109	80	120			
Surr: p-Bromofluorobenzene			20	94	80	120			
Surr: Toluene-d8			20	99	80	120			

Sample ID: C08120439-003BMSD

Sample Matrix Spike Duplicate

Run: SATURNCA\_081216A

12/16/08 23:55

1,1,1,2-Tetrachloroethane	217	ug/L	20	108	70	130	10	20	
1,1,1-Trichloroethane	203	ug/L	20	102	70	130	6.5	20	
1,1,2,2-Tetrachloroethane	198	ug/L	20	99	70	130	10	20	
1,1,2-Trichloroethane	216	ug/L	20	108	70	130	1.1	20	
1,1-Dichloroethane	186	ug/L	20	93	70	130	3	20	
1,1-Dichloroethene	196	ug/L	20	98	70	130	12	20	
1,1-Dichloropropene	194	ug/L	20	97	70	130	6.4	20	
1,2,3-Trichloropropane	283	ug/L	20	142	70	130	22	20	SR
1,2-Dibromoethane	198	ug/L	20	99	70	130	0.4	20	
1,2-Dichlorobenzene	182	ug/L	20	91	70	130	2.7	20	
1,2-Dichloroethane	213	ug/L	20	106	70	130	12	20	
1,2-Dichloropropane	203	ug/L	20	102	70	130	1.2	20	
1,3-Dichlorobenzene	207	ug/L	20	104	70	130	2.3	20	
1,3-Dichloropropane	193	ug/L	20	96	70	130	2.1	20	
1,4-Dichlorobenzene	181	ug/L	20	90	70	130	6.8	20	

### Qualifiers:

RL - Analyte reporting limit.

R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112391		
Sample ID: C08120439-003BMSD	Sample Matrix Spike Duplicate			Run: SATURNCA_081216A			12/16/08 23:55		
2,2-Dichloropropane	104	ug/L	20	52	70	130	1.5	20	S
2-Chloroethyl vinyl ether	202	ug/L	20	101	70	130	7	20	
2-Chlorotoluene	219	ug/L	20	110	70	130	1.4	20	
4-Chlorotoluene	220	ug/L	20	110	70	130	5	20	
Benzene	232	ug/L	20	116	70	130	1.4	20	
Bromobenzene	197	ug/L	20	98	70	130	5	20	
Bromochloromethane	194	ug/L	20	97	70	130	3.8	20	
Bromodichloromethane	227	ug/L	20	114	70	130	1.4	20	
Bromoform	202	ug/L	20	101	70	130	3.2	20	
Bromomethane	216	ug/L	20	108	70	130	9.3	20	
Carbon tetrachloride	191	ug/L	20	96	70	130	14	20	
Chlorobenzene	221	ug/L	20	110	70	130	5.2	20	
Chlorodibromomethane	210	ug/L	20	105	70	130	1.5	20	
Chloroethane	219	ug/L	20	110	70	130	7.4	20	
Chloroform	226	ug/L	20	113	70	130	10	20	
Chloromethane	164	ug/L	20	82	70	130	8.9	20	
cis-1,2-Dichloroethene	188	ug/L	20	94	70	130	12	20	
cis-1,3-Dichloropropene	196	ug/L	20	98	70	130	1.6	20	
Dibromomethane	218	ug/L	20	109	70	130	3.7	20	
Dichlorodifluoromethane	172	ug/L	20	86	70	130	7.7	20	
Ethylbenzene	194	ug/L	20	97	70	130	11	20	
m+p-Xylenes	359	ug/L	20	90	70	130	0.7	20	
Methyl ethyl ketone	2110	ug/L	400	106	70	130	10	20	
Methylene chloride	211	ug/L	20	106	70	130	11	20	
o-Xylene	178	ug/L	20	89	70	130	1.4	20	
Styrene	190	ug/L	20	95	70	130	2.9	20	
Tetrachloroethene	217	ug/L	20	108	70	130	6.5	20	
Toluene	226	ug/L	20	113	70	130	8.9	20	
trans-1,2-Dichloroethene	190	ug/L	20	95	70	130	10	20	
trans-1,3-Dichloropropene	194	ug/L	20	97	70	130	3.6	20	
Trichloroethene	234	ug/L	20	117	70	130	3.8	20	
Trichlorofluoromethane	190	ug/L	20	95	70	130	11	20	
Vinyl chloride	176	ug/L	20	88	70	130	5.1	20	
Xylenes, Total	538	ug/L	20	90	70	130	0.9	20	
Surr: 1,2-Dichlorobenzene-d4			20	96	80	120			
Surr: Dibromofluoromethane			20	100	80	120			
Surr: p-Bromofluorobenzene			20	92	80	120			
Surr: Toluene-d8			20	107	80	120			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: 121708_LCS_3		Laboratory Control Sample			Run: SATURNCA_081217A		12/17/08 11:24		
1,1,1,2-Tetrachloroethane	8.76	ug/L	1.0	88	70	130			
1,1,1-Trichloroethane	10.9	ug/L	1.0	109	70	130			
1,1,2,2-Tetrachloroethane	10.9	ug/L	1.0	109	70	130			
1,1,2-Trichloroethane	10.8	ug/L	1.0	108	70	130			
1,1-Dichloroethane	10.2	ug/L	1.0	102	70	130			
1,1-Dichloroethene	10.5	ug/L	1.0	105	70	130			
1,1-Dichloropropene	11.1	ug/L	1.0	111	70	130			
1,2,3-Trichloropropane	12.7	ug/L	1.0	127	70	130			
1,2-Dibromoethane	9.64	ug/L	1.0	96	70	130			
1,2-Dichlorobenzene	10.0	ug/L	1.0	100	70	130			
1,2-Dichloroethane	11.2	ug/L	1.0	112	70	130			
1,2-Dichloropropane	9.72	ug/L	1.0	97	70	130			
1,3-Dichlorobenzene	12.0	ug/L	1.0	120	70	130			
1,3-Dichloropropane	9.44	ug/L	1.0	94	70	130			
1,4-Dichlorobenzene	11.3	ug/L	1.0	113	70	130			
2,2-Dichloropropane	10.2	ug/L	1.0	102	70	130			
2-Chloroethyl vinyl ether	8.60	ug/L	1.0	86	70	130			
2-Chlorotoluene	12.0	ug/L	1.0	120	70	130			
4-Chlorotoluene	12.0	ug/L	1.0	120	70	130			
Benzene	11.7	ug/L	1.0	117	70	130			
Bromobenzene	10.2	ug/L	1.0	102	70	130			
Bromochloromethane	10.9	ug/L	1.0	109	70	130			
Bromodichloromethane	11.1	ug/L	1.0	111	70	130			
Bromoform	9.56	ug/L	1.0	96	70	130			
Bromomethane	10.6	ug/L	1.0	106	70	130			
Carbon tetrachloride	10.3	ug/L	1.0	103	70	130			
Chlorobenzene	10.5	ug/L	1.0	105	70	130			
Chlorodibromomethane	10.6	ug/L	1.0	106	70	130			
Chloroethane	10.7	ug/L	1.0	107	70	130			
Chloroform	12.7	ug/L	1.0	127	70	130			
Chloromethane	8.84	ug/L	1.0	88	70	130			
cis-1,2-Dichloroethene	10.1	ug/L	1.0	101	70	130			
cis-1,3-Dichloropropene	9.64	ug/L	1.0	96	70	130			
Dibromomethane	9.92	ug/L	1.0	99	70	130			
Dichlorodifluoromethane	7.16	ug/L	1.0	72	70	130			
Ethylbenzene	8.96	ug/L	1.0	90	70	130			
m+p-Xylenes	18.6	ug/L	1.0	93	70	130			
Methyl ethyl ketone	120	ug/L	20	120	70	130			
Methylene chloride	11.0	ug/L	1.0	110	70	130			
o-Xylene	8.72	ug/L	1.0	87	70	130			
Styrene	9.76	ug/L	1.0	98	70	130			
Tetrachloroethene	10.8	ug/L	1.0	108	70	130			
Toluene	9.84	ug/L	1.0	98	70	130			
trans-1,2-Dichloroethene	10.0	ug/L	1.0	100	70	130			
trans-1,3-Dichloropropene	11.0	ug/L	1.0	110	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 02/03/09  
**Work Order:** C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
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**Method:** E624

Batch: R112454

**Sample ID:** 121708\_LCS\_3

Laboratory Control Sample

Run: SATURNCA\_081217A

12/17/08 11:24

Trichloroethene	10.9	ug/L	1.0	109	70	130			
Trichlorofluoromethane	10.5	ug/L	1.0	105	70	130			
Vinyl chloride	8.16	ug/L	1.0	82	70	130			
Xylenes, Total	27.3	ug/L	1.0	91	70	130			
Surr: 1,2-Dichlorobenzene-d4			1.0	104	80	120			
Surr: Dibromofluoromethane			1.0	110	80	120			
Surr: p-Bromofluorobenzene			1.0	101	80	120			
Surr: Toluene-d8			1.0	93	80	120			

**Sample ID:** 121708\_MBLK\_6

Method Blank

Run: SATURNCA\_081217A

12/17/08 13:18

1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: 121708_MBLK_6	Method Blank		Run: SATURNCA_081217A				12/17/08 13:18		
Ethylbenzene	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4			1.0	103	80	120			
Surr: Dibromofluoromethane			1.0	117	80	120			
Surr: p-Bromofluorobenzene			1.0	103	80	120			
Surr: Toluene-d8			1.0	101	80	120			
Sample ID: C08120345-007HMS							Run: SATURNCA_081217A		
Sample Matrix Spike							12/17/08 18:49		
1,1,1,2-Tetrachloroethane	158	ug/L	20	79	70	130			
1,1,1-Trichloroethane	198	ug/L	20	99	70	130			
1,1,2,2-Tetrachloroethane	182	ug/L	20	91	70	130			
1,1,2-Trichloroethane	220	ug/L	20	110	70	130			
1,1-Dichloroethane	182	ug/L	20	91	70	130			
1,1-Dichloroethene	200	ug/L	20	100	70	130			
1,1-Dichloropropene	210	ug/L	20	105	70	130			
1,2,3-Trichloropropane	259	ug/L	20	130	70	130			
1,2-Dibromoethane	192	ug/L	20	96	70	130			
1,2-Dichlorobenzene	190	ug/L	20	95	70	130			
1,2-Dichloroethane	213	ug/L	20	106	70	130			
1,2-Dichloropropane	183	ug/L	20	92	70	130			
1,3-Dichlorobenzene	222	ug/L	20	111	70	130			
1,3-Dichloropropane	182	ug/L	20	91	70	130			
1,4-Dichlorobenzene	207	ug/L	20	104	70	130			
2,2-Dichloropropane	187	ug/L	20	94	70	130			
2-Chloroethyl vinyl ether	111	ug/L	20	56	70	130			S
2-Chlorotoluene	230	ug/L	20	115	70	130			
4-Chlorotoluene	232	ug/L	20	116	70	130			
Benzene	230	ug/L	20	115	70	130			
Bromobenzene	197	ug/L	20	98	70	130			
Bromochloromethane	209	ug/L	20	104	70	130			
Bromodichloromethane	214	ug/L	20	107	70	130			
Bromoform	197	ug/L	20	98	70	130			
Bromomethane	194	ug/L	20	97	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: C08120345-007HMS	Sample Matrix Spike		Run: SATURNCA_081217A				12/17/08 18:49		
Carbon tetrachloride	197	ug/L	20	98	70	130			
Chlorobenzene	203	ug/L	20	102	70	130			
Chlorodibromomethane	206	ug/L	20	103	70	130			
Chloroethane	214	ug/L	20	107	70	130			
Chloroform	238	ug/L	20	113	70	130			
Chloromethane	174	ug/L	20	87	70	130			
cis-1,2-Dichloroethene	200	ug/L	20	100	70	130			
cis-1,3-Dichloropropene	198	ug/L	20	99	70	130			
Dibromomethane	208	ug/L	20	104	70	130			
Dichlorodifluoromethane	142	ug/L	20	71	70	130			
Ethylbenzene	171	ug/L	20	86	70	130			
m+p-Xylenes	356	ug/L	20	89	70	130			
Methyl ethyl ketone	2060	ug/L	400	103	70	130			
Methylene chloride	190	ug/L	20	95	70	130			
o-Xylene	188	ug/L	20	94	70	130			
Styrene	197	ug/L	20	98	70	130			
Tetrachloroethene	226	ug/L	20	113	70	130			
Toluene	214	ug/L	20	107	70	130			
trans-1,2-Dichloroethene	178	ug/L	20	89	70	130			
trans-1,3-Dichloropropene	213	ug/L	20	106	70	130			
Trichloroethene	218	ug/L	20	109	70	130			
Trichlorofluoromethane	195	ug/L	20	98	70	130			
Vinyl chloride	145	ug/L	20	72	70	130			
Xylenes, Total	544	ug/L	20	91	70	130			
Surr: 1,2-Dichlorobenzene-d4			20	99	80	120			
Surr: Dibromofluoromethane			20	99	80	120			
Surr: p-Bromofluorobenzene			20	101	80	120			
Surr: Toluene-d8			20	100	80	120			
Sample ID: C08120345-007HMSD	Sample Matrix Spike Duplicate		Run: SATURNCA_081217A				12/17/08 19:27		
1,1,1,2-Tetrachloroethane	170	ug/L	20	85	70	130	7.3	20	
1,1,1-Trichloroethane	206	ug/L	20	103	70	130	4	20	
1,1,2,2-Tetrachloroethane	188	ug/L	20	94	70	130	3.5	20	
1,1,2-Trichloroethane	209	ug/L	20	104	70	130	5.2	20	
1,1-Dichloroethane	194	ug/L	20	97	70	130	6	20	
1,1-Dichloroethene	207	ug/L	20	104	70	130	3.5	20	
1,1-Dichloropropene	206	ug/L	20	103	70	130	1.5	20	
1,2,3-Trichloropropane	294	ug/L	20	147	70	130	12	20	S
1,2-Dibromoethane	201	ug/L	20	100	70	130	4.5	20	
1,2-Dichlorobenzene	190	ug/L	20	95	70	130	0	20	
1,2-Dichloroethane	208	ug/L	20	104	70	130	2.3	20	
1,2-Dichloropropane	202	ug/L	20	101	70	130	9.6	20	
1,3-Dichlorobenzene	224	ug/L	20	112	70	130	0.7	20	
1,3-Dichloropropane	185	ug/L	20	92	70	130	1.7	20	
1,4-Dichlorobenzene	189	ug/L	20	94	70	130	9.3	20	

## Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 02/03/09

Project: Lost Creek Test Well No. 1

Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: C08120345-007HMSD			Sample Matrix Spike Duplicate			Run: SATURNCA_081217A		12/17/08 19:27	
2,2-Dichloropropane	188	ug/L	20	94	70	130	0.4	20	
2-Chloroethyl vinyl ether	102	ug/L	20	51	70	130	9	20	S
2-Chlorotoluene	226	ug/L	20	113	70	130	2.1	20	
4-Chlorotoluene	217	ug/L	20	108	70	130	6.8	20	
Benzene	228	ug/L	20	114	70	130	0.7	20	
Bromobenzene	191	ug/L	20	96	70	130	2.9	20	
Bromochloromethane	197	ug/L	20	98	70	130	5.9	20	
Bromodichloromethane	224	ug/L	20	112	70	130	4.4	20	
Bromoform	197	ug/L	20	98	70	130	0	20	
Bromomethane	246	ug/L	20	123	70	130	23	20	R
Carbon tetrachloride	198	ug/L	20	99	70	130	0.8	20	
Chlorobenzene	208	ug/L	20	104	70	130	2.3	20	
Chlorodibromomethane	218	ug/L	20	109	70	130	5.6	20	
Chloroethane	219	ug/L	20	110	70	130	2.6	20	
Chloroform	245	ug/L	20	116	70	130	3	20	
Chloromethane	165	ug/L	20	82	70	130	5.2	20	
cis-1,2-Dichloroethene	206	ug/L	20	103	70	130	3.1	20	
cis-1,3-Dichloropropene	210	ug/L	20	105	70	130	5.9	20	
Dibromomethane	201	ug/L	20	100	70	130	3.5	20	
Dichlorodifluoromethane	166	ug/L	20	83	70	130	15	20	
Ethylbenzene	180	ug/L	20	90	70	130	5	20	
m+p-Xylenes	365	ug/L	20	91	70	130	2.4	20	
Methyl ethyl ketone	2050	ug/L	400	102	70	130	0.8	20	
Methylene chloride	212	ug/L	20	106	70	130	11	20	
o-Xylene	188	ug/L	20	94	70	130	0	20	
Styrene	206	ug/L	20	103	70	130	4.4	20	
Tetrachloroethene	225	ug/L	20	112	70	130	0.4	20	
Toluene	226	ug/L	20	113	70	130	5.4	20	
trans-1,2-Dichloroethene	198	ug/L	20	99	70	130	11	20	
trans-1,3-Dichloropropene	207	ug/L	20	104	70	130	2.7	20	
Trichloroethene	222	ug/L	20	111	70	130	2.2	20	
Trichlorofluoromethane	202	ug/L	20	101	70	130	3.6	20	
Vinyl chloride	170	ug/L	20	85	70	130	16	20	
Xylenes, Total	553	ug/L	20	92	70	130	1.6	20	
Surr: 1,2-Dichlorobenzene-d4			20	93	80	120			
Surr: Dibromofluoromethane			20	106	80	120			
Surr: p-Bromofluorobenzene			20	93	80	120			
Surr: Toluene-d8			20	102	80	120			

### Qualifiers:

RL - Analyte reporting limit.

R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0							Batch: GrAB-0586		
Sample ID: MB-GrAB-0586	Method Blank				Run: G5000W_081231A				01/05/09 22:09
Gross Alpha	-0.2	pCi/L							U
Gross Beta	-1	pCi/L							U
Sample ID: UNAT-GrAB-0586	Laboratory Control Sample				Run: G5000W_081231A				01/05/09 22:09
Gross Alpha	140	pCi/L	104		70	130			
Sample ID: Cs137-GrAB-0586	Laboratory Control Sample				Run: G5000W_081231A				01/05/09 22:09
Gross Beta	85	pCi/L	92		70	130			
Sample ID: C08120345-006CMS	Sample Matrix Spike				Run: G5000W_081231A				01/05/09 22:09
Gross Alpha	119	pCi/L	87		70	130			
Sample ID: C08120345-006CMSD	Sample Matrix Spike Duplicate				Run: G5000W_081231A				01/05/09 22:09
Gross Alpha	131	pCi/L	95		70	130	9.4	16.2	
Sample ID: C08120345-006CMS	Sample Matrix Spike				Run: G5000W_081231A				01/05/09 22:09
Gross Beta	93.8	pCi/L	103		70	130			
Sample ID: C08120345-006CMSD	Sample Matrix Spike Duplicate				Run: G5000W_081231A				01/06/09 10:29
Gross Beta	80.9	pCi/L	89		70	130	15	16.2	
Method: E900.0							Batch: GrAB-0596		
Sample ID: MB-GrAB-0596	Method Blank				Run: G5000W_090120A				01/23/09 04:46
Gross Alpha	-0.08	pCi/L							U
Gross Alpha precision ( $\pm$ )	0.5	pCi/L							
Gross Alpha MDC	0.5	pCi/L							
Gross Beta	-2	pCi/L							U
Gross Beta precision ( $\pm$ )	2	pCi/L							
Gross Beta MDC	2	pCi/L							
Sample ID: UNAT-GrAB-0596	Laboratory Control Sample				Run: G5000W_090120A				01/23/09 04:46
Gross Alpha	120	pCi/L	89		70	130			
Sample ID: Cs137-GrAB-0596	Laboratory Control Sample				Run: G5000W_090120A				01/23/09 04:46
Gross Beta	85	pCi/L	94		70	130			
Sample ID: C09010250-009CMS	Sample Matrix Spike				Run: G5000W_090120A				01/23/09 04:46
Gross Alpha	228	pCi/L	111		70	130			
Sample ID: C09010250-009CMSD	Sample Matrix Spike Duplicate				Run: G5000W_090120A				01/23/09 04:46
Gross Alpha	199	pCi/L	92		70	130	14	17.5	
Sample ID: C09010250-009CMS	Sample Matrix Spike				Run: G5000W_090120A				01/24/09 11:28
Gross Beta	111	pCi/L	92		70	130			
Sample ID: C09010250-009CMSD	Sample Matrix Spike Duplicate				Run: G5000W_090120A				01/24/09 11:28
Gross Beta	116	pCi/L	97		70	130	4.8	16	

## Qualifiers:

RL - Analyte reporting limit.

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 02/03/09  
Work Order: C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E903.0							Batch: RA226-3331		
Sample ID: C08120345-004CMS Radium 226	Sample Matrix Spike 16	pCi/L		103	70	130			01/05/09 12:11
Run: BERTHOLD 770-1_081217A									
Sample ID: C08120345-004CMSD Radium 226	Sample Matrix Spike Duplicate 16	pCi/L		100	70	130	4	23.5	01/05/09 12:11
Run: BERTHOLD 770-1_081217A									
Sample ID: MB-RA226-3331 Radium 226	Method Blank -0.06	pCi/L							01/05/09 14:05 U
Run: BERTHOLD 770-1_081217A									
Sample ID: LCS-RA226-3331 Radium 226	Laboratory Control Sample 8.7	pCi/L		111	70	130			01/05/09 14:05
Run: BERTHOLD 770-1_081217A									
Method: E903.0							Batch: RA226-3343		
Sample ID: C08120790-001DMS Radium 226	Sample Matrix Spike 47	pCi/L		102	70	130			01/11/09 22:44
Run: TENNELEC-2_081226A									
Sample ID: C08120790-001DMSD Radium 226	Sample Matrix Spike Duplicate 50	pCi/L		116	70	130	4.2	18.2	01/12/09 00:14
Run: TENNELEC-2_081226A									
Sample ID: MB-RA226-3343 Radium 226	Method Blank 0.02	pCi/L							01/12/09 08:23 U
Run: TENNELEC-2_081226A									
Sample ID: LCS-RA226-3343 Radium 226	Laboratory Control Sample 8.2	pCi/L		104	70	130			01/12/09 09:53
Run: TENNELEC-2_081226A									
Method: RA-05							Batch: RA228-2452		
Sample ID: LCS-228-RA226-3331 Radium 228	Laboratory Control Sample 8.69	pCi/L		97	70	130			12/30/08 10:37
Run: TENNELEC-3_081217E									
Sample ID: MB-RA226-3331 Radium 228	Method Blank -0.2	pCi/L							12/30/08 10:37 U
Run: TENNELEC-3_081217E									
Sample ID: C08120345-005CMS Radium 228	Sample Matrix Spike 16.4	pCi/L		89	70	130			12/30/08 10:37
Run: TENNELEC-3_081217E									
Sample ID: C08120345-005CMSD Radium 228	Sample Matrix Spike Duplicate 16.9	pCi/L		91	70	130	2.6	33.7	12/30/08 10:37
Run: TENNELEC-3_081217E									

### Qualifiers:

RL - Analyte reporting limit.

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. \* 2393 Salt Creek Hwy (82601) \* PO Box 3258 \* Casper,  
WY 82602

## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 02/03/09  
**Work Order:** C08120345

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> RA-05							Batch: RA228-2462		
<b>Sample ID:</b> LCS-228-RA226-3343	Laboratory Control Sample				Run: TENNELEC-3_081226A		01/05/09 12:27		
Radium 228	9.15	pCi/L		89	70	130			
<b>Sample ID:</b> MB-RA226-3343	Method Blank				Run: TENNELEC-3_081226A		01/05/09 12:27		
Radium 228	1	pCi/L							U
<b>Sample ID:</b> C08120790-002DMS	Sample Matrix Spike				Run: TENNELEC-3_081226A		01/05/09 12:27		
Radium 228	16.5	pCi/L		85	70	130			
<b>Sample ID:</b> C08120790-002DMSD	Sample Matrix Spike Duplicate				Run: TENNELEC-3_081226A		01/05/09 12:27		
Radium 228	17.1	pCi/L		88	70	130	3.6	35.6	

### Qualifiers:

RL - Analyte reporting limit.

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.







# Chain of Custody and Analytical Request Record

Page 1 of 3

PLEASE PRINT- Provide as much information as possible.

Company Name: UR Energy	Project Name, PWS, Permit, Etc. Lost Creek Test Well No. 1	Sample Origin State: WY	EPA/State Compliance: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: 10288 W. Chatfield Ave. Suite 210 Littleton, CO 80127	Contact Name: Wes Janes	Phone/Fax: 303-290-9414	Email: wjanes@petrotek.com
Invoice Address: 5880 Enterprise Dr. Suite 200 Casper, WY 82609	Invoice Contact & Phone: Debbie Hutchins (307) 265-2373	Purchase Order:	Sampler: (Please Print) Matt Hutchison <u>Wes Janes</u>

Special Report/Formats – ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC			Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other	ANALYSIS REQUESTED										SEE ATTACHED	Normal Turnaround (TAT)	R U S H	Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page	Comments:	Shipped by: <u>hand</u>	
				Cooler ID(s): <u>C 2616</u>																
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)			Collection Date	Collection Time	MATRIX													Receipt Temp <u>5</u> °C		
1 <u>2X LCTest</u>			<u>12-8-08</u>	<u>14:00</u>	<u>Water</u>													On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
2 <u>3X LCTest</u>			<u>12-8-08</u>	<u>19:55</u>	<u>Water</u>													Custody Seal Y <input checked="" type="checkbox"/> Intact Y Signature Match Y		
3																		LABORATORY USE ONLY		
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Custody Record MUST be Signed	Relinquished by (print): <u>Wes Janes</u>	Date/Time: <u>12-8-08</u>	Signature: <u>[Signature]</u>	Received by (print): <u>K Ward</u>	Date/Time: <u>12/9/08 1555</u>	Signature: <u>[Signature]</u>
	Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
	Sample Disposal: Return to Client:	Lab Disposal:	Received by Laboratory:	Date/Time:	Signature:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.





**REQUEST FOR BID  
Laboratory Analytical Services**

**UR Energy Lost Creek Test Well  
UR Energy Inc., Sweetwater County, WY**

**Lease/Operator:**

**UR Energy, Inc.**

10758 W. Centennial Road, Suite 200  
Ken Caryl Ranch, CO 80127  
720-981-4588 (general)  
720-981-5643 (fax)

5880 Enterprise Dr. Suite 200  
Casper, WY 82609  
307-265-2373 (o)  
Steve Hatten – Eng. Mgr. (ext. 301)  
[steve.hatten@ur-energyusa.com](mailto:steve.hatten@ur-energyusa.com)

**Location:** Section 25, T25N, R93W Sweetwater County  
Approx. 45 miles NW from Rawlins

**Completion Interval:** Lower Fort Union Formation  
(~11,000 BGL MD; ~ 10,700 TVD)

**PROJECT OBJECTIVES**

The goal of this project is to drill through the Fort Union Formation, run 5 1/2 " casing, and release the rig.

**REQUESTED SERVICES**

**Mud Analyses**

Two sample streams (drilling mud and formation water) will be submitted for analysis. We anticipate 2-6 sets (3 containers per set) of mud samples will be submitted for the following analyses:

VOCs (Method 8260)  
Nitrate, Nitrite, TKN, Ammonia

**Formation Water Analyses**

We anticipate 6-10 formation water samples will be submitted for the following analyses:

Major Ions + Sulfide + H<sub>2</sub>S

# Energy Laboratories Inc

## Workorder Receipt Checklist



C08120345

UR Energy USA Inc

Login completed by: Corinne Wagner

Date and Time Received: 12/9/2008 3:55 PM

Reviewed by: Tabitha Edwards

Received by: kw

Reviewed Date: 12/12/2008 11:23:00 AM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	5°C On Ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

-----  
Contact and Corrective Action Comments:

None



**CLIENT:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Sample Delivery Group:** C08120345

**Date:** 03-Feb-09

## CASE NARRATIVE

### ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

### SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

### GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

### RADON IN AIR ANALYSIS

The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

### SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

### ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505

Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

### SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

### BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT  
eli-g - Energy Laboratories, Inc. - Gillette, WY  
eli-h - Energy Laboratories, Inc. - Helena, MT  
eli-r - Energy Laboratories, Inc. - Rapid City, SD  
eli-t - Energy Laboratories, Inc. - College Station, TX

### CERTIFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA  
Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

### ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER, WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting [www.energylab.com](http://www.energylab.com)

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page [www.energylab.com](http://www.energylab.com).

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT



## ANALYTICAL SUMMARY REPORT

January 27, 2009

UR Energy USA Inc  
10758 W Centennial Rd Ste 200  
Ken Caryl Ranch, CO 80127

Workorder No.: C08120330

Project Name: Lost Creek Test Well No. 1

Energy Laboratories, Inc. received the following 2 samples for UR Energy USA Inc on 12/9/2008 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C08120330-001	EB4B LC Test	12/08/08 21:42	12/09/08	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total Alkalinity QA Calculations Conductivity Sample Filtering Fluoride 1664 Prep Code E1664A Oil & Grease E300.0 Anions Nitrogen, Ammonia Nitrogen, Nitrite Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl pH Metals Preparation by EPA 200.2 Gross Alpha, Gross Beta Radium 226, Dissolved Radium 228, Dissolved Solids, Total Dissolved Sulfide, Iodine Titrimetric E624 Purgeable Organics
C08120330-002	EB4A LC Test	12/08/08 21:35	12/09/08	Aqueous	Same As Above

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By:

*Stephanie Waldrop*





## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-001  
**Client Sample ID:** EB4B LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:42  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	144	mg/L		1		A2320 B	12/11/08 22:04 / ljl
Carbonate as CO <sub>3</sub>	2	mg/L		1		A2320 B	12/11/08 22:04 / ljl
Bicarbonate as HCO <sub>3</sub>	172	mg/L		1		A2320 B	12/11/08 22:04 / ljl
Calcium	63	mg/L		1		E200.7	12/29/08 11:51 / cp
Chloride	4	mg/L		1		E300.0	12/12/08 22:05 / ljl
Fluoride	0.6	mg/L		0.1		A4500-F C	12/12/08 11:50 / ljl
Magnesium	7	mg/L		1		E200.7	12/29/08 11:51 / cp
Nitrogen, Ammonia as N	0.1	mg/L		0.1		E350.1	12/17/08 14:39 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/17/08 08:43 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.22	mg/L		0.05		E353.2	12/17/08 13:35 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:27 / jal
Potassium	4	mg/L		1		E200.7	12/29/08 11:51 / cp
Silica	39.7	mg/L		0.2		E200.7	12/29/08 11:51 / cp
Sodium	12	mg/L	D	2		E200.7	12/29/08 11:51 / cp
Sulfate	44	mg/L		1		E300.0	12/12/08 22:05 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	12/15/08 09:06 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	286	umhos/cm		1		A2510 B	12/10/08 09:27 / dd
pH	7.85	s.u.		0.01		A4500-H B	12/10/08 09:27 / dd
Solids, Total Dissolved TDS @ 180 C	284	mg/L		10		A2540 C	12/10/08 12:22 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/10/08 23:54 / ts
Barium	ND	mg/L		0.1		E200.8	12/10/08 23:54 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 11:51 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/10/08 23:54 / ts
Chromium	ND	mg/L		0.05		E200.8	12/10/08 23:54 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 11:51 / cp
Manganese	ND	mg/L		0.01		E200.8	12/10/08 23:54 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/10/08 23:54 / ts
Nickel	ND	mg/L		0.05		E200.8	12/10/08 23:54 / ts
Silver	ND	mg/L		0.01		E200.8	12/10/08 23:54 / ts
Uranium	0.0057	mg/L		0.0003		E200.8	12/10/08 23:54 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/10/08 23:54 / ts
Zinc	0.03	mg/L		0.01		E200.8	12/10/08 23:54 / ts
<b>METALS - TOTAL</b>							
Iron	3.80	mg/L		0.03		E200.7	12/11/08 22:01 / cp
Manganese	0.05	mg/L		0.01		E200.7	12/11/08 22:01 / cp

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-001  
**Client Sample ID:** EB4B LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:42  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	10.0	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	1.6	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	1.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	4.5	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	1.7	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	2.7	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	0.06	pCi/L	U			E903.0	12/30/08 09:10 / trs
Radium 226 precision (±)	0.1	pCi/L				E903.0	12/30/08 09:10 / trs
Radium 226 MDC	0.15	pCi/L				E903.0	12/30/08 09:10 / trs
Radium 228	-0.3	pCi/L	U			RA-05	12/22/08 08:58 / plj
Radium 228 precision (±)	0.7	pCi/L				RA-05	12/22/08 08:58 / plj
Radium 228 MDC	1.2	pCi/L				RA-05	12/22/08 08:58 / plj
<b>DATA QUALITY</b>							
A/C Balance (± 5)	4.66	%				Calculation	01/02/09 17:00 / sml
Anions	3.96	meq/L				Calculation	01/02/09 17:00 / sml
Cations	4.34	meq/L				Calculation	01/02/09 17:00 / sml
Solids, Total Dissolved Calculated	272	mg/L				Calculation	01/02/09 17:00 / sml
TDS Balance (0.80 - 1.20)	1.04					Calculation	01/02/09 17:00 / sml
<b>VOLATILE ORGANIC COMPOUNDS</b>							
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1-Dichloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1-Dichloroethene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,1-Dichloropropene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,2-Dibromoethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,2-Dichloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,2-Dichloropropane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,3-Dichloropropane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
2,2-Dichloropropane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
2-Chlorotoluene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
4-Chlorotoluene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Benzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Bromobenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Bromochloromethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr

**Report** RL - Analyte reporting limit.

**Definitions:** QCL - Quality control limit.

MDC - Minimum detectable concentration

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-001  
**Client Sample ID:** EB4B LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:42  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromodichloromethane	8.6	ug/L		1.0		E624	12/17/08 22:37 / jlr
Bromoform	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Bromomethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Chlorodibromomethane	5.0	ug/L		1.0		E624	12/17/08 22:37 / jlr
Chloroethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Chloroform	11.5	ug/L		1.0		E624	12/17/08 22:37 / jlr
Chloromethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Dibromomethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Ethylbenzene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
m+p-Xylenes	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	12/17/08 22:37 / jlr
Methylene chloride	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
o-Xylene	1.1	ug/L		1.0		E624	12/17/08 22:37 / jlr
Styrene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Toluene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Trichloroethene	8.1	ug/L		1.0		E624	12/17/08 22:37 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	12/17/08 22:37 / jlr
Xylenes, Total	1.1	ug/L		1.0		E624	12/17/08 22:37 / jlr
Surr: 1,2-Dichlorobenzene-d4	96.0	%REC		80-120		E624	12/17/08 22:37 / jlr
Surr: Dibromofluoromethane	122	%REC	S	80-120		E624	12/17/08 22:37 / jlr
Surr: p-Bromofluorobenzene	94.0	%REC		80-120		E624	12/17/08 22:37 / jlr
Surr: Toluene-d8	101	%REC		80-120		E624	12/17/08 22:37 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	10	mg/L	*	5.1	10	E1664A	12/10/08 09:24 / ph
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#### Report Definitions:

RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
S - Spike recovery outside of advisory limits.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
\* - The result exceeds the MCL.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-002  
**Client Sample ID:** EB4A LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>MAJOR IONS</b>							
Alkalinity, Total as CaCO <sub>3</sub>	139	mg/L		1		A2320 B	12/11/08 22:10 / ljl
Carbonate as CO <sub>3</sub>	ND	mg/L		1		A2320 B	12/11/08 22:10 / ljl
Bicarbonate as HCO <sub>3</sub>	169	mg/L		1		A2320 B	12/11/08 22:10 / ljl
Calcium	62	mg/L		1		E200.7	12/29/08 11:59 / cp
Chloride	4	mg/L		1		E300.0	12/12/08 22:21 / ljl
Fluoride	0.5	mg/L		0.1		A4500-F C	12/12/08 11:52 / ljl
Magnesium	7	mg/L		1		E200.7	12/29/08 11:59 / cp
Nitrogen, Ammonia as N	ND	mg/L		0.1		E350.1	12/17/08 14:40 / eli-b
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	12/17/08 08:44 / eli-b
Nitrogen, Nitrate+Nitrite as N	0.20	mg/L		0.05		E353.2	12/17/08 13:36 / eli-b
Nitrogen, Nitrite as N	ND	mg/L	H	0.1		A4500-NO <sub>2</sub> B	12/11/08 08:27 / jal
Potassium	4	mg/L		1		E200.7	12/29/08 11:59 / cp
Silica	39.1	mg/L		0.2		E200.7	12/29/08 11:59 / cp
Sodium	9	mg/L	D	2		E200.7	12/30/08 16:46 / cp
Sulfate	41	mg/L		1		E300.0	12/12/08 22:21 / ljl
<b>NON-METALS</b>							
Sulfide	3	mg/L		1		A4500-S F	12/15/08 09:10 / jdp
<b>PHYSICAL PROPERTIES</b>							
Conductivity	270	umhos/cm		1		A2510 B	12/10/08 09:30 / dd
pH	7.92	s.u.		0.01		A4500-H B	12/10/08 09:30 / dd
Solids, Total Dissolved TDS @ 180 C	272	mg/L		10		A2540 C	12/10/08 12:22 / sp
<b>METALS - DISSOLVED</b>							
Aluminum	ND	mg/L		0.1		E200.8	12/11/08 00:01 / ts
Barium	ND	mg/L		0.1		E200.8	12/11/08 00:01 / ts
Boron	ND	mg/L		0.1		E200.7	12/29/08 11:59 / cp
Cadmium	ND	mg/L		0.01		E200.8	12/11/08 00:01 / ts
Chromium	ND	mg/L		0.05		E200.8	12/11/08 00:01 / ts
Iron	ND	mg/L		0.03		E200.7	12/29/08 11:59 / cp
Manganese	ND	mg/L		0.01		E200.8	12/11/08 00:01 / ts
Molybdenum	ND	mg/L		0.1		E200.8	12/11/08 00:01 / ts
Nickel	ND	mg/L		0.05		E200.8	12/11/08 00:01 / ts
Silver	ND	mg/L		0.01		E200.8	12/11/08 00:01 / ts
Uranium	0.0040	mg/L		0.0003		E200.8	12/11/08 00:01 / ts
Vanadium	ND	mg/L		0.1		E200.8	12/11/08 00:01 / ts
Zinc	0.05	mg/L		0.01		E200.8	12/11/08 00:01 / ts
<b>METALS - TOTAL</b>							
Iron	0.40	mg/L		0.03		E200.7	12/11/08 22:05 / cp
Manganese	ND	mg/L		0.01		E200.7	12/11/08 22:05 / cp

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
MDC - Minimum detectable concentration  
H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
D - RL increased due to sample matrix interference.



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-002  
**Client Sample ID:** EB4A LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES - DISSOLVED</b>							
Gross Alpha	14	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha precision (±)	3	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Alpha MDC	3	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta	6	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta precision (±)	2	pCi/L				E900.0	01/05/09 22:09 / cgr
Gross Beta MDC	3	pCi/L				E900.0	01/05/09 22:09 / cgr
Radium 226	-0.007	pCi/L	U		E903.0		12/30/08 09:10 / trs
Radium 226 precision (±)	0.09	pCi/L			E903.0		12/30/08 09:10 / trs
Radium 226 MDC	0.16	pCi/L			E903.0		12/30/08 09:10 / trs
Radium 228	-0.7	pCi/L	U		RA-05		12/22/08 08:58 / plj
Radium 228 precision (±)	0.7	pCi/L			RA-05		12/22/08 08:58 / plj
Radium 228 MDC	1.2	pCi/L			RA-05		12/22/08 08:58 / plj

### DATA QUALITY

A/C Balance (± 5)	4.94	%				Calculation	01/02/09 17:01 / sml
Anions	3.78	meq/L				Calculation	01/02/09 17:01 / sml
Cations	4.17	meq/L				Calculation	01/02/09 17:01 / sml
Solids, Total Dissolved Calculated	261	mg/L				Calculation	01/02/09 17:01 / sml
TDS Balance (0.80 - 1.20)	1.04					Calculation	01/02/09 17:01 / sml

### VOLATILE ORGANIC COMPOUNDS

1,1,1,2-Tetrachloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1,1-Trichloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1,2-Trichloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1-Dichloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1-Dichloroethene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,1-Dichloropropene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,2,3-Trichloropropane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,2-Dibromoethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,2-Dichlorobenzene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,2-Dichloroethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,2-Dichloropropane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,3-Dichlorobenzene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,3-Dichloropropane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
1,4-Dichlorobenzene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
2,2-Dichloropropane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
2-Chloroethyl vinyl ether	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
2-Chlorotoluene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
4-Chlorotoluene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
Benzene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
Bromobenzene	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr
Bromochloromethane	ND	ug/L		1.0	E624		12/17/08 23:16 / jlr

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
U - Not detected at minimum detectable concentration



## LABORATORY ANALYTICAL REPORT

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Lab ID:** C08120330-002  
**Client Sample ID:** EB4A LC Test

**Report Date:** 01/27/09  
**Collection Date:** 12/08/08 21:35  
**Date Received:** 12/09/08  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifier	RL	MCL/ QCL	Method	Analysis Date / By
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Bromodichloromethane	8.6	ug/L		1.0		E624	12/17/08 23:16 / jlr
Bromoform	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Bromomethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Carbon tetrachloride	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Chlorobenzene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Chlorodibromomethane	4.9	ug/L		1.0		E624	12/17/08 23:16 / jlr
Chloroethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Chloroform	12.6	ug/L		1.0		E624	12/17/08 23:16 / jlr
Chloromethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Dibromomethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Dichlorodifluoromethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Ethylbenzene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
m+p-Xylenes	1.0	ug/L		1.0		E624	12/17/08 23:16 / jlr
Methyl ethyl ketone	ND	ug/L		20		E624	12/17/08 23:16 / jlr
Methylene chloride	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
o-Xylene	1.3	ug/L		1.0		E624	12/17/08 23:16 / jlr
Styrene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Tetrachloroethene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Toluene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Trichloroethene	3.2	ug/L		1.0		E624	12/17/08 23:16 / jlr
Trichlorofluoromethane	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Vinyl chloride	ND	ug/L		1.0		E624	12/17/08 23:16 / jlr
Xylenes, Total	2.4	ug/L		1.0		E624	12/17/08 23:16 / jlr
Surr: 1,2-Dichlorobenzene-d4	104	%REC		80-120		E624	12/17/08 23:16 / jlr
Surr: Dibromofluoromethane	123	%REC	S	80-120		E624	12/17/08 23:16 / jlr
Surr: p-Bromofluorobenzene	110	%REC		80-120		E624	12/17/08 23:16 / jlr
Surr: Toluene-d8	96.0	%REC		80-120		E624	12/17/08 23:16 / jlr

### ORGANIC CHARACTERISTICS

Oil & Grease (HEM)	ND	mg/L		5.1	10	E1664A	12/10/08 09:25 / ph
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**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.  
MDC - Minimum detectable concentration

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Batch: R112168
Sample ID: MBLK-1	Method Blank					Run: MANTECH_081211A			12/11/08 15:09
Alkalinity, Total as CaCO3	ND	mg/L	0.2						
Carbonate as CO3	ND	mg/L	1						
Bicarbonate as HCO3	ND	mg/L	1						
Sample ID: LCS-1									12/11/08 15:16
Alkalinity, Total as CaCO3	204	mg/L	1.0	102	90	110			
Sample ID: C08120330-002AMS									12/11/08 22:18
Alkalinity, Total as CaCO3	267	mg/L	1.0	103	80	120			
Sample ID: C08120330-002AMSD									12/11/08 22:25
Alkalinity, Total as CaCO3	265	mg/L	1.0	101	80	120	0.7	20	
Method: A2510 B									Analytical Run: ORION555A_081210A
Sample ID: ICV2_081210_1									12/10/08 08:55
Conductivity	1450	umhos/cm	1.0	102	90	110			
Method: A2510 B									Batch: 081210_1_PH-W_555A-1
Sample ID: MBLK1_081210_1									12/10/08 08:52
Conductivity	0.5	umhos/cm	0.2			Run: ORION555A_081210A			
Sample ID: C08120330-002ADUP									12/10/08 09:34
Conductivity	273	umhos/cm	1.0			Run: ORION555A_081210A	1	10	
Method: A2540 C									Batch: 081210A-SLDS-TDS-W
Sample ID: MBLK1_081210A									12/10/08 12:17
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	6			Run: BAL-1_081210B			
Sample ID: LCS1_081210A									12/10/08 12:18
Solids, Total Dissolved TDS @ 180 C	1000	mg/L	10	100	90	110			
Sample ID: C08120309-011AMS									12/10/08 12:21
Solids, Total Dissolved TDS @ 180 C	5140	mg/L	10	99	90	110			
Sample ID: C08120309-011AMSD									12/10/08 12:21
Solids, Total Dissolved TDS @ 180 C	5190	mg/L	10	101	90	110	0.9	10	
Sample ID: C08120345-005AMS									12/10/08 12:24
Solids, Total Dissolved TDS @ 180 C	2260	mg/L	10	101	90	110			
Sample ID: C08120345-005AMSD									12/10/08 12:24
Solids, Total Dissolved TDS @ 180 C	2260	mg/L	10	101	90	110	0.1	10	

## Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 01/27/09  
**Work Order:** C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C							Batch: R112233		
<b>Sample ID:</b> MBLK-1	Method Blank					Run: MANTECH_081212A			12/12/08 11:29
Fluoride	ND	mg/L	0.05						
<b>Sample ID:</b> LCS-1	Laboratory Control Sample					Run: MANTECH_081212A			12/12/08 11:32
Fluoride	0.960	mg/L	0.10	96	90	110			
<b>Sample ID:</b> C08120233-005BMS	Sample Matrix Spike					Run: MANTECH_081212A			12/12/08 11:41
Fluoride	1.69	mg/L	0.10	98	80	120			
<b>Sample ID:</b> C08120233-005BMSD	Sample Matrix Spike Duplicate					Run: MANTECH_081212A			12/12/08 11:44
Fluoride	1.69	mg/L	0.10	98	80	120	0	10	
<b>Method:</b> A4500-H B							Analytical Run: ORION555A_081210A		
<b>Sample ID:</b> ICV1_081210_1	Initial Calibration Verification Standard								12/10/08 08:53
pH	6.87	s.u.	0.010	100	98	102			
<b>Method:</b> A4500-H B							Batch: 081210_1_PH-W_555A-1		
<b>Sample ID:</b> C08120330-002ADUP	Sample Duplicate					Run: ORION555A_081210A			12/10/08 09:34
pH	7.91	s.u.	0.010				0.1	10	
<b>Method:</b> A4500-NO2 B							Analytical Run: HACH DR3000_081211A		
<b>Sample ID:</b> ICV-2	Initial Calibration Verification Standard								12/11/08 08:27
Nitrogen, Nitrite as N	0.951	mg/L	0.10	95	90	110			
<b>Method:</b> A4500-NO2 B							Batch: A2008-12-11_6_NO2_01		
<b>Sample ID:</b> MBLK-1	Method Blank					Run: HACH DR3000_081211A			12/11/08 08:27
Nitrogen, Nitrite as N	ND	mg/L	0.003						
<b>Sample ID:</b> C08120330-002AMS	Sample Matrix Spike					Run: HACH DR3000_081211A			12/11/08 08:28
Nitrogen, Nitrite as N	0.0573	mg/L	0.10	98	80	120			
<b>Sample ID:</b> C08120330-002AMSD	Sample Matrix Spike Duplicate					Run: HACH DR3000_081211A			12/11/08 08:28
Nitrogen, Nitrite as N	0.0584	mg/L	0.10	100	80	120	0	10	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 01/27/09  
**Work Order:** C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-S F					Analytical Run: TITRATION_081215A				
<b>Sample ID:</b> ICV-042808	Initial Calibration Verification Standard								12/15/08 08:56
Sulfide	93.6	mg/L	1.0	94	80	120			
<b>Method:</b> A4500-S F					Batch: 081215-SULFIDE-TTR-W				
<b>Sample ID:</b> MBLK7-081215	Method Blank								Run: TITRATION_081215A 12/15/08 08:50
Sulfide	ND	mg/L	0.1						
<b>Sample ID:</b> C08120345-007FMS	Sample Matrix Spike								Run: TITRATION_081215A 12/15/08 10:10
Sulfide	24.0	mg/L	1.0	105	80	120			
<b>Sample ID:</b> C08120345-007FMSD	Sample Matrix Spike Duplicate								Run: TITRATION_081215A 12/15/08 10:14
Sulfide	23.2	mg/L	1.0	101	80	120	3.4	20	
<b>Method:</b> E1664A					Batch: 20796				
<b>Sample ID:</b> C08120260-001AMS	Sample Matrix Spike								Run: SPE1-C_081210A 12/09/08 08:43
Oil & Grease (HEM)	44	mg/L	5.2	96	78	114			
<b>Sample ID:</b> C08120260-001AMSD	Sample Matrix Spike Duplicate								Run: SPE1-C_081210A 12/09/08 08:44
Oil & Grease (HEM)	43	mg/L	5.2	95	78	114	1.8	18	
<b>Sample ID:</b> LCS1_081210A	Laboratory Control Sample								Run: SPE1-C_081210A 12/10/08 09:41
Oil & Grease (HEM)	37	mg/L	5.0	93	78	114			
<b>Sample ID:</b> LCSD_081210A	Laboratory Control Sample Duplicate								Run: SPE1-C_081210A 12/10/08 09:41
Oil & Grease (HEM)	36	mg/L	5.0	89	78	114	4.4	18	
<b>Sample ID:</b> MBLK1_081210A	Method Blank								Run: SPE1-C_081210A 12/10/08 09:41
Oil & Grease (HEM)	ND	mg/L	5.0						
<b>Method:</b> E200.7					Batch: 20804				
<b>Sample ID:</b> MB-20804	Method Blank								Run: ICP2-C_081211A 12/11/08 21:41
Iron	ND	mg/L	0.009						
Manganese	ND	mg/L	0.0003						
<b>Sample ID:</b> LCS3-20804	Laboratory Control Sample								Run: ICP2-C_081211A 12/11/08 21:45
Iron	2.59	mg/L	0.030	104	85	115			
Manganese	2.47	mg/L	0.010	99	85	115			
<b>Sample ID:</b> C08120345-007DMS3	Sample Matrix Spike								Run: ICP2-C_081211A 12/11/08 22:50
Iron	2.71	mg/L	0.030	108	70	130			
Manganese	2.58	mg/L	0.010	103	70	130			
<b>Sample ID:</b> C08120345-007DMSD3	Sample Matrix Spike Duplicate								Run: ICP2-C_081211A 12/11/08 22:54
Iron	2.57	mg/L	0.030	102	70	130	5.3	20	
Manganese	2.41	mg/L	0.010	97	70	130	6.7	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7							Batch: R112823		
Sample ID: MB-081229A	Method Blank		Run: ICP2-C_081229A				12/29/08 11:30		
Boron	0.02	mg/L	0.008						
Calcium	ND	mg/L	0.1						
Iron	ND	mg/L	0.005						
Magnesium	ND	mg/L	0.04						
Potassium	ND	mg/L	0.02						
Silicon	ND	mg/L	0.02						
Sodium	ND	mg/L	0.8						
Silica	ND	mg/L	0.04						
Sample ID: LFB-081229A	Laboratory Fortified Blank		Run: ICP2-C_081229A				12/29/08 11:34		
Boron	1.12	mg/L	0.10	110	85	125			
Calcium	53.2	mg/L	0.50	106	85	125			
Iron	1.03	mg/L	0.030	103	85	125			
Magnesium	52.8	mg/L	0.50	106	85	125			
Potassium	47.2	mg/L	0.50	94	85	125			
Silicon	0.368	mg/L	0.021	92	85	125			
Sodium	50.6	mg/L	0.77	101	85	125			
Silica	0.787	mg/L	0.044	92	85	125			
Sample ID: C08120345-002BMS2	Sample Matrix Spike		Run: ICP2-C_081229A				12/29/08 12:15		
Boron	2.65	mg/L	0.10	110	70	130			
Calcium	124	mg/L	1.0	106	70	130			
Iron	2.52	mg/L	0.030	104	70	130			
Magnesium	106	mg/L	1.0	105	70	130			
Potassium	105	mg/L	1.0	90	70	130			
Silicon	12.5	mg/L	0.10		70	130			A
Sodium	669	mg/L	1.5		70	130			A
Silica	26.8	mg/L	0.21		70	130			A
Sample ID: C08120345-002BMSD2	Sample Matrix Spike Duplicate		Run: ICP2-C_081229A				12/29/08 12:15		
Boron	2.68	mg/L	0.10	112	70	130	1.4	20	
Calcium	126	mg/L	1.0	108	70	130	1.8	20	
Iron	2.59	mg/L	0.030	108	70	130	2.6	20	
Magnesium	108	mg/L	1.0	108	70	130	2.1	20	
Potassium	106	mg/L	1.0	91	70	130	0.8	20	
Silicon	12.7	mg/L	0.10		70	130	1.5	20	A
Sodium	671	mg/L	1.5		70	130	0.4	20	A
Silica	27.2	mg/L	0.21		70	130	1.5	20	A

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 01/27/09

Project: Lost Creek Test Well No. 1

Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7							Batch: R112875		
Sample ID: MB-081230A	Method Blank					Run: ICP2-C_081230A			12/30/08 12:43
Sodium	ND	mg/L	0.8						
Sample ID: LFB-081230A	Laboratory Fortified Blank					Run: ICP2-C_081230A			12/30/08 12:47
Sodium	50.1	mg/L	0.77	100	85	125			
Sample ID: C08120451-001CMS2	Sample Matrix Spike					Run: ICP2-C_081230A			12/30/08 17:26
Sodium	223	mg/L	1.5	101	70	130			
Sample ID: C08120451-001CMSD2	Sample Matrix Spike Duplicate					Run: ICP2-C_081230A			12/30/08 17:30
Sodium	227	mg/L	1.5	105	70	130	1.8	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

**Client:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1

**Report Date:** 01/27/09  
**Work Order:** C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: R112108		
<b>Sample ID: LRB</b>		Method Blank		Run: ICPMS2-C_081210A			12/10/08 13:11		
Aluminum	ND	mg/L	0.0001						
Barium	ND	mg/L	3E-05						
Cadmium	ND	mg/L	1E-05						
Chromium	ND	mg/L	4E-05						
Manganese	ND	mg/L	5E-05						
Molybdenum	ND	mg/L	5E-05						
Nickel	ND	mg/L	0.0007						
Silver	ND	mg/L	3E-05						
Uranium	ND	mg/L	1E-05						
Vanadium	0.0001	mg/L	3E-05						
Zinc	0.0005	mg/L	0.0003						
<b>Sample ID: LFB</b>		Laboratory Fortified Blank		Run: ICPMS2-C_081210A			12/10/08 13:18		
Aluminum	0.0498	mg/L	0.0010	100	85	115			
Barium	0.0515	mg/L	0.0010	103	85	115			
Cadmium	0.0517	mg/L	0.0010	103	85	115			
Chromium	0.0511	mg/L	0.0010	102	85	115			
Manganese	0.0509	mg/L	0.0010	102	85	115			
Molybdenum	0.0518	mg/L	0.0010	104	85	115			
Nickel	0.0514	mg/L	0.0010	103	85	115			
Silver	0.0203	mg/L	0.0010	102	85	115			
Uranium	0.0507	mg/L	0.00030	101	85	115			
Vanadium	0.0512	mg/L	0.0010	102	85	115			
Zinc	0.0525	mg/L	0.0010	104	85	115			
<b>Sample ID: C08120330-002BMS4</b>		Sample Matrix Spike		Run: ICPMS2-C_081210A			12/11/08 00:08		
Aluminum	0.0492	mg/L	0.10	98	70	130			
Barium	0.0972	mg/L	0.10	100	70	130			
Cadmium	0.0579	mg/L	0.010	104	70	130			
Chromium	0.0398	mg/L	0.050	70	70	130			
Manganese	0.0479	mg/L	0.010	92	70	130			
Molybdenum	0.0753	mg/L	0.10	93	70	130			
Nickel	0.0487	mg/L	0.050	95	70	130			
Silver	0.00837	mg/L	0.010	42	70	130			S
Uranium	0.0464	mg/L	0.00030	85	70	130			
Vanadium	0.0424	mg/L	0.10	80	70	130			
Zinc	0.0971	mg/L	0.010	103	70	130			
<b>Sample ID: C08120330-002BMSD4</b>		Sample Matrix Spike Duplicate		Run: ICPMS2-C_081210A			12/11/08 00:14		
Aluminum	0.0483	mg/L	0.10	97	70	130	0	20	
Barium	0.0963	mg/L	0.10	98	70	130	0	20	
Cadmium	0.0579	mg/L	0.010	104	70	130	0	20	
Chromium	0.0399	mg/L	0.050	70	70	130	0	20	
Manganese	0.0474	mg/L	0.010	91	70	130	1.2	20	
Molybdenum	0.0760	mg/L	0.10	94	70	130	0	20	

### Qualifiers:

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 01/27/09

Project: Lost Creek Test Well No. 1

Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Batch: R112108		
Sample ID: C08120330-002BMSD4	Sample Matrix Spike Duplicate			Run: ICPMS2-C_081210A			12/11/08 00:14		
Nickel	0.0482	mg/L	0.050	94	70	130	0	20	
Silver	0.0104	mg/L	0.010	52	70	130	22	20	SR
Uranium	0.0513	mg/L	0.00030	95	70	130	10	20	
Vanadium	0.0453	mg/L	0.10	86	70	130	0	20	
Zinc	0.0967	mg/L	0.010	102	70	130	0.4	20	
Method: E300.0							Batch: R112242		
Sample ID: LCS	Laboratory Control Sample			Run: IC1-C_081212A			12/12/08 15:25		
Chloride	10.0	mg/L	1.0	100	90	110			
Sulfate	40.7	mg/L	1.0	102	90	110			
Sample ID: MBLK	Method Blank			Run: IC1-C_081212A			12/12/08 15:40		
Chloride	ND	mg/L	0.02						
Sulfate	ND	mg/L	0.06						
Sample ID: C08120309-005AMS	Sample Matrix Spike			Run: IC1-C_081212A			12/12/08 20:02		
Chloride	293	mg/L	1.0		90	110			A
Sulfate	892	mg/L	1.0	93	90	110			
Sample ID: C08120309-005AMSD	Sample Matrix Spike Duplicate			Run: IC1-C_081212A			12/12/08 20:18		
Chloride	287	mg/L	1.0		90	110	2	20	A
Sulfate	877	mg/L	1.0	86	90	110	1.6	20	S
Sample ID: C08120345-004AMS	Sample Matrix Spike			Run: IC1-C_081212A			12/13/08 00:09		
Chloride	53.1	mg/L	1.0	100	90	110			
Sulfate	231	mg/L	1.0	97	90	110			
Sample ID: C08120345-004AMSD	Sample Matrix Spike Duplicate			Run: IC1-C_081212A			12/13/08 00:24		
Chloride	53.5	mg/L	1.0	101	90	110	0.8	20	
Sulfate	233	mg/L	1.0	98	90	110	0.9	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1							Analytical Run: SUB-B122286		
Sample ID: ICV	Initial Calibration Verification Standard								12/17/08 13:12
Nitrogen, Ammonia as N	5.70	mg/L	0.11	104	90	110			
Method: E350.1							Batch: B_R122286		
Sample ID: MBLK	Method Blank								12/17/08 13:13
Nitrogen, Ammonia as N	ND	mg/L	0.02			Run: SUB-B122286			
Sample ID: LFB	Laboratory Fortified Blank								12/17/08 13:15
Nitrogen, Ammonia as N	1.02	mg/L	0.10	103	90	110			
Sample ID: B08121141-001DMS	Sample Matrix Spike								12/17/08 14:33
Nitrogen, Ammonia as N	2.07	mg/L	0.10	60	90	110			S
Sample ID: B08121141-001DMSD	Sample Matrix Spike Duplicate								12/17/08 14:35
Nitrogen, Ammonia as N	2.13	mg/L	0.10	65	90	110	2.5	10	S
Method: E351.2							Analytical Run: SUB-B122243		
Sample ID: ICV	Initial Calibration Verification Standard								12/17/08 08:23
Nitrogen, Kjeldahl, Total as N	4.68	mg/L	0.50	94	90	110			
Method: E351.2							Batch: B_R122243		
Sample ID: MBLK	Method Blank								12/17/08 08:26
Nitrogen, Kjeldahl, Total as N	ND	mg/L	0.1			Run: SUB-B122243			
Sample ID: LFB	Laboratory Fortified Blank								12/17/08 08:26
Nitrogen, Kjeldahl, Total as N	5.08	mg/L	0.50	102	90	110			
Sample ID: B08121198-001AMS	Sample Matrix Spike								12/17/08 08:39
Nitrogen, Kjeldahl, Total as N	5.56	mg/L	0.50	84	90	110			S
Sample ID: B08121198-001AMSD	Sample Matrix Spike Duplicate								12/17/08 08:39
Nitrogen, Kjeldahl, Total as N	4.89	mg/L	0.50	70	90	110	13	10	SR

### Qualifiers:

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 01/27/09

Project: Lost Creek Test Well No. 1

Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2							Analytical Run: SUB-B122260		
Sample ID: ICV	Initial Calibration Verification Standard								12/17/08 09:39
Nitrogen, Nitrate+Nitrite as N	37.0	mg/L	0.050	104	90	110			
Method: E353.2							Batch: B_R122260		
Sample ID: MBLK	Method Blank				Run: SUB-B122260		12/17/08 09:40		
Nitrogen, Nitrate+Nitrite as N	0.004	mg/L	0.002						
Sample ID: LFB	Laboratory Fortified Blank				Run: SUB-B122260		12/17/08 09:42		
Nitrogen, Nitrate+Nitrite as N	0.976	mg/L	0.050	99	90	110			
Sample ID: B08121063-001AMS	Sample Matrix Spike				Run: SUB-B122260		12/17/08 13:32		
Nitrogen, Nitrate+Nitrite as N	0.987	mg/L	0.050	101	90	110			
Sample ID: B08121063-001AMSD	Sample Matrix Spike Duplicate				Run: SUB-B122260		12/17/08 13:33		
Nitrogen, Nitrate+Nitrite as N	0.957	mg/L	0.050	98	90	110	3.1	10	
Sample ID: B08121032-001CMS	Sample Matrix Spike				Run: SUB-B122260		12/17/08 10:04		
Nitrogen, Nitrate+Nitrite as N	0.989	mg/L	0.050	99	90	110			
Sample ID: B08121032-001CMSD	Sample Matrix Spike Duplicate				Run: SUB-B122260		12/17/08 10:05		
Nitrogen, Nitrate+Nitrite as N	0.994	mg/L	0.050	100	90	110	0.5	10	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: 121708_LCS_3	Laboratory Control Sample			Run: SATURNCA_081217A			12/17/08 11:24		
1,1,1,2-Tetrachloroethane	8.76	ug/L	1.0	88	70	130			
1,1,1-Trichloroethane	10.9	ug/L	1.0	109	70	130			
1,1,2,2-Tetrachloroethane	10.9	ug/L	1.0	109	70	130			
1,1,2-Trichloroethane	10.8	ug/L	1.0	108	70	130			
1,1-Dichloroethane	10.2	ug/L	1.0	102	70	130			
1,1-Dichloroethene	10.5	ug/L	1.0	105	70	130			
1,1-Dichloropropene	11.1	ug/L	1.0	111	70	130			
1,2,3-Trichloropropane	12.7	ug/L	1.0	127	70	130			
1,2-Dibromoethane	9.64	ug/L	1.0	96	70	130			
1,2-Dichlorobenzene	10.0	ug/L	1.0	100	70	130			
1,2-Dichloroethane	11.2	ug/L	1.0	112	70	130			
1,2-Dichloropropane	9.72	ug/L	1.0	97	70	130			
1,3-Dichlorobenzene	12.0	ug/L	1.0	120	70	130			
1,3-Dichloropropane	9.44	ug/L	1.0	94	70	130			
1,4-Dichlorobenzene	11.3	ug/L	1.0	113	70	130			
2,2-Dichloropropane	10.2	ug/L	1.0	102	70	130			
2-Chloroethyl vinyl ether	8.60	ug/L	1.0	86	70	130			
2-Chlorotoluene	12.0	ug/L	1.0	120	70	130			
4-Chlorotoluene	12.0	ug/L	1.0	120	70	130			
Benzene	11.7	ug/L	1.0	117	70	130			
Bromobenzene	10.2	ug/L	1.0	102	70	130			
Bromochloromethane	10.9	ug/L	1.0	109	70	130			
Bromodichloromethane	11.1	ug/L	1.0	111	70	130			
Bromoform	9.56	ug/L	1.0	96	70	130			
Bromomethane	10.6	ug/L	1.0	106	70	130			
Carbon tetrachloride	10.3	ug/L	1.0	103	70	130			
Chlorobenzene	10.5	ug/L	1.0	105	70	130			
Chlorodibromomethane	10.6	ug/L	1.0	106	70	130			
Chloroethane	10.7	ug/L	1.0	107	70	130			
Chloroform	12.7	ug/L	1.0	127	70	130			
Chloromethane	8.84	ug/L	1.0	88	70	130			
cis-1,2-Dichloroethene	10.1	ug/L	1.0	101	70	130			
cis-1,3-Dichloropropene	9.64	ug/L	1.0	96	70	130			
Dibromomethane	9.92	ug/L	1.0	99	70	130			
Dichlorodifluoromethane	7.16	ug/L	1.0	72	70	130			
Ethylbenzene	8.96	ug/L	1.0	90	70	130			
m+p-Xylenes	18.6	ug/L	1.0	93	70	130			
Methyl ethyl ketone	120	ug/L	20	120	70	130			
Methylene chloride	11.0	ug/L	1.0	110	70	130			
o-Xylene	8.72	ug/L	1.0	87	70	130			
Styrene	9.76	ug/L	1.0	98	70	130			
Tetrachloroethene	10.8	ug/L	1.0	108	70	130			
Toluene	9.84	ug/L	1.0	98	70	130			
trans-1,2-Dichloroethene	10.0	ug/L	1.0	100	70	130			
trans-1,3-Dichloropropene	11.0	ug/L	1.0	110	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 01/27/09

Project: Lost Creek Test Well No. 1

Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
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Method: E624

Batch: R112454

Sample ID: 121708\_LCS\_3

Laboratory Control Sample

Run: SATURNCA\_081217A

12/17/08 11:24

Trichloroethene	10.9	ug/L	1.0	109	70	130			
Trichlorofluoromethane	10.5	ug/L	1.0	105	70	130			
Vinyl chloride	8.16	ug/L	1.0	82	70	130			
Xylenes, Total	27.3	ug/L	1.0	91	70	130			
Surr: 1,2-Dichlorobenzene-d4			1.0	104	80	120			
Surr: Dibromofluoromethane			1.0	110	80	120			
Surr: p-Bromofluorobenzene			1.0	101	80	120			
Surr: Toluene-d8			1.0	93	80	120			

Sample ID: 121708\_MBLK\_6

Method Blank

Run: SATURNCA\_081217A

12/17/08 13:18

1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R112454		
Sample ID: 121708_MBLK_6	Method Blank		Run: SATURNCA_081217A				12/17/08 13:18		
Ethylbenzene	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichlorobenzene-d4			1.0	103	80	120			
Surr: Dibromofluoromethane			1.0	117	80	120			
Surr: p-Bromofluorobenzene			1.0	103	80	120			
Surr: Toluene-d8			1.0	101	80	120			
Sample ID: C08120345-007HMS							Run: SATURNCA_081217A		12/17/08 18:18
Sample Matrix Spike									
1,1,1,2-Tetrachloroethane	158	ug/L	20	79	70	130			
1,1,1-Trichloroethane	198	ug/L	20	99	70	130			
1,1,2,2-Tetrachloroethane	182	ug/L	20	91	70	130			
1,1,2-Trichloroethane	220	ug/L	20	110	70	130			
1,1-Dichloroethane	182	ug/L	20	91	70	130			
1,1-Dichloroethene	200	ug/L	20	100	70	130			
1,1-Dichloropropene	210	ug/L	20	105	70	130			
1,2,3-Trichloropropane	259	ug/L	20	130	70	130			
1,2-Dibromoethane	192	ug/L	20	96	70	130			
1,2-Dichlorobenzene	190	ug/L	20	95	70	130			
1,2-Dichloroethane	213	ug/L	20	106	70	130			
1,2-Dichloropropane	183	ug/L	20	92	70	130			
1,3-Dichlorobenzene	222	ug/L	20	111	70	130			
1,3-Dichloropropane	182	ug/L	20	91	70	130			
1,4-Dichlorobenzene	207	ug/L	20	104	70	130			
2,2-Dichloropropane	187	ug/L	20	94	70	130			
2-Chloroethyl vinyl ether	111	ug/L	20	56	70	130			S
2-Chlorotoluene	230	ug/L	20	115	70	130			
4-Chlorotoluene	232	ug/L	20	116	70	130			
Benzene	230	ug/L	20	115	70	130			
Bromobenzene	197	ug/L	20	98	70	130			
Bromochloromethane	209	ug/L	20	104	70	130			
Bromodichloromethane	214	ug/L	20	107	70	130			
Bromoform	197	ug/L	20	98	70	130			
Bromomethane	194	ug/L	20	97	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc

Report Date: 01/27/09

Project: Lost Creek Test Well No. 1

Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
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Method: E624

Batch: R112454

Sample ID: C08120345-007HMS

Sample Matrix Spike

Run: SATURNCA\_081217A

12/17/08 18:49

Carbon tetrachloride	197	ug/L	20	98	70	130			
Chlorobenzene	203	ug/L	20	102	70	130			
Chlorodibromomethane	206	ug/L	20	103	70	130			
Chloroethane	214	ug/L	20	107	70	130			
Chloroform	238	ug/L	20	113	70	130			
Chloromethane	174	ug/L	20	87	70	130			
cis-1,2-Dichloroethene	200	ug/L	20	100	70	130			
cis-1,3-Dichloropropene	198	ug/L	20	99	70	130			
Dibromomethane	208	ug/L	20	104	70	130			
Dichlorodifluoromethane	142	ug/L	20	71	70	130			
Ethylbenzene	171	ug/L	20	86	70	130			
m+p-Xylenes	356	ug/L	20	89	70	130			
Methyl ethyl ketone	2060	ug/L	400	103	70	130			
Methylene chloride	190	ug/L	20	95	70	130			
o-Xylene	188	ug/L	20	94	70	130			
Styrene	197	ug/L	20	98	70	130			
Tetrachloroethene	226	ug/L	20	113	70	130			
Toluene	214	ug/L	20	107	70	130			
trans-1,2-Dichloroethene	178	ug/L	20	89	70	130			
trans-1,3-Dichloropropene	213	ug/L	20	106	70	130			
Trichloroethene	218	ug/L	20	109	70	130			
Trichlorofluoromethane	195	ug/L	20	98	70	130			
Vinyl chloride	145	ug/L	20	72	70	130			
Xylenes, Total	544	ug/L	20	91	70	130			
Surr: 1,2-Dichlorobenzene-d4			20	99	80	120			
Surr: Dibromofluoromethane			20	99	80	120			
Surr: p-Bromofluorobenzene			20	101	80	120			
Surr: Toluene-d8			20	100	80	120			

Sample ID: C08120345-007HMSD

Sample Matrix Spike Duplicate

Run: SATURNCA\_081217A

12/17/08 19:27

1,1,1,2-Tetrachloroethane	170	ug/L	20	85	70	130	7.3	20	
1,1,1-Trichloroethane	206	ug/L	20	103	70	130	4	20	
1,1,2,2-Tetrachloroethane	188	ug/L	20	94	70	130	3.5	20	
1,1,2-Trichloroethane	209	ug/L	20	104	70	130	5.2	20	
1,1-Dichloroethane	194	ug/L	20	97	70	130	6	20	
1,1-Dichloroethene	207	ug/L	20	104	70	130	3.5	20	
1,1-Dichloropropene	206	ug/L	20	103	70	130	1.5	20	
1,2,3-Trichloropropane	294	ug/L	20	147	70	130	12	20	S
1,2-Dibromoethane	201	ug/L	20	100	70	130	4.5	20	
1,2-Dichlorobenzene	190	ug/L	20	95	70	130	0	20	
1,2-Dichloroethane	208	ug/L	20	104	70	130	2.3	20	
1,2-Dichloropropane	202	ug/L	20	101	70	130	9.6	20	
1,3-Dichlorobenzene	224	ug/L	20	112	70	130	0.7	20	
1,3-Dichloropropane	185	ug/L	20	92	70	130	1.7	20	
1,4-Dichlorobenzene	189	ug/L	20	94	70	130	9.3	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624									Batch: R112454
Sample ID: C08120345-007HMSD	Sample Matrix Spike Duplicate		Run: SATURNCA_081217A					12/17/08 19:27	
2,2-Dichloropropane	188	ug/L	20	94	70	130	0.4	20	
2-Chloroethyl vinyl ether	102	ug/L	20	51	70	130	9	20	S
2-Chlorotoluene	226	ug/L	20	113	70	130	2.1	20	
4-Chlorotoluene	217	ug/L	20	108	70	130	6.8	20	
Benzene	228	ug/L	20	114	70	130	0.7	20	
Bromobenzene	191	ug/L	20	96	70	130	2.9	20	
Bromochloromethane	197	ug/L	20	98	70	130	5.9	20	
Bromodichloromethane	224	ug/L	20	112	70	130	4.4	20	
Bromoform	197	ug/L	20	98	70	130	0	20	
Bromomethane	246	ug/L	20	123	70	130	23	20	R
Carbon tetrachloride	198	ug/L	20	99	70	130	0.8	20	
Chlorobenzene	208	ug/L	20	104	70	130	2.3	20	
Chlorodibromomethane	218	ug/L	20	109	70	130	5.6	20	
Chloroethane	219	ug/L	20	110	70	130	2.6	20	
Chloroform	245	ug/L	20	116	70	130	3	20	
Chloromethane	165	ug/L	20	82	70	130	5.2	20	
cis-1,2-Dichloroethene	206	ug/L	20	103	70	130	3.1	20	
cis-1,3-Dichloropropene	210	ug/L	20	105	70	130	5.9	20	
Dibromomethane	201	ug/L	20	100	70	130	3.5	20	
Dichlorodifluoromethane	166	ug/L	20	83	70	130	15	20	
Ethylbenzene	180	ug/L	20	90	70	130	5	20	
m+p-Xylenes	365	ug/L	20	91	70	130	2.4	20	
Methyl ethyl ketone	2050	ug/L	400	102	70	130	0.8	20	
Methylene chloride	212	ug/L	20	106	70	130	11	20	
o-Xylene	188	ug/L	20	94	70	130	0	20	
Styrene	206	ug/L	20	103	70	130	4.4	20	
Tetrachloroethene	225	ug/L	20	112	70	130	0.4	20	
Toluene	226	ug/L	20	113	70	130	5.4	20	
trans-1,2-Dichloroethene	198	ug/L	20	99	70	130	11	20	
trans-1,3-Dichloropropene	207	ug/L	20	104	70	130	2.7	20	
Trichloroethene	222	ug/L	20	111	70	130	2.2	20	
Trichlorofluoromethane	202	ug/L	20	101	70	130	3.6	20	
Vinyl chloride	170	ug/L	20	85	70	130	16	20	
Xylenes, Total	553	ug/L	20	92	70	130	1.6	20	
Surr: 1,2-Dichlorobenzene-d4			20	93	80	120			
Surr: Dibromofluoromethane			20	106	80	120			
Surr: p-Bromofluorobenzene			20	93	80	120			
Surr: Toluene-d8			20	102	80	120			

### Qualifiers:

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0							Batch: GrAB-0586		
Sample ID: MB-GrAB-0586	Method Blank					Run: G5000W_081231A		01/05/09 22:09	
Gross Alpha	-0.2	pCi/L							U
Gross Beta	-1	pCi/L							U
Sample ID: UNAT-GrAB-0586	Laboratory Control Sample					Run: G5000W_081231A		01/05/09 22:09	
Gross Alpha	140	pCi/L	104		70	130			
Sample ID: Cs137-GrAB-0586	Laboratory Control Sample					Run: G5000W_081231A		01/05/09 22:09	
Gross Beta	85	pCi/L	92		70	130			
Sample ID: C08120345-006CMS	Sample Matrix Spike					Run: G5000W_081231A		01/05/09 22:09	
Gross Alpha	119	pCi/L	87		70	130			
Sample ID: C08120345-006CMSD	Sample Matrix Spike Duplicate					Run: G5000W_081231A		01/05/09 22:09	
Gross Alpha	131	pCi/L	95		70	130	9.4	16.2	
Sample ID: C08120345-006CMS	Sample Matrix Spike					Run: G5000W_081231A		01/05/09 22:09	
Gross Beta	93.8	pCi/L	103		70	130			
Sample ID: C08120345-006CMSD	Sample Matrix Spike Duplicate					Run: G5000W_081231A		01/06/09 10:29	
Gross Beta	80.9	pCi/L	89		70	130	15	16.2	
Sample ID: C08120790-002DDUP	Sample Duplicate					Run: G5000W_081231A		01/06/09 10:29	
Gross Alpha	791	pCi/L					15	15.5	
Gross Beta	195	pCi/L					3.4	16.1	
Method: E903.0							Batch: RA226-3330		
Sample ID: C08120330-001DMS	Sample Matrix Spike					Run: BERTHOLD 770-2_081217A		12/30/08 09:10	
Radium 226	13	pCi/L	79		70	130			
Sample ID: C08120330-001DMSD	Sample Matrix Spike Duplicate					Run: BERTHOLD 770-2_081217A		12/30/08 09:10	
Radium 226	12	pCi/L	78		70	130	1.5	24.4	
Sample ID: MB-RA226-3330	Method Blank					Run: BERTHOLD 770-2_081217A		12/30/08 10:44	
Radium 226	-0.07	pCi/L							U
Sample ID: LCS-RA226-3330	Laboratory Control Sample					Run: BERTHOLD 770-2_081217A		12/30/08 10:44	
Radium 226	6.0	pCi/L	76		70	130			

### Qualifiers:

RL - Analyte reporting limit.

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.



ENERGY LABORATORIES, INC. \* 2393 Salt Creek Hwy (82601) \* PO Box 3258 \* Casper,  
WY 82602

## QA/QC Summary Report

Client: UR Energy USA Inc  
Project: Lost Creek Test Well No. 1

Report Date: 01/27/09  
Work Order: C08120330

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: RA-05							Batch: RA228-2451		
Sample ID: LCS-228-RA226-3330	Laboratory Control Sample				Run: TENNELEC-3_081217A		12/22/08 08:58		
Radium 228	8.27	pCi/L		90	70	130			
Sample ID: MB-RA226-3330	Method Blank				Run: TENNELEC-3_081217A		12/22/08 08:58		
Radium 228	-0.02	pCi/L							U
Sample ID: C08120330-002DMS	Sample Matrix Spike				Run: TENNELEC-3_081217A		12/22/08 08:58		
Radium 228	18.4	pCi/L		104	70	130			
Sample ID: C08120330-002DMSD	Sample Matrix Spike Duplicate				Run: TENNELEC-3_081217A		12/22/08 08:58		
Radium 228	19.6	pCi/L		111	70	130	6.3	32.1	

### Qualifiers:

RL - Analyte reporting limit.

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.



# Chain of Custody and Analytical Request Record

1 of 3

PLEASE PRINT- Provide as much information as possible.

Company Name: UR Energy	Project Name, PWS, Permit, Etc. Lost Creek Test Well No. 1	Sample Origin State: WY	EPA/State Compliance: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Report Mail Address: 10288 W. Chatfield Ave. Suite 210 Littleton, CO 80127	Contact Name: Wes Janes	Phone/Fax: 303-290-9414	Email: wjanes@petrotek.com
Invoice Address: 5880 Enterprise Dr. Suite 200 Casper, WY 82609	Invoice Contact & Phone: Debbie Hutchins (307) 265-2373	Purchase Order:	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> DW           | <input type="checkbox"/> A2LA                      |
| <input type="checkbox"/> GSA          | <input type="checkbox"/> EDD/EDT (Electronic Data) |
| <input type="checkbox"/> POTW/WWTP    | Format: _____                                      |
| <input type="checkbox"/> State: _____ | <input type="checkbox"/> LEVEL IV                  |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> NELAC                     |

Number of Containers  
Sample Type: A W S V B O  
Air Water Soils/Solids  
Vegetation Bioassay Other

## ANALYSIS REQUESTED

SEE ATTACHED

Normal Turnaround (TAT)

R  
U  
S  
H

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by:

hand

Cooler ID(s):

C 2409

Receipt Temp

5 °C

On ice:

☒ Yes ☐ No

Custody Seal Y

Intact Y

Signature Y

Match Y

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX
---	--------------------	--------------------	--------

1 334B LCTest	12-8-08	21:42	Water
---------------	---------	-------	-------

2 334A LCTest	12-8-08	21:35	Water
---------------	---------	-------	-------

3			
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4			
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5			
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6			
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7			
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8			
---	--	--	--

9			
---	--	--	--

10			
----	--	--	--

Custody  
Record  
MUST be  
Signed

Relinquished by (print):

Wes Janes

Date/Time:

12-9-08

Signature:

[Signature]

Received by (print):

K. Ward

Date/Time:

12/9/08

Signature:

[Signature]

Relinquished by (print):

Date/Time:

Received by (print):

Date/Time:

Signature:

Sample Disposal: Return to Client:

Lab Disposal:

Received by Laboratory:

Date/Time:

Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.

This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

# Energy Laboratories Inc

## Workorder Receipt Checklist



C08120330

UR Energy USA Inc

Login completed by: Corinne Wagner

Date and Time Received: 12/9/2008 3:55 PM

Reviewed by: Tabitha Edwards

Received by: kw

Reviewed Date: 12/12/2008 11:07:00 AM

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature:	5°C On Ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

-----  
Contact and Corrective Action Comments:

None





**CLIENT:** UR Energy USA Inc  
**Project:** Lost Creek Test Well No. 1  
**Sample Delivery Group:** C08120330

**Date:** 28-Jan-09

## CASE NARRATIVE

### ORIGINAL SAMPLE SUBMITTAL(S)

All original sample submittals have been returned with the data package.

### SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)

Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

### GROSS ALPHA ANALYSIS

Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

### RADON IN AIR ANALYSIS

The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

### SOIL/SOLID SAMPLES

All samples reported on an as received basis unless otherwise indicated.

### ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505

Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

### SUBCONTRACTING ANALYSIS

Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

### BRANCH LABORATORY LOCATIONS

eli-b - Energy Laboratories, Inc. - Billings, MT  
eli-g - Energy Laboratories, Inc. - Gillette, WY  
eli-h - Energy Laboratories, Inc. - Helena, MT  
eli-r - Energy Laboratories, Inc. - Rapid City, SD  
eli-t - Energy Laboratories, Inc. - College Station, TX

### CERTIFICATIONS:

USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA  
Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

### ISO 17025 DISCLAIMER:

The results of this Analytical Report relate only to the items submitted for analysis.

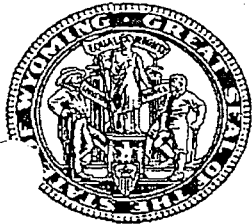
ENERGY LABORATORIES, INC. - CASPER, WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting [www.energylab.com](http://www.energylab.com)

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page [www.energylab.com](http://www.energylab.com).

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT

## **ATTACHMENT OP-3**

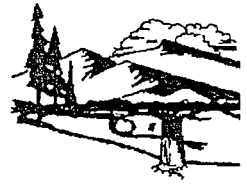
### **Storm Water Pollution Prevention Plan**



Dave Freudenthal, Governor

## Department of Environmental Quality

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



John Corra, Director

### Authorization to Discharge Storm Water Associated Large Construction Activities Under the National Pollutant Discharge Elimination System

In compliance with the provisions of Chapter 2 of the Wyoming Water Quality Rules and Regulations, the Wyoming Environmental Quality Act and the federal Water Pollution Control Act,

Lost Creek ISR LLC.

Lost Creek Project

Sections 13,24,25, Township 25 North, Range 93 West and Sections 16-20,30, Township 25 North, Range 92 West, Sweetwater County

and located within the State of Wyoming which has or may discharge storm water associated with Construction Activities, is hereby authorized to discharge to the surface waters of the State of Wyoming in accordance with the requirements of this permit which was issued September 1, 2006.

**Coverage under the general permit expires March 15, 2011.**

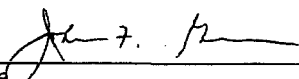
This facility has been assigned permit authorization number **WYR103695**.

Authorization under this general permit is effective beginning 2008-04-17 00:00:00.

*The permittee listed above is subject to a statutorily-required **annual \$100 fee** (W.S. §35-11-312) for as long as this authorization is active or until the general permit expires. See Part 5 of the general permit for information regarding termination of coverage.*

**Discharges from dewatering of collected storm water and minor amounts of ground water from excavations and depressions are permitted provided that requirements specified in Part 8.8 are followed and the necessary BMPs are installed and effective. Discharges that consist of process or wastewaters or more than minor amounts of ground water must be covered under a separate WYPDES permit specifically for those discharges.**

Attached is a copy of the general permit. If you have any questions regarding the conditions of your permit, contact Barb Sahl at (307) 777-7570 or John Gorman at (307) 777-5622.

  
Authorized Signature  
Department of Environmental Quality/Water Quality Division

**Mailing Address:**

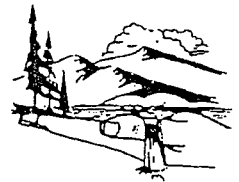
Lost Creek ISR LLC.  
John Cash  
5880 Enterprise Drive, Suite 200  
Casper, WY 82609





# Department of Environmental Quality

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



John Corra, Director

## General Permit to Discharge Storm Water Associated with Large Construction Activity Under the Wyoming Pollutant Discharge Elimination System (WYPDES)

In compliance with the provisions of Chapter 2 of the Wyoming Water Quality Rules and Regulations, the federal Water Pollution Control Act and the Wyoming Environmental Quality Act, facilities located within the State of Wyoming (except areas within the Wind River Indian Reservation where the state does not have jurisdiction) which are or may discharge storm water associated with large construction activities, are hereby authorized to discharge to surface waters of the State of Wyoming upon compliance with the requirements of this permit.

This general WYPDES permit WYR10-0000 is issued under the provisions of Wyoming Water Quality Rules and Regulations Chapter 2.

This permit shall become effective on September 1, 2006 and expire on March 15, 2011.

*Discharges are authorized under this permit only after submission of a Notice and Intent to and receipt of a Letter of Authorization from the Department of Environmental Quality/Water Quality Division. See Part 3 of the permit for additional information.*

  
John F. Wagner  
Administrator - Water Quality Division

8/21/06  
Date

  
John V. Corra  
Director - Department of Environmental Quality

8/22/06  
Date

Herschler Building - 122 West 25th Street - Cheyenne, WY 82002 - <http://deq.state.wy.us>

WIN/OUTREACH  
(307) 777-7758  
AX 777-3610

ABANDONED MINES  
(307) 777-6145  
FAX 777-6462

AIR QUALITY  
(307) 777-7391  
FAX 777-6937

INDUSTRIAL SITING  
(307) 777-7369  
FAX 777-6937

LAND QUALITY  
(307) 777-7756  
FAX 777-5864

SOLID & HAZ WASTE  
(307) 777-7752  
FAX 777-5973

WATER QUALITY  
(307) 777-7781  
FAX 777-5973



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## Part 1 Coverage Under this Permit

- 1.1 Permit area. The permit covers all areas within the State of Wyoming except areas within the Wind River Indian Reservation where the State does not have jurisdiction.
- 1.2 Storm water discharges covered under this permit
  - 1.2.1 Storm water discharges associated with new and existing "large construction activities."
  - 1.2.2 Storm water discharges from areas that are dedicated to producing earthen materials, such as sand and gravel, for use at a single large construction activity covered under this permit. Gravel pits and borrow areas must be opened and operated just for the permitted project. At the end of the project equipment must be removed and the site(s) must be reclaimed. A site that serves more than one project either concurrently or at different times must be permitted under a WYPDES Mineral Mining General Storm Water Permit (or an individual permit in the case of discharges that may reach class 1 waters) rather than the Large Construction General Permit.
  - 1.2.3 Storm water discharges from asphalt batch plants and concrete batch plants that are dedicated to the single large construction activity covered under this permit. At the end of the project equipment must be removed and the production site(s) must be reclaimed. If the plant(s) serves more than one project it must be permitted under a WYPDES Industrial General Permit (where discharges may reach a class 1 water a WYPDES individual permit will be required) rather than the Large Construction General Permit.
  - 1.2.4 Discharges from dewatering of collected storm water and minor amounts of ground water from excavations and depressions on a permitted site provided that requirements specified in Part 8.8 are followed and necessary BMPs are installed and effective.
  - 1.2.5 Storm water discharges from "large construction activities" receive coverage under this permit when the Administrator provides a written authorization to the applicant that the Notice of Intent has been accepted and the permitted activity is covered under the general permit.
  - 1.2.6 This permit does not preempt or supersede the authority of local agencies to prohibit, restrict, or control discharges of storm water to storm drain systems or other water courses in their jurisdiction.
- 1.3 Storm water discharges not covered under this permit. The following storm water discharges are not provided coverage under this permit:
  - 1.3.1 Storm water discharges from large construction activities with individual WYPDES permits that include storm water control requirements.



- 1.3.2 Storm water discharges from large construction activities covered under another industry- or geographically-specific general WYPDES permit.
- 1.3.3 Storm water discharges that are commingled with wastewaters.
- 1.3.4 The placement of fill into waters of the state requiring local, state or federal authorizations (such as a federal Section 404 permit from the US Army Corps of Engineers).
- 1.3.5 Storm water discharges associated with industrial activity (including mineral mining activity), except for discharges from dedicated borrow areas and asphalt or concrete batch plants as described in Parts 1.2.2 and 1.2.3, are not eligible for coverage under this permit. Storm water discharges associated with industrial activity must be covered under another WYPDES storm water permit such as the industrial general permit (IGP) or the mineral mining general permit (MMGP). In certain limited situations, such as where there is a potential discharge to a class 1 water, an individual storm water permit may be required.
- 1.3.6 Storm water discharges that the Department determines will cause, or have the reasonable potential to cause or contribute to, violations of water quality standards or impairments of water quality.

## **Part 2 Definitions**

- 2.1 **"Access Roads"** means private roads which are exclusively or primarily dedicated for use by the permittee.
- 2.2 **"Administrator"** means the Administrator of the Water Quality Division, Wyoming Department of Environmental Quality.
- 2.3 **"Best Management Practices" ("BMPs")** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. Best Management Practices (BMPs) also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- 2.4 **"Common Plan of Development or Sale"** means projects that may occur in multiple locations and/or in multiple phases, but are part of a single, overall plan. Documentation of common plans may include announcements or other documentation (including signs, public notices, hearings, marketing information, drawings, financing records, permit applications, zoning request, maps, etc.) or physical demarcations (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activity will or may occur in the area.
- 2.5 **"CWA"** means Clean Water Act or the federal Water Pollution Control Act, 33 USC 1251, *et. seq.*
- 2.6 **"Department"** means the Department of Environmental Quality

- 2.7 **"Energy Dissipation"** means methods employed at pipe outlets to prevent erosion by dissipating or lowering the energy of the discharge. Examples include, but are not limited to, concrete aprons, riprap, splash pads, and gabions which are designed and installed to prevent erosion.
- 2.8 **"Finally Stabilized"** means that all soil disturbing activities at the site have been completed, and a uniform perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all disturbed unpaved areas and areas not covered by permanent structures.
- 2.9 **"Large Construction Activity"** means any clearing, grading, or excavation project which will disturb five or more (not necessarily contiguous) surface acres. Large construction activity also includes the disturbance of less than five acres of total land area when that disturbance is part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more. *Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.*
- 2.10 **"NOI"** means Notice of Intent.
- 2.11 **"NOT"** means Notice of Termination
- 2.12 **"NOTA"** means Notice of Transfer and Acceptance
- 2.13 **"Operator"** is the company, individual, or organization that has day-to-day supervision and control of activities occurring at the construction site. This can be the owner, developer, the general contractor, or, in some cases, the agent of one of these parties. The operator is responsible for ensuring compliance with all conditions of the permit.
- 2.14 **"Related Effluents"** means discharges from fire fighting activities; fire hydrant flushing; potable water sources including waterline flushing; irrigation drainage; lawn watering; routine external building wash down which does not use detergents; pavement wash waters where spills or leaks of toxic or hazardous materials are not present and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.
- 2.15 **"Severe Property Damage"** means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- 2.16 **"Spill Prevention Control and Countermeasure Plan (SPCC)"** is a federal requirement (40CFR112) for facilities that store specific amounts of petroleum products. The plan is not a state requirement, but may be referenced as part of the SWPPP when appropriate.

- 2.17 "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
- 2.18 "Storm Water Associated with Large Construction Activity" means the discharge of storm water from construction activities, including clearing, grading, and excavating, that result in land disturbance of five or more acres of total land area. Large construction area also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger plan will ultimately disturb five acres or more.
- 2.19 "Storm water Associated with Industrial Activity" means storm water discharges from any of the activities defined in Section 6 (g) (ii) of Chapter 2 of the Wyoming Water Quality Rules and Regulations.
- 2.20 "Surface Waters of the State" means all permanent and intermittent defined drainages and lakes, reservoirs, and wetlands which are not manmade retention ponds used for the treatment of municipal, agricultural or industrial waste; and all other bodies of surface water, either public or private which are wholly or partially within the boundaries of the State.
- 2.21 "SWPPP" means Storm Water Pollution Prevention Plan.
- 2.22 "Temporary Stabilization" means the exposed ground surface has been covered with appropriate materials to provide temporary stabilization of the surface from water or wind erosion. Materials include, but are not limited to, mulch, riprap, erosion control mats or blankets and temporary cover crops. Surface roughening may also be considered a temporary stabilization method. Seeding alone is not considered stabilization. Temporary stabilization is not a substitute for the more permanent "final stabilization."
- 2.23 "Wyoming Surface Water Quality Standards" refers to Wyoming Water Quality Rules and Regulations, Chapter 1 (surface water standards).

### **Part 3      Obtaining Authorization to Discharge – Notice of Intent**

- 3.1 Deadline to apply. Except as authorized in Part 3.2 of this permit, an operator seeking authorization under this permit shall submit a completed Notice of Intent, on a form provided by the Administrator, to the Department at least 30 days prior to commencing construction activities.
- 3.2 Expedited processing. With just cause, and at the request of the operator, the Administrator may:
- 3.2.1 allow the operator of a large construction activity to submit a NOI to the Administrator no later than 10 days prior to commencing construction activities; and
- 3.2.2 notify the applicant of the approval or disapproval of coverage under this permit within 10 days of receipt of the NOI.

- 3.3 Requirement to submit an NOI. An NOI must be submitted to Department and coverage under this permit must be authorized in writing prior to the start of soil disturbing activities.
- 3.4 NOI contents. The NOI shall include the following information, at a minimum:
- 3.4.1 The name of the company, entity, or individual seeking a permit;
  - 3.4.2 Mailing address and telephone number of the company, entity or individual;
  - 3.4.3 The facility name, location, telephone number and WYDOT project number, if applicable;
  - 3.4.4 Location of the covered facility expressed as quarter/quarter, section, township and range or street address;
  - 3.4.5 Location of the covered facility expressed as latitude and longitude to the nearest 15 seconds;
  - 3.4.6 Estimated project start and completion dates;
  - 3.4.7 Estimated acres of disturbance;
  - 3.4.8 Names of receiving waters and, if applicable, note if discharge will be to a municipal storm sewer and for which municipality;
  - 3.4.9 Certification that a storm water pollution prevention plan (SWPPP, see Part 7 for requirements) has been developed or will be developed prior to the start of construction;
  - 3.4.10 A description of the activities conducted by the applicant which require it to obtain coverage under this permit;
  - 3.4.11 A site map that shows the boundaries of expected land clearing, storm water drainage patterns or topography and nearby drainages and/or storm sewers that could receive storm water from the permitted facility; and
  - 3.4.12 Name and signature in accordance with Part 10.7.
- 3.5 Agreement to comply. Submission of the NOI to the Department constitutes full agreement by the operator to meet and comply with all requirements of this general permit.
- 3.6 Projects disturbing more than 100 acres. For any disturbance greater than 100 acres, the permittee must submit the SWPPP with the NOI.
- 3.7 Projects that may discharge to class 1 waters. The facility SWPPP must be submitted to the Department with the NOI for any project where there is a potential to discharge storm water to class 1 surface waters. (See Appendix A for a list of Class 1 waters.) Submission must be at least 30 days prior to commencing construction activities. Large construction

activities that have the potential to discharge to class 1 waters are subject to a site visit by Department personnel prior to issuing coverage under this general permit. Site visits are weather-dependent. For example site visits will not typically be scheduled to areas with heavy snow cover and a visit may not always be possible within 30 days of an NOI and SWPPP submittal.

- 3.8 Denial of coverage. Except as noted in Part 3.2, the Administrator shall notify the applicant of the approval or disapproval of coverage under this permit within 30 days of receipt of the NOI. In the case of disapproval, the Administrator shall specify in writing the reason(s) for the disapproval and action(s), if any, that the applicant can take to gain approval.
- 3.9 Individual permit required. If, after evaluation of the NOI and any additional information requested for the evaluation, it is found that this general permit is not applicable to the operation, the application will be processed as an application for an individual permit. The applicant will be notified of the Administrator's decision to deny authorization under the general permit and require coverage under an individual permit. Additional information may be required and a minimum of 120 days will be required to process the individual application and issue the permit.
- 3.10 Temporary coverage. The Administrator reserves the right to issue temporary coverage under this general permit to cover storm water discharges from projects required to obtain coverage under an individual permit.
- 3.11 Continuation of coverage under a renewed permit
- 3.11.1 Storm water discharges associated with large construction activities that have active coverage under the previous general storm water permit for construction (issued in 2002 and expiring August 31, 2006) are automatically covered under this permit until November 30, 2006.
- 3.11.2 All permittees that receive coverage under this automatic process must submit an NOI, or other form as provided by the Administrator, to this office **by October 31, 2006 to maintain coverage under this general permit.** Operators who fail to do so will have their coverage under this permit terminated. Construction sites that are not "finally stabilized," and where coverage lapses, may be subject to an enforcement action.

#### **Part 4      Change of Operator**

- 4.1 Notice of transfer and acceptance (NOTA). When responsibility for storm water discharges for a large construction activity changes from one operator to another, the current and future permittee shall submit a completed Notice of Transfer and Acceptance (NOTA). The certification must be signed by both parties in accordance with section 10.7 of this permit. The certification shall be submitted to DEQ within 14 days of the change in operator. The transfer form is available from DEQ. If requested by the Administrator, a NOI shall be submitted by the new permittee and a NOT shall be submitted by the current permittee.

- 4.2 Amendments to the SWPPP. The new operator must comply with all conditions in this permit and with all provisions of the existing SWPPP until such time as the existing SWPPP is amended or replaced by a new SWPPP. If the personnel responsible for implementing the SWPPP change, the changes must be made to the SWPPP within 30 days of transfer of operational control.
- 4.3 Transfer of properties within a development. For the transfer of properties within a development (e.g., an original developer sells portions of the property to various homebuilders), the new owner(s) must obtain permit coverage for their activity on that property by submitting a Notice of Intent (NOI) for a separate authorization under this general permit.
- 4.3.1 The new operator may develop and implement a new SWPPP for their parcel(s) that meets all the terms and conditions of this permit, or
- 4.3.2 The new operator may adopt and continue to implement the original SWPPP provided it is adequate for the new activities that will occur onsite.
- 4.3.3 With either option, the permittee shall ensure, either directly or through coordination with other operators that their SWPPP meets all terms and conditions of this permit and their activities do not interfere with another party's erosion and sediment control practices.

## Part 5 Notice of Termination

- 5.1 Permittees wishing to terminate coverage under this permit must submit a Notice of Termination (NOT) identifying the facility and the reason permit coverage is no longer required. The NOT shall be signed in accordance with Part 10.7.
- 5.2 Compliance with the conditions of this permit is required until an NOT has been submitted and accepted by the Department.
- 5.3 An NOT may only be submitted when one of the following conditions has been met:
- 5.3.1 Final stabilization (see part 2.8 for definition) has been achieved on all parts of the site for which the permittee is responsible.
- 5.3.2 For individual lots in residential construction only:
- 5.3.2.1 Final stabilization has been achieved as defined in Part 2.8 or
- 5.3.2.2 Temporary erosion protection and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the permittee shall provide a copy of a "homeowner fact sheet" to the homeowner to inform the owner of the need for, and the benefits of, erosion and sediment control and final stabilization.

- 5.3.3 Final stabilization for producing oil and gas facilities does not require revegetation in the area within permanently installed well anchor points, the travel surface of a site access road, and areas within established fire walls surrounding tank batteries. All other areas must be revegetated or covered by permanent materials (paving, gravel, etc.) to be considered finally stabilized. Surfaces left unpaved must be designed and prepared in a manner that will prevent ongoing erosion problems. The permittee may be required to re-extend coverage under this permit to areas with erosion problems.

## **Part 6 Fees**

- 6.1 All WYPDES general permit authorizations are subject to a \$100 annual permit fee for as long as the authorization is active or until the general permit expires. The annual billing cycle is based on the state's fiscal year from July 1 to June 30. See the Wyoming Environmental Quality Act §35-11-312 for further information.
- 6.1.1 All parties who have held an authorization under this permit for any part of the 12 months prior to June 30<sup>th</sup> will be billed \$100 per authorization held. The fee is not prorated for part year ownership.
- 6.1.2 When an authorization is transferred all parties who held the authorization in that fiscal year will receive invoices for \$100. The fee is not prorated for part-year ownership.

## **Part 7 Storm Water Pollution Prevention Plan**

- 7.1 Preparation. Prior to beginning construction activities, an operator shall prepare a "Storm Water Pollution Prevention Plan" (SWPPP) for the construction activity. The primary objective of the plan is to inventory pollutants which have potential to leave the construction site in storm water runoff, identify Best Management Practices (BMPs) which, when implemented, will eliminate or minimize pollutants in runoff and meet the terms and conditions of this permit. Guidance materials for best management practice (BMP) selection and implementation can be found on the web, including the DEQ web page at [http://deq.state.wy.us/wqd/WYPDES\\_Permittinq/WYPDES\\_Storm\\_Water/stormwater.asp](http://deq.state.wy.us/wqd/WYPDES_Permittinq/WYPDES_Storm_Water/stormwater.asp). Facilities must implement the provisions of their SWPPP as a condition of this permit.
- 7.2 Content. At a minimum, the SWPPP shall include the following information:
- 7.2.1 *SWPPP Administrator.* Each SWPPP shall identify a specific individual or individuals within the facility organization that are responsible for developing the storm water SWPPP and assisting the facility manager in its implementation, maintenance, and revision. The SWPPP shall clearly identify the responsibility of plan administration, either by name or job title.
- 7.2.2 *Site Description*
- 7.2.2.1 A brief description of the nature of the construction activity.

- 7.2.2.2 The proposed sequence of major activities and a planned completion date.
- 7.2.2.3 An estimate of the total area of the site and an estimate of the area expected to undergo clearing, excavation or grading, including off-site borrow areas, access roads, and staging/storage areas.
- 7.2.2.4 A brief description of the existing vegetation at the site and an estimate of the percent of vegetative ground cover.
- 7.2.2.5 The location and description of any other potential pollution sources including, but not limited to, vehicle fueling, storage of fertilizers, chemicals or paint.
- 7.2.2.6 The name of the drainage or water body (surface water(s) of the state) that may receive a storm water discharge from the construction activity and the size, type, and location of any outfall. If the discharge is to a municipal separate storm sewer, indicate the name of the municipal owner of that system, the location of the storm sewer outfall, and the drainage or water body that will receive storm water discharges from the municipal outfall.

**7.2.3 Site Map.** Each plan shall provide a site map or maps that indicate, at a minimum:

- 7.2.3.1 Construction site boundaries.
- 7.2.3.2 All areas of soil disturbance.
- 7.2.3.3 The location of surface waters of the state as defined in Part 2.20 of this permit. These include springs, streams, wetlands, lakes and any defined drainages that could receive storm water discharge from the construction site.
- 7.2.3.4 Areas used for storage of building materials, soils, wastes, fuel, and areas used for concrete washout.
- 7.2.3.5 Locations of proposed or existing storm water controls.
- 7.2.3.6 Site topography or storm water drainage patterns.
- 7.2.3.7 Where included as part of the permitted project, include site maps for offsite concrete/asphalt batch plants, borrow areas and/or fill material disposal areas, and equipment/materials staging and storage areas.

**7.2.4 Best Management Practices (BMPs).** The plan shall include a narrative description of appropriate controls and measures that will be implemented before, during, and after construction.

The plan shall clearly describe the relationship between the phases of construction and the implementation and maintenance of controls and measures. For example, which controls will be implemented during each of the following stages of construction: clearing and grubbing necessary for perimeter controls, initiation of perimeter controls, remaining clearing and grubbing, road grading, storm drain installation, final grading, stabilization, and removal of control measures.

The description of controls shall address the following minimum components:



7.2.4.1 **EROSION AND SEDIMENT CONTROLS.** An erosion and sediment control plan shall identify appropriate control measures for each major phase of construction.

7.2.4.1.1 Erosion prevention BMPs. The goal of erosion prevention is preventing soil (or sediment) movement and keeping it at its original location within the construction site. Each SWPPP shall provide best management practices (BMPs) for erosion prevention wherever practical. Examples of BMPs for erosion prevention include, but are not limited to:

- Preserving existing vegetation,
- Scheduling
- Surface roughening
- Permanent or temporary seeding and planting
- Mulches, soil binders or tackifiers, erosion control blankets and mats
- Wind erosion control
- Storm water diversion practices upslope of a construction site
- Pipe slope drains
- Outlet protection

7.2.4.1.2 Sedimentation control. Sedimentation occurs when soil is eroded and transported from its original location. The goal of sedimentation control is to prevent sediment from leaving the construction site and, more particularly, from entering surface waters of the state or storm drain inlets. Every SWPPP shall describe adequate BMPs to achieve sedimentation control. Examples of BMPs for sedimentation control include, but are not limited to:

- Sediment barriers such as straw bales, gravel berms, silt fences, fiber rolls or wattles.
- Sediment traps and basins
- Storm drain inlet protection
- Entrance/exit tracking controls
- Undercut lots where curb and gutter are installed
- Vegetated buffer strips
- Grassed waterways
- Water bars and water wings

7.2.4.1.3 Temporary erosion protection. Temporary stabilization (such as cover crop plantings, mulching or erosion controls blankets, surface roughening, etc.) for exposed soil areas where activities have permanently or temporarily ceased should be installed whenever practicable in areas where further work is not expected for 28 days or more. Areas to be protected include graded slopes, ditches, berms and soil stockpiles.

- 7.2.4.1.4 Best management practice selection, installation and maintenance. All BMPs must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. (It is not required that the SWPPP be prepared or certified by a registered engineer.) If periodic inspections or other information indicates a practice has been used inappropriately or incorrectly the permittee must modify or replace the control.
- 7.2.4.1.5 Storm water best management practices are expected to withstand and function properly during precipitation events up to a 2-year, 24-hour storm event. Visible and measurable erosion (see Part 8.4) that leaves the construction site from such storm events should be minimal. The 2-year, 24-hour storm event in Wyoming ranges from 0.8 to 2.6 inches. An isopluvial map of the 2-year, 24-hour storm depth is available on the DEQ storm water website. Permittees may substitute equivalent data published by the local municipality or regulatory agency.
- 7.2.4.2 **CONSTRUCTION SITE DEWATERING.** The SWPPP must specify BMPs for discharges from construction site dewatering. Discharges must meet the conditions specified in Part 8.8 including the use of settling or filtration techniques as appropriate and the use of velocity dissipation devices at the outlet.
- 7.2.4.3 **POST-CONSTRUCTION CONTROLS.** A description of the temporary stabilization measures that will be implemented after construction is complete and until final stabilization is achieved.
- 7.2.4.4 **OPERATIONAL CONTROLS.** The plan shall describe best management practices (BMPs) used in day-to-day operations on the project site that reduce the contribution of pollutants in storm water runoff.
- 7.2.4.4.1 Good housekeeping BMPs to maintain a clean and orderly facility. At a minimum, the SWPPP should address litter, debris, chemicals, fertilizers and sanitary wastes. This includes measures to remove sediment that has left the construction site.
- 7.2.4.4.2 Bulk storage of petroleum products. The SWPPP shall describe specific practices for the bulk storage of petroleum products.
- a. The practices shall provide adequate protection so as to contain all spills and prevent any spilled materials from entering waters of the state or municipal storm sewer systems.

- b. The SWPPP shall describe appropriate practices for addressing a spill including methods of handling and disposing spilled products and contaminated soils.
- c. The facility spill prevention control and countermeasures (SPCC) plan may be referenced in the SWPPP as fulfillment of this requirement. The SPCC should be attached to the SWPPP if it is referenced.

7.2.4.4.3 Concrete washout. Concrete wash waters shall not enter surface waters of the state or municipal storm drains. The SWPPP must provide for specific practices that will protect surface waters and storm drains.

7.2.4.4.4 The SWPPP shall describe appropriate BMPs to control storm water pollution from portable concrete or asphalt batch plants covered under this permit.

7.2.4.5 **MAINTENANCE.** All practices identified in the SWPPP must be maintained in effective operating condition. The plan must indicate, as appropriate, the intervals or conditions upon which BMPs shall be maintained. Maintenance shall also occur whenever periodic inspections identify BMPs that are not operating effectively. Maintenance shall be accomplished as soon as is practical.

7.2.4.6 **INSPECTIONS.** The plan must provide for site inspections to monitor the condition of storm water outlets and the effectiveness of BMPs. The permittee shall ensure that personnel conducting site inspections are familiar with the requirements of the SWPPP and proper operation and maintenance of all implemented BMPs. All inspections shall be conducted in accordance with Part 9 and signed in accordance with Part 10.7.

7.2.4.7 **SIGNATURE.** All SWPPPs must be signed in accordance with Part 10.7 of this permit.

7.3 **Plan amendment.** The permittee shall modify the plan whenever there is a change in design, construction, operation, or maintenance that changes the potential for the discharge of pollutants to waters of the state. The plan shall also be modified if it proves ineffective in eliminating or minimizing pollutants present in storm water. The most current version of the SWPPP must be retained on site or located as described in Part 7.5. The SWPPP may be reviewed by the Administrator as described below.

7.4 SWPPP implementation

7.4.1 *Projects begun prior to September 1, 2006.* Permittees with construction activities authorized to discharge storm water under the previous general permit issued in 2002 and now replaced by this permit must update their current SWPPP to comply with the requirements of this permit no later than 90 days after the effective date of authorization under this permit. Permittees shall continue to implement existing SWPPPs developed under the previous permit until the SWPPP has been updated and implemented.

7.4.2 *Projects beginning after September 1, 2006.* For projects that begin after the effective date of this permit, the SWPPP must be implemented immediately and throughout the duration of the construction activity and up until the site is finally stabilized.

7.5 Plan retention. The SWPPP shall be retained at the construction site during active construction. When the project is shut down for the season or at the completion of construction the SWPPP may be kept offsite. For large, field-wide authorizations in the oil and gas industry where relatively small, discreet disturbances occur periodically over a large area, operators may choose to keep only the portions of the SWPPP relevant to the current active construction area on that site, while the complete SWPPP remains at an off-site location.

7.5.1 The location of an off-site SWPPP must be posted on site. The posting shall note the location of the SWPPP, a contact phone number and the storm water authorization number; or

7.5.2 If posting the offsite location at the construction site is impractical due to remote location or the facility is impractically large for a posting, the operator may send a brief letter to the DEQ Storm Water Coordinator specifying the site authorization number, location of the SWPPP and a contact telephone number for a person with access to the SWPPP.

7.5.3 For all SWPPPs the operator must provide reasonable local access to the plan during normal working hours. The permittee shall make the SWPPP available upon request to the Administrator or agent thereof; any federal, state or local agency; interested members of the public; local government officials; or to the operator of a municipal separate storm sewer receiving discharges from the site.

7.5.4 The permit does not require that free copies of the plan be provided to interested members of the public, only that they have access to view the document and copy it at their own expense. The copy of the SWPPP must be made available to the Administrator, or authorized agent, for review at the time of an onsite inspection.

7.6 Plan review. The Administrator may request any SWPPP be submitted to the department for review. If the Administrator elects to review the SWPPP and finds that it is deficient, the permittee shall modify the plan as directed and within the time specified by the Administrator.

- 7.7 Employee training. Appropriate personnel of all levels of responsibility shall be informed of erosion and sediment control, spill response, good housekeeping, and materials management practices identified in the SWPPP plan for reduction of pollutants in storm water runoff.

## **PART 8 Additional Terms and Conditions**

- 8.1 Quality of discharge. Storm water discharges associated with construction activities shall not cause pollution, contamination or degradation to waters of the state.
- 8.2 Effluent limits.
- 8.2.1 Those best management practices (BMPs) or other control measures specified in the SWPPP shall ensure that the storm water discharges do not cause a violation of Wyoming Water Quality Standards.
- 8.2.2 The quality of permitted storm water discharges shall reflect the best which is attainable through the proper implementation of all items in the facility SWPPP.
- 8.3 Best management practice selection, installation and maintenance. All BMPs must be properly selected, installed and maintained in accordance with the manufacturer's specifications and good engineering practices. (It is not required that the SWPPP be prepared or certified by a registered engineer.) If periodic inspections or other information indicates a practice has been used inappropriately or incorrectly the permittee must modify or replace the control.
- 8.4 Visible or measurable erosion. Visible or measurable erosion, associated with a construction activity, which leaves the construction site as a result of inadequate or ineffective SWPPP design or maintenance of BMPs is prohibited. Visible or measurable erosion is defined as:
- 8.4.1 Deposits of mud, dirt, sediment, or similar material exceeding one cubic foot volume in any area of 100 square feet or less on public or private roads, adjacent property, or into waters of the state by deliberate actions or as a result of water or wind erosion; or
- 8.4.2 Evidence of concentrated flows of water over bare soils, turbid or sediment-laden flows, or evidence of on-site erosion on bare slopes, where runoff of water is not filtered, treated, or captured on the site using BMPs specified in the SWPPP; or
- 8.4.3 Earth slides, mud flows, earth sloughing, or other earth movement which leaves the construction site.
- 8.5 Recovery of offsite sediment. If any measurable quantity of sediment leaves the construction site because of structural failure or inadequate design of the BMPs, the sediment shall be placed back on site or properly disposed of, as soon as is prudent.

Under no conditions shall the sediment be washed into municipal storm sewers or surface waters of the state.

- 8.6 Concrete washout. Concrete wash water shall not be discharged to waters of the state or to storm sewer systems.
- 8.7 Bulk storage of petroleum products. Bulk storage for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled materials from entering waters of the state or municipal storm sewer systems.
- 8.8 Construction site dewatering. Pumped discharges from construction sites covered under this permit are limited to storm water and minor amounts of ground water. A separate permit must be obtained for the discharge of water from other sources, including ground water. Where there is sufficient ground water present such that it must be pumped from the construction site, those discharges do not meet the definition of minor amounts of ground water and must be covered under a separate WYPDES permit specifically for those discharges.
- 8.8.1 The permittee must operate the discharge to minimize the release of sediment.
- 8.8.2 Pumped water that may be turbid or sediment laden must be treated with appropriate BMPs, such that the discharge does not:
- 8.8.2.1 Cause a violation of water quality standards as defined in Chapter 1 of the Wyoming Water Quality Rules and Regulations.
- 8.8.2.2 Adversely affect downstream landowners.
- 8.8.2.3 Cause erosion or scouring at the outlet or in the receiving water.
- 8.8.3 The discharge must be dispersed over appropriate energy dissipation devices such as rock riprap, sand bags, plastic sheeting, or equivalent.
- 8.8.4 Significant groundwater. ***The general rule of thumb for determining what ground water is non-significant is as follows:*** If an operator is able to work in a trench or excavation without dewatering during dry weather and only needs to dewater because of a rain or snow melt event, then the ground water can be considered non-significant. If an operator is finding they must dewater even though there has been no precipitation, then a WYPDES wastewater permit (temporary or individual) is required. Any operator who is unsure of whether or not his ground water is non-significant should secure separate coverage under the WYPDES general permit for temporary discharges or an individual wastewater permit for the dewatering operation.
- 9 Temporary stabilization (such as cover crop plantings, mulching or erosion controls blankets, surface roughening, etc.) for exposed soil areas where activities have permanently or temporarily ceased should be installed whenever practicable in areas where

further work is not expected for 28 days or more. Areas to be protected include graded slopes, ditches, berms and soil stockpiles.

- 8.10 Minimum storm size for BMPs. Storm water best management practices are expected to withstand and function properly during precipitation events up to a 2-year, 24-hour storm event. Visible and measurable erosion (see Part 8.4) that leaves the construction site from such storm events should be minimal. The 2-year, 24-hour storm event in Wyoming ranges from 0.8 to 2.6 inches. An isopluvial map of the 2-year, 24-hour storm depth is available on the DEQ storm water website. Permittees may substitute equivalent data published by the local municipality or regulatory agency.
- 8.11 Allowable discharges. All discharges covered by this permit shall be composed entirely of storm water associated with construction activity or related effluents (see definitions in Part 2). Discharges which include material other than storm water associated with construction activity, must be in compliance with a WYPDES permit (other than this permit) issued for the discharge.
- 8.12 Sanitary facilities. Sanitary sewage facilities (typically portable) will be operated in compliance with all applicable state and local waste disposal, sanitary sewer, or septic system regulations.
- 8.13 Requirements of other agencies. All storm water discharges must comply with erosion control or other requirements, policies, or guidelines of other local, state or federal agencies.

## **Part 9 Self Monitoring and Inspection Requirements**

### **9.1 Site inspections**

9.1.1 *Active construction sites.* During active construction inspections must be conducted in accordance with one of the two schedules listed below, unless the project has an alternate inspection schedule approved by the administrator. You must specify in your SWPPP which inspection schedule you will use.

9.1.1.1 During active construction, qualified personnel (provided by the permittee) shall inspect disturbed areas, control measures, and locations where vehicles enter or exit the site, at least once every 14 calendar days and within 24 hours of any precipitation and/or snow melt event which exceeds 0.5 inches. The permittee shall have the option of maintaining a rain gauge at their site or using the nearest National Weather Service precipitation gauge station. Any rain measurement shall be taken from an area within 10 miles of the construction project. OR

9.1.1.2 At least once every seven days.

9.1.2 *Inactive construction sites.* During seasonal shutdowns and during the period following completion of construction, but prior to return of the site to "finally

stabilized" conditions and termination of coverage under this permit, qualified personnel (provided by the permittee) shall inspect the site at least once every month.

- 9.1.3 Qualified person. A qualified person is one who is familiar with the requirements of the SWPPP, permit conditions and the proper operation and maintenance of all implemented BMPs.
- 9.1.4 Alternative inspection plans and schedules. A permittee may submit an alternative inspection plan for long, narrow, linear construction projects such as pipeline or utility line installation, and other projects in remote areas where vehicle traffic is restricted or could compromise native vegetation or stabilization measures. A copy of the SWPPP and alternate inspection plan must be submitted to the Department at least 30 days prior to implementing the plan. An alternative plan must provide for the timely recognition and repair of erosion or sedimentation.
- 9.1.5 Where there are areas that have achieved final stabilization the operator may document such in the facility SWPPP and omit those areas from further routine inspections. *(Examples of where this provision may apply include specific well pads or pipeline segments that have been stabilized that are part of a larger plan of development covered under a single storm water permit. Or the early phases of a large, phased subdivision development which may be stabilized before the later phases are completed.)*
- 9.1.6 Records. The operator shall keep a record of inspections and maintenance. The inspection record shall include:
- 9.1.6.1 Storm water outfalls shall be observed to determine whether or not measurable quantities of sediment or other pollutants have been or are being transported off site.
  - 9.1.6.2 BMPs shall be assessed to determine if they are functioning properly or if they are in need of repair or maintenance. If the report describes deficiencies in pollution control structures or procedures, such deficiencies shall be corrected immediately.
  - 9.1.6.3 A brief description of measures taken to correct deficiencies shall be recorded.
  - 9.1.6.4 When an inspection does not identify any incidents of non-compliance, the report shall contain a certification that the site is in compliance with the SWPPP and this permit.
  - 9.1.6.5 The date and inspector identity shall also be recorded. This record shall be signed in accordance with Part 10.7 of the permit and made available to the Administrator upon request.



9.1.7 Severe weather exception. If any inspection is not possible due to severe weather or other dangerous conditions, the inspection report must document why the inspection did not occur, and the inspection must be conducted as soon as conditions allow.

9.1.8 Winter Conditions. Inspections on inactive construction sites, as described above in 9.1.2, will not be required where snow cover or frozen ground conditions exist over the entire site for an extended period and melting conditions do not exist. This exemption is applicable *only* during the period where melting conditions do not exist. Regular inspections, as described above, are required at all other times.

9.2 Retention of reports. Copies of the inspection reports shall be retained with the SWPPP and copies shall be provided to the Administrator upon request. Such reports shall be retained by the permittee for a minimum of three years.

9.3 Collection and submission of self monitoring information. Upon written notification from the Administrator, the permittee shall collect and report storm water effluent and/or ambient water quality data of the type and at the frequency specified by the Administrator.

9.4 Construction project identification. A copy of the authorization letter shall be posted at the construction site in a prominent and safe place for public viewing during regular business hours.

## **Part 10 Standard Permit Conditions**

10.1 Duty to comply. The permittee must comply with all conditions of this permit, and is responsible for ensuring any subcontractors, employees or other persons associated with the construction activity comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Chapter 2 of the Wyoming Water Quality Rules and Regulations, the Wyoming Environmental Quality Act and the CWA and may be grounds for enforcement action, permit termination, revocation, or modification, or for denial of a permit renewal application. The permittee shall give the Administrator of the Water Quality Division advance notice of any planned changes at the permitted facility or of any activity which may result in permit noncompliance.

10.2 Penalties for violations of permit conditions. Article 9 of the Wyoming Environmental Quality Act provides significant penalties for any person who violates a permit condition. Any person who violates any condition of this permit is subject to a civil penalty not to exceed \$10,000 per day of such violation, as well as other relief. Knowingly or willfully violating the permit may result in criminal penalties of up to \$25,000 per day of violation and/or imprisonment for up to one year. Criminal penalties for subsequent knowing or willful violations of the permit may be up to \$50,000 per day of violation and/or imprisonment for up to two years.

10.3 Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

- 10.4 Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- 10.5 Duty to provide information. The permittee shall furnish to the Administrator, within a reasonable time, any information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Administrator, upon request, copies of records required to be kept by this permit.
- 10.6 Other information. When the permittee becomes aware that he or she failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Administrator, he or she shall promptly submit such facts or information.
- 10.7 Signatory requirements. All NOIs, NOTs, NOTAs, SWPPPS, reports, and other information submitted to the Administrator shall be signed and certified.

10.7.1 All permit applications shall be signed as follows:

- 10.7.1.1 For a corporation: A principal executive officer of at least the level of vice president, or the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the overall operation of the facility from which the discharge originates;
- 10.7.1.2 For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
- 10.7.1.3 For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

10.7.2 All reports required by the permit and other information requested by the Administrator shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- 10.7.2.1 The authorization is made in writing by a person described above and submitted to the Administrator; and
- 10.7.2.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

10.7.3 If an authorization under Part 10.7.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part 10.7.2 must be submitted to the Administrator prior to or together with any reports, information or applications to be signed by an authorized representative.

10.7.4 Any person signing documents required by this permit shall make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

10.8 Penalties for falsification of reports and monitoring systems. The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than two years per violation or both.

10.9 Oil and hazardous substance liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the CWA.

According to Chapter 4 of the Wyoming Water Quality Rules and Regulations, any spill or other release of hazardous substances, fuels, oils or other petroleum product must be contained and cleaned up in a timely and diligent manner. Any spill or release of more than 25 gallons, or which results in a visible sheen on water, or a visible deposit on the bottom or shoreline of any water body, must be reported to the Water Quality Division of the Wyoming Department of Environmental Quality within 24 hours to the department's 24-hour telephone number (307-777-7781). Records of such spills or releases must be maintained for at least three years.

10.10 Property rights. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

10.11 Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

10.12 Transfers. This permit is not transferable to any person except after notice to the Administrator. The Administrator may require the operator to apply for and obtain an individual WYPDES permit.

10.13 State laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state or federal law or regulation.

10.14 Facilities operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee when necessary to achieve compliance with the conditions of the permit.

10.15 Monitoring and records

10.15.1 Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

10.15.2 The permittee shall retain records of all monitoring information including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of the reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample measurement, report, or application. This period may be extended by request of the Administrator at any time.

10.15.3 Records of monitoring information shall include:

10.15.3.1 The date, exact place, and time of sampling or measurements;

10.15.3.2 The initials or name(s) of the individual(s) who performed the sampling or measurements;

10.15.3.3 The date(s) analyses were performed;

10.15.3.4 The time(s) analyses were initiated;

10.15.3.5 The initials or name(s) of the individual(s) who performed the analyses;

10.15.3.6 References and written procedures for the analytical techniques or methods used; and

10.15.3.7 The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

10.15.4 Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

10.16 Availability of reports. Except for data determined to be confidential under Section 308 of the CWA, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Wyoming Department of Environmental Quality and the Regional Administrator of the Environmental Protection Agency. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

10.17 Adverse impact. The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with any conditions specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

10.18 Bypass or upset of treatment facilities

10.18.1 Bypass means the intentional diversion of storm water around any treatment facility.

10.18.2 Any bypass is prohibited except where unavoidable to prevent loss of life, personal injury, or severe property damage, and there were no feasible alternatives to the bypass.

10.18.2.1 Anticipated bypass

If the permittee knows in advance of the need for a bypass, he or she shall submit prior notice at least ten days before the date of the bypass; including an evaluation of the anticipated quality and effect of the bypass.

The Administrator may approve an anticipated bypass, after considering its adverse effects, if the Administrator determines that it will meet the conditions listed above.

10.18.2.2 Unanticipated bypass or upset

The permittee shall submit notice of an unanticipated bypass or upset. Any information regarding the unanticipated bypass or upset shall be provided orally within 24 hours from the time the permittee became aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the bypass or upset and its cause; the period of the bypass or upset, including exact dates and times, and if the bypass or upset has not

been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence.

#### 10.19 Upset conditions

10.19.1 Upset means an exceptional incident in which there is unintentional and temporary noncompliance with the conditions of this permit because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improper designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

10.19.2 An upset constitutes an affirmative defense to an action brought for noncompliance with the conditions of this permit if the requirements of paragraph 10.18.2 are met.

10.19.3 A permittee who wishes to establish the affirmative defense of an upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

10.19.3.1 An upset occurred and that the permittee can identify the specific cause(s) of the upset;

10.19.3.2 The permitted facility was at the time being properly operated;

10.19.3.3 The permittee submitted notice of the upset as required under paragraph 10.18.2 above; and

10.19.3.4 The permittee complied with any remedial measures directed by the Administrator.

10.19.4 In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

10.20 Inspection and entry. The permittee shall allow the Administrator, the Administrator's representative, or an authorized representative of EPA, or in the case of a facility which discharges through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

10.20.1 Enter upon the premises where the regulated facility or activity is located or conducted and where records must be kept under the conditions of this permit;

10.20.2 Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

- 10.20.3 Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- 10.20.4 Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.
- 10.21 Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by a permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- 10.22 Reopener clause. For good cause the Administrator may, at any time, require a permittee covered under this permit to obtain an individual permit, coverage under an alternative general permit, or this permit may be modified to include different limitations and/or requirements. Permit modification or revocation will be conducted according to Wyoming Water Quality Rules and Regulations, Chapter 2.
- 10.23 Civil and criminal liability. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. As long as the conditions related to the provisions of "Bypass of Treatment Facilities" (Part 10.18), "Upset Conditions" (Part 10.19) are satisfied then they shall not be considered as noncompliance.

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## Appendix A

The following waters are designated Class 1:

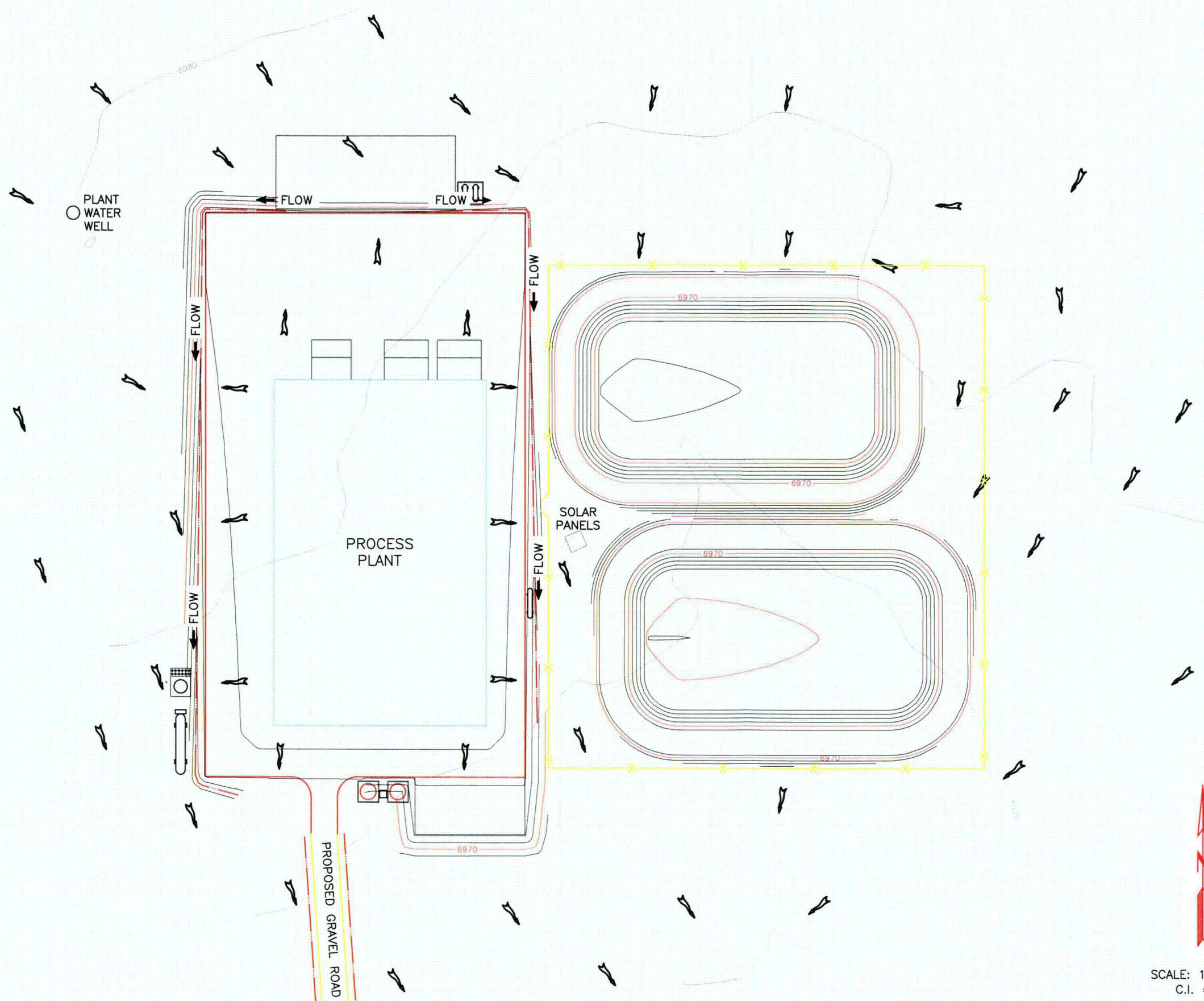
1. All surface waters located within the boundaries of national parks and congressionally designated wilderness areas as of January 1, 1999;
2. The main stem of the Snake River through its entire length above the U.S. Highway 22 Bridge (Wilson Bridge);
3. The main stem of the Green River, including the Green River Lakes from the mouth of the New Fork River upstream to the wilderness boundary;
4. The Main Stem of the Wind River from the Wedding of the Waters upstream to Boysen Dam;
5. The main stem of the North Platte River from the mouth of Sage Creek (approximately 15 stream miles downstream of Saratoga, Wyoming) upstream to the Colorado state line;
6. The main stem of the North Platte River from the headwaters of Pathfinder Reservoir upstream to Kortess Dam (Miracle Mile segment);
7. The main stem of the North Platte River from the Natrona County Road 309 bridge (Goose Egg bridge) upstream to Alcova Reservoir;
8. The main stem of Sand Creek above the U.S. Highway 14 bridge;
9. The main stem of the Middle Fork of the Powder River through its entire length above the mouth of Buffalo Creek;
10. The main stem of the Tongue River, the main stem of the North Fork of the Tongue River, and the main stem of the South Fork of the Tongue River above the U.S. Forest Service Boundary;
11. The main stem of the Sweetwater River above the mouth of Alkali Creek;
12. The main stem of the Encampment River from the northern U.S. Forest Service boundary upstream to the Colorado state line;
13. The main stem of the Clarks Fork River from the U.S. Forest Service boundary upstream to the Montana state line;
14. All waters within the Fish Creek (near Wilson, Wyoming) drainage;
15. The main stem of Granite Creek (tributary of the Hoback River) through its entire length;
16. Fremont Lake;
17. Wetlands adjacent to the above listed Class 1 waters.



## **ATTACHMENT OP-4**

### **Plant Drainage Plan**





LEGEND:

- DRAINAGE DITCH AND DIRECTION OF FLOW
- DRAINAGE FLOW DIRECTION



SCALE: 1" = 80'  
C.I. = 1'

REVISIONS	
Date	By

**WWC ENGINEERING**  
 6000 E. 2nd Street, Suite 1004  
 Casper, WY 82609  
 (307) 473-2707

Drawn By: \_\_\_\_\_ Checked By: \_\_\_\_\_ Date: \_\_\_\_\_ Scale: \_\_\_\_\_

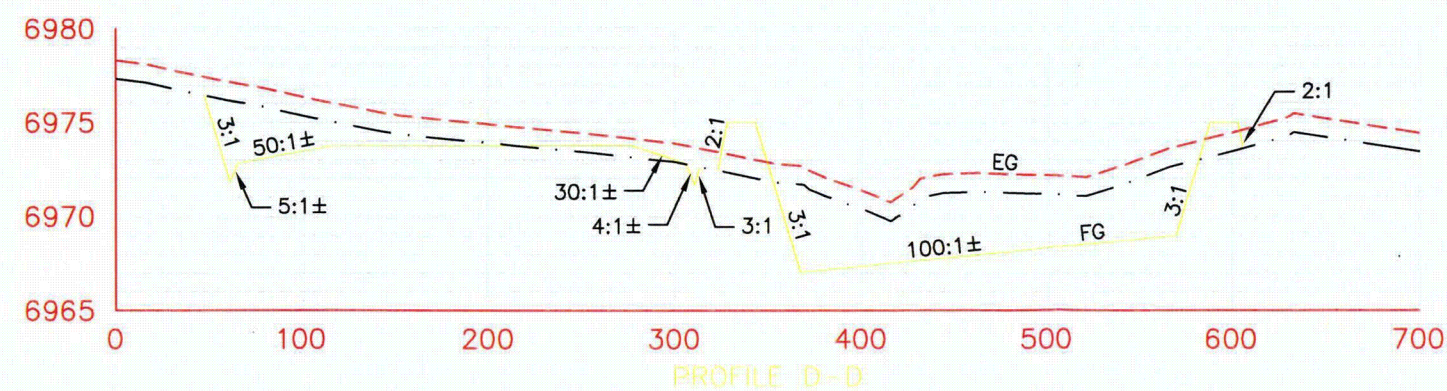
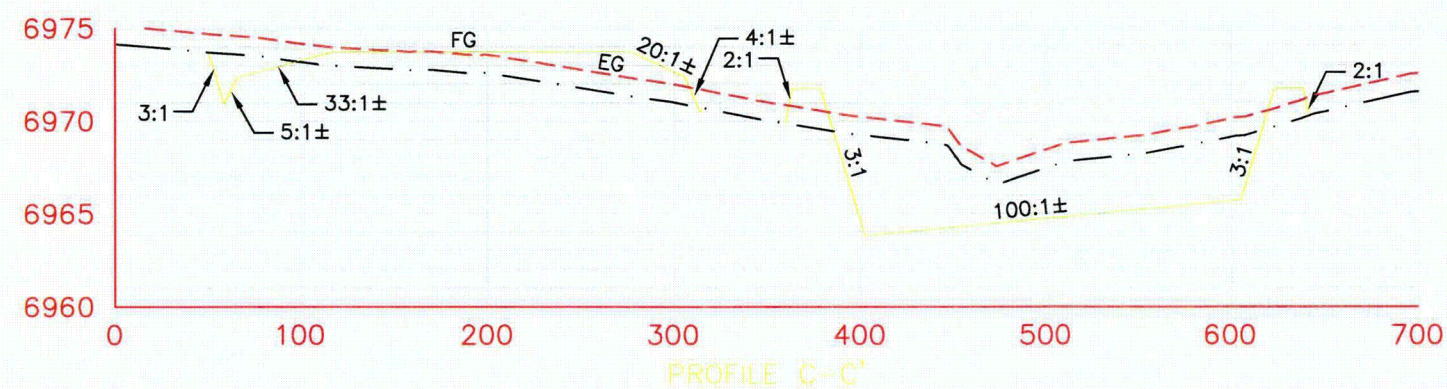
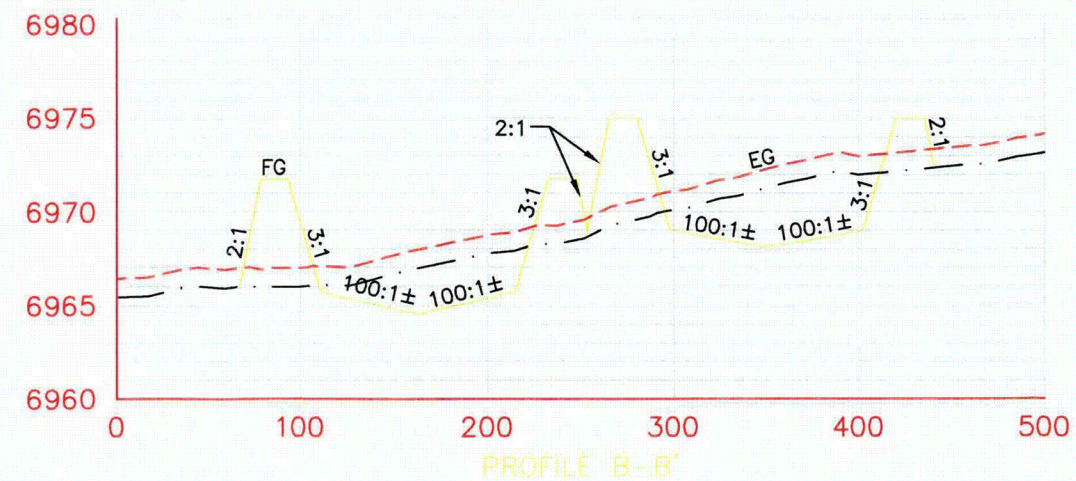
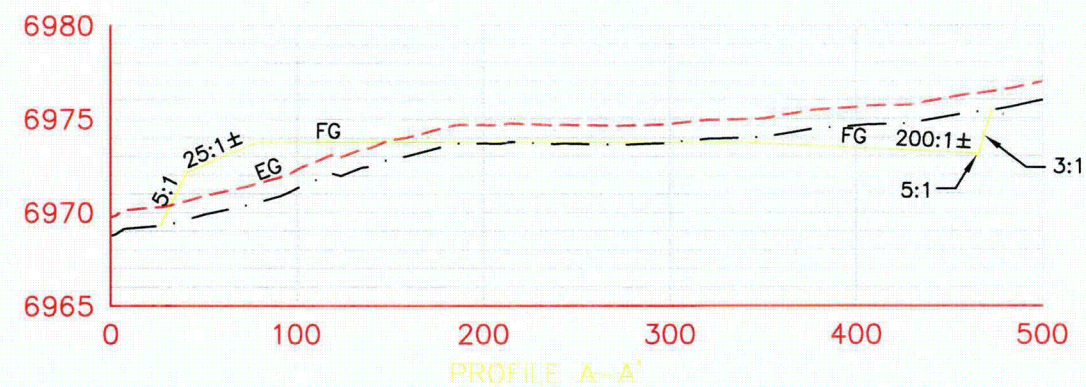







**LEGEND:**

- EXISTING GROUND SURFACE
- - - 1' TOPSOIL REMOVAL SURFACE
- FINISHED GROUND SURFACE



HORIZ. SCALE: 1" = 100'  
VERT. SCALE: 1" = 10'

REVISIONS	
Date	By



**WWC ENGINEERING**  
6000 E. 2nd Street, Suite 1004  
Casper, WY 82609  
(307) 473-2707

Drawn By:      Checked By:      Date:      Scale: