Quality Assurance Project Plan
for the
Environmental and Effluent Monitoring in Support of the LC ISR Lost Creek Project

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Executive Summary

The purpose of the Environmental and Effluent Monitoring Program is to measure radionuclides, inorganic ions, trace metals and sample parameters such as pH and conductivity on environmental samples and effluents generated at the Lost Creek Uranium Recovery Facility located near Bairoil, Wyoming. This data is collected to comply with the United States Nuclear Regulatory Commission requirements for monitoring at uranium recovery facilities from licensing to license termination.

The basic structure of this Quality Assurance Project Plan is derived from NRC Regulatory Guide 4.15, Revision 2, entitled QUALITY ASSURANCE FOR RADIOLOGICAL MONITORING PROGRAMS (INCEPTION THROUGH NORMAL OPERATIONS TO LICENSE TERMINATION) —EFFLUENT STREAMS AND THE ENVIRONMENT.

ES2 Overview of the Environmental and Effluent Monitoring Program

The monitoring of surface waters, groundwater, soils, air, foodstuffs biota, and non-foodstuffs biota is conducted to determine the impact of uranium recovery operations at the Lost Creek site on human health and the environment. The activities conducted under this program include the collection of surface waters, groundwaters, soils, foodstuff biota, and non-foodstuffs biota from the Lost Creek site including operational areas(e.g., around operating production wells and processing plant) and potentially other site locations or sources. Other operations conducted under this program include sample shipment, sample preparation, sample analysis, data analysis, verification and validation(V&V), data management and report writing.

ES3 Conditions to be Monitored

Samples of surface soil, groundwater, surface water storage pond liquids, solution spills, biota (vegetation and biologic tissue), air and radiation survey samples will be collected at various locations on and around the Lost Creek uranium recovery site. The samples are analyzed for radionuclide content, heavy metals, inorganic ions as well as total dissolved solids, pH, temperature, and conductivity for water samples. The data is used to determine source terms in the materials and assess potential uptake in plants, animals, and humans. The data is also used to monitor changes in contamination levels over time.

ES4 Quality Assurance Project Plan Purpose

The environmental and effluent monitoring quality assurance project plan describes the policies and requirements to ensure that all samples collected under this plan are collected analyzed, reported, and verified and validated in the specified manner.

ES5 Project Organization

The Lost Creek Environmental and Effluent Monitoring Program is under the direction of the Environmental Health and Safety Manager. The general operation of the program will be managed by the Lost Creek Radiation Safety Officer (RSO) utilizing various trained technicians to conduct the sampling and analysis activities.

Various other organizations and subcontractors may be utilized, as necessary, to facilitate the execution of monitoring activities specified in this plan.

ES6 Lost Creek Quality Program

The Lost Creek Quality Program for this monitoring is comprised of the Quality Assurance Plan, Environmental and Effluent Monitoring Quality Assurance Project Plan, and the associated standard operating procedures

ES7 Regulatory Drivers

The regulatory drivers for the Environmental and Effluent Monitoring Quality Assurance Project Plan are as follows:

- 10 CFR Part 20
- 10 CFR Part 40
- 10 CFR 50
- 10 CFR 61
- USNRC Regulatory Guide 4.15, Revision 2 July 2007
- Multi Agency Radiological Laboratory Analytical Protocols Manual
- Wyoming Department of Environmental Quality Regulations