United States Department of Energy

MODIFICATION NO. 2 TO THE REMEDIAL ACTION PLAN AND SITE DESIGN FOR STABILIZATION OF THE INACTIVE URANIUM MILL TAILINGS SITE AT GREEN RIVER, UTAH

Final

November 1996

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Uranium Mill Tailings Remedial Action Project

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FINAL

November 1996

**Prepared for
U.S. Department of Energy
Environmental Restoration Division
UMTRA Project Team
Albuquerque, New Mexico**

**Prepared by
Jacobs Engineering Group Inc.
Albuquerque, New Mexico**

**GREEN RIVER REMEDIAL ACTION PLAN (RAP)
MODIFICATION NO. 2
SUMMARY OF CHANGES**

Portions of the final RAP for the Green River site, Volumes I and II, Appendix B of the Cooperative Agreement No. DE-FC04-81AL16257, March 1991 (DOE, 1991) have been modified. The changes to the RAP are designated as RAP Modification No. 2. These changes have been placed in a three-ring binder that will supplement the original RAP (DOE, 1991), and include the following:

- Addendum to the Executive Summary
- Section 3.5 (Ground Water part of the Site Characterization Summary)
- Section 4.0 (Site Design)
- Section 5.0 (Water Resources Protection Strategy Summary)
- Appendix D.5 (Ground Water Hydrology)
- Appendix E (Ground Water Protection Strategy)

The following is a description of where revisions to the Green River RAP of March 1991 (DOE, 1991) have been made. In addition to these revisions, there have been editorial changes that clarify the text, but do not change the meaning. Also, certain sections of the document, which are included in the submittal for ease of review and continuity, have been updated to reflect the final ground water protection standards and the current UMTRA Project format and content of RAPs.

VOLUME I - TEXT

SECTION 3.5:

Section 3.5 was revised to update the description of the hydrostratigraphy underlying the Green River site, with the primary changes in Subsections 3.5.1 (Hydrostratigraphy) and 3.5.2 (Ground Water Movement). These revisions reflect the changes to the detailed information presented in Appendix D.5. Changes to Subsections 3.5.3 and 3.5.4 were updates or editorial only and these sections are included for ease in reviewing the document.

SECTION 4.0:

Portions of Section 4.0 were modified to reflect the change in performance monitoring of the disposal cell. The proposed moisture monitoring system to evaluate disposal cell performance will not be implemented. Statements describing the moisture contents and the proposed moisture monitoring of the emplaced tailings in Sections 4.3.2 and 4.3.5 were deleted. A detailed synopsis of the resolution of the moisture monitoring program is contained in a separate letter report to the NRC (DOE, 1996). Also in these subsections, references to a point of compliance have been deleted. In the introductory paragraphs of subsection 4.3.5, the discussion of the groundwater compliance demonstration was revised. Minor editorial changes were made in other subsections and the entire section is included for ease of review.

SECTION 5.0:

Section 5.0 (Water Resources Protection Strategy Summary) was extensively revised due to the change in the proposed ground water protection strategy. This section summarizes the detailed information in Appendix E, which was revised to propose narrative supplemental standards based on limited-use ground water in the uppermost aquifer.

VOLUME II -- APPENDIX D.5

Portions of Section D.5 were revised to update the description of the hydrostratigraphy underlying the Green River site. In the original version of the RAP, the nomenclature used to describe the two subunits that comprise the unnamed member of the Cedar Mountain Formation (i.e., the upper middle- and lower-middle hydrostratigraphic units) was confusing and thus, the stratigraphic position of these subunits within the uppermost aquifer was unclear. Therefore, the designation upper middle- and lower-middle hydrostratigraphic units were changed to fine-grained middle and coarse-grained middle hydrostratigraphic units, respectively. A detailed explanation of the approach is presented in Section D.5.2 of this Appendix. The corresponding figures in this section were revised to reflect the new hydrostratigraphic designation. Consequently, this allowed the hydrogeologic data related to each hydrostratigraphic subunit to remain unchanged. The tables in Appendix D.5 were not changed since the only differences were in the hydrostratigraphic nomenclature, as noted above. Tables D.5.1 through D.5.27 are available in the original version of the RAP (DOE, 1991).

VOLUME II -- APPENDIX E

Appendix E was extensively revised and provides a detailed description of the proposed ground water protection strategy for the Green River site. The strategy was revised to propose narrative supplemental standards based on limited-use ground water in the uppermost aquifer. The text in Section E.3 was rewritten to provide a demonstration of compliance with the final EPA ground water protection standards pursuant to 40 CFR Part 192 (1995). Statements regarding the originally proposed ground water protection strategy of numerical concentration limits at a point of compliance were deleted. Post-closure monitoring of ground water in the uppermost aquifer as a best management practice is also addressed. All of Appendix E has been submitted for continuity and ease of review.

ADDENDUM TO THE EXECUTIVE SUMMARY

REMEDIAL ACTION PLAN GREEN RIVER, UTAH, SITE

November 1996

This serves as an addendum to the executive summary attached to the final RAP for the Green River site, Volumes I and II, Appendix B of the Cooperative Agreement No. DE-FC04-81AL16257, March 1991 (DOE 1991). The original executive summary (DOE 1991) contains an overview of the site background, proposed remedial action, ground water monitoring, and disposal cell design changes. The March 1991 executive summary also contains a summary of thirteen open issues defined in the April 20, 1988 TER and the DOE resolutions to those issues.

This addendum contains an overview of the proposed ground water protection strategy and long-term ground water monitoring for the Green River site and also documents the modifications made to the original RAP (DOE 1991) based on the revision of the proposed ground water protection strategy.

Ground water protection strategy

To achieve compliance with the final EPA ground water standards, the DOE proposes a narrative supplemental standard based on limited use ground water that is present in the uppermost aquifer (40 CFR §192.22(a) [1995]). Ground water in the Cedar Mountain Formation (which is the uppermost aquifer at the Green River site) is not a current or potential source of drinking water. It meets the definition of limited use based on widespread ambient contamination that exists due to the presence of soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e)[1995]). The strategy will result in compliance with Subparts A and C of the final EPA ground water protection standards (40 CFR Part 192 [1995]).

Demonstration of cleanup and control of ground water contamination associated with the former mill processing activities that existed prior to the construction of the disposal cell at the Green River site will be addressed under a separate DOE program (UMTRA Ground Water Project) and National Environmental Policy Act (NEPA) process. This course of action will include the characterization and evaluation of the preexisting ground water contamination under the UMTRA Ground Water Project and will result in compliance with Subpart B of the final EPA ground water protection standards (40 CFR Part 192 [1995]). The ground water protection strategy and resulting compliance with Subparts A and C for surface remedial action at the Green River site does not preclude or interfere with ground water restoration under Subpart B, should it be required.

Ground water monitoring

The DOE plans to perform post-closure monitoring of ground water in the uppermost aquifer downgradient from the disposal cell for a period of time following completion of remedial action as a "best management practice" (BMP). The purpose of the BMP monitoring is to

provide additional background and characterization information, and to evaluate trends in ground water quality (naturally-occurring or site-related) in the uppermost aquifer. Ground water samples will be collected on a semiannual basis for up to five years (until 2001) from nine disposal site monitor wells and analyzed for nitrate, selenium, sulfate, uranium, and total dissolved solids. A significant increase in the distribution of any of the monitored constituents in ground water beneath the site over two successive monitoring events will trigger a physical investigation of the disposal cell to determine if one or more of the potential failure scenarios have occurred. Upon completion of the sampling program, ground water conditions will be assessed based on the additional information collected, and the BMP monitoring will be discontinued. The NRC will participate in the assessment process.

BMP monitoring is not required under the regulations for the purpose of demonstrating compliance with the final EPA ground water protection standards (40 CFR §192.02 [1995]) and will not trigger corrective action (40 CFR §192.04 [1995]). The appropriate method for long-term monitoring of performance of the disposal system and protection of ground water will be determined and described in the LTSP.

RAP Modifications

Portions of the final RAP for the Green River site, Volumes I and II, Appendix B of the Cooperative Agreement No. DE-FC04-81AL16257, March 1991 (DOE, 1991) have been modified. The changes to the RAP are designated as RAP Modification No. 2. These changes have been placed in a three-ring binder that will supplement the original RAP (DOE, 1991), and include the following:

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- Appendix D.5 (Ground Water Hydrology)
- Appendix E (Ground Water Protection Strategy)

**Please note that only Section 3.5 has been included
for ease in reviewing this document**

**Pages 28 through 37 contain figures from Section 3.4
and have not been included.**

shales of the Cedar Mountain Formation. These near-surface soils lie within the area of windblown contamination and are considered representative of this material.

Ground water was not encountered within the soils at the site. The first ground water in this disposal area is within the Cedar Mountain Formation at approximately 55 feet below the ground surface. Section 3.5 describes the ground water conditions within the bedrock.

3.4.3 Borrow sites

Radon cover and filter materials

Radon cover and gravel filter materials from borrow site 1 (Figure 3.15) were explored during an initial investigation by 14 test pits excavated with a backhoe. The locations of these test pits and cross sections are presented in Figure 3.16. Cross sections of the borrow sites were developed as shown in Figures 3.17 through 3.23. The test pits were logged and sampled by a field engineer. An additional 10 test pits were constructed by MKF during a final field investigation. The location of these are shown on Figure 3.24.

Borrow site stratigraphy

The near-surface soils at the site consist of zero to six feet of clayey to silty sands overlying clean sand and gravel or clay that is in turn underlain by gravel. The near-surface silty and clayey sands are not suitable for infiltration/radon barrier material. The clay layer, which is between four and more than eleven feet thick, is suitable for radon barrier material. This material is primarily in the northeast corner of the area originally explored. The final investigation indicates the clays become more extensive to the northeast. Ground water was not encountered in the test pits.

Rock borrow materials

Rock of a quality to be considered suitable for use according to NUREG/CR-4620 will be used on the pile. The source is approximately 75 miles west of the site at Fremont Junction.

3.5 GROUND WATER

Ground water conditions and ground water quality impacts resulting from the processing and disposal of uranium at the Green River tailings site are summarized in this section. A detailed discussion is provided in Section D.5, Ground Water Hydrology, of Appendix D. Appendix D also contains numerous tables and figures that are helpful in understanding ground water conditions at the Green River tailings site.

3.5.1 Hydrostratigraphy

Three distinct hydrostratigraphic units are defined beneath the Green River site within 200 feet (ft) (60 meters [m]) of the ground surface. In descending order these units are the Quarternary alluvial deposits along Brown's Wash (Brown's Wash alluvium), the unnamed upper member of the Cretaceous Cedar Mountain Formation, and the underlying Buckhorn Member of the same formation. These units are described as follows:

- The top hydrostratigraphic unit is the Brown's Wash alluvium. Ground water in this unit is locally perched by the dense, well cemented sandstone conglomerate of the Dakota Sandstone and the shale and limestone of the Cedar Mountain Formation (where these bedrock units are not fractured). Directly beneath the former tailings pile, a paleochannel of Brown's Wash has eroded away the Dakota Sandstone, and the Brown's Wash alluvium directly overlies shale of the Cedar Mountain Formation.
- The middle hydrostratigraphic unit is the unnamed member of the Cedar Mountain Formation which lies beneath the Dakota Sandstone. It consists primarily of complexly interbedded sandstone, siltstone, claystone, shale, and limestone. The unnamed member ranges in thickness from 130 to 160 ft (40 to 50 m). Ground water occurs under confined and semiconfined conditions primarily in a sandstone/siltstone/conglomerate facies of limited areal extent that is bounded above and below by finer-grained materials (limestone and shale). This unit has an approximate maximum thickness of 40 ft (12 m) in the disposal site area. Depth to ground water in this unit ranges from 3 to 75 ft (1 to 23 m) beneath the ground surface.

The coarser grained sandstone/siltstone/conglomerate facies and the finer-grained limestone, claystone, and shale materials that comprise the unnamed member of the Cedar Mountain Formation will be characterized independently in order to better evaluate the complex hydraulic characteristics of the unnamed member of the Cedar Mountain Formation. In the following sections the sandstone/siltstone/conglomerate facies will be referred to as the coarse-grained middle unit and the limestone and shale materials will be referred to as the fine-grained middle unit.

- The bottom hydrostratigraphic unit is the Buckhorn Member of the Cedar Mountain Formation. This unit consists primarily of sandstone with minor interbeds of mudstone and shale. The top of this unit is encountered at depths of approximately 124 to 160 ft (38 to 50 m) beneath the ground surface, although the thickness of this unit is not determined in this area. Jurassic-age sedimentary rocks lie beneath the bottom hydrostratigraphic unit.

3.5.2 Ground water movement

The presence and movement of shallow ground water beneath the tailings site is controlled by extensive fracturing of the bedrock; locally strong, vertically upward hydraulic gradients and movement of ground water upward between bedrock units; and the attitude (dip) of the bedrock units. Flow of ground water in the Brown's Wash alluvium is controlled by recharge from the east (upstream); recharge from the fine-grained middle unit south of Brown's Wash; discharge of ground water into the fine-grained middle unit west (downgradient) of the tailings; and discharge of ground water into the channel of Brown's Wash at the surface. The occurrence of ground water in Brown's Wash is also limited by the lateral extent of the alluvium; the top hydrostratigraphic unit is a maximum of 600 feet wide near the tailings pile. The following describes the flow of ground water beneath the tailings site in more detail.

Top hydrostratigraphic unit

The depth to ground water ranges from nine to 17 feet below the surface in the top unit. The general direction of ground water flow in this unit is west toward the Green River; however, the flow is locally controlled south of Brown's Wash channel (beneath the present tailings pile) by recharge from the underlying fine-grained middle unit. Beneath the tailings, ground water in the alluvium flows northwest at a volume rate of about 9.9 gallons per minute (gpm); the velocity of flow ranges between 0.55 and 2.19 feet per day (ft/day). West of the tailings, ground water flowing in the top unit is divided into three major components: (1) surface water flow and subflow in Brown's Wash channel; (2) evaporation and transpiration, primarily near Brown's Wash channel; and (3) discharge down into the underlying fine-grained middle hydrostratigraphic unit (or through the Dakota Sandstone, where it is present), primarily via vertical fractures in the bedrock. Since two well points and one monitor well completed in the top unit immediately west of the tailings pile have been dry during the sampling period (June 1986 through October 1987), it is estimated that very little ground water that originates from beneath the tailings pile flows in the top unit much further than 400 feet west (downgradient) from the tailings.

Fine-grained middle hydrostratigraphic unit

The depth to ground water in the fine-grained middle unit beneath the present tailings surface is about 26 feet. The general direction of ground water flow in this unit is west toward the Green River. However, like the top hydrostratigraphic unit, the flow of ground water in the fine-grained middle unit is also locally controlled by recharge from south of the tailings pile by flow from underlying units. Beneath the tailings pile, the potentiometric surface of the fine-grained middle unit forms a "trough" or ground water sink, indicating that the flow of ground water along the sink is controlled by a zone of higher secondary permeability, likely from jointing, fracturing, or minor faulting of the bedrock. It is along this sink that the fine-grained middle unit is recharged by ground water from the overlying Brown's Wash alluvium (top unit). Beneath the tailings, ground water flows in the fine-grained middle hydrostratigraphic unit at a volume flow rate of about 4.9 gpm; the velocity of flow ranges from 0.01 to 0.71 ft/day.

Ground water in the fine-grained middle unit beneath the proposed disposal site is first encountered at a depth of about 60 feet (ground water is not present beneath the disposal site above this depth). Beneath the southern one-third to one-half of the proposed disposal area, the fine-grained middle unit is dry or is only saturated in the bottom one to two feet. North of the disposal site, the fine-grained middle unit becomes saturated as the bedrock units dip toward the north. Between the disposal site and the present tailings pile, the flow of ground water in the fine-grained middle unit is controlled by connected fractures, recharge from south of the disposal area or from underlying aquifers, and by the dip of the bedrock units. The flow of ground water in the fine-grained middle unit beneath the disposal site is about two gpm.

Coarse-grained middle hydrostratigraphic unit

The depth to the top of the coarse-grained middle unit beneath the tailings surface is 60 to 65 feet. However, the potentiometric surface of the coarse-grained middle unit is two to

three feet above the surface of the tailings. A strong, vertically upward hydraulic gradient exists between the coarse-grained middle unit, and the overlying top- and fine-grained middle hydrostratigraphic units, which has prevented seepage and contaminants from the tailings from entering the coarse-grained middle unit. The general direction of ground water flow in the coarse-grained middle unit beneath the tailings pile is west toward the Green River. West and east of the tailings, the coarse-grained middle unit intertongues with the fine-grained middle unit, and the coarse-grained middle unit becomes thin and discontinuous or nonexistent in some places. The flow of ground water in the coarse-grained middle unit west and east of the tailings is undoubtedly controlled by the intertonguing. The volume flow rate of ground water in the coarse-grained middle unit beneath the present tailings pile was not calculated since this unit has not been affected by tailings seepage.

Ground water in the coarse-grained middle unit beneath the proposed disposal site is first encountered at a depth of about 60 feet. Ground water flow in this unit between the disposal site and the present tailings pile is controlled by the same factors that control flow in the overlying fine-grained middle unit. The flow of ground water in the coarse-grained middle unit beneath the disposal site is about two gpm.

Bottom hydrostratigraphic unit

Confined ground water is present in the bottom unit beneath the tailings site. The potentiometric surface in the bottom unit is five to 14 feet above the present tailings surface, and 56 to 71 feet below the surface of the proposed disposal site. The direction of ground water flow is north-northwest in the bottom unit. Ground water flow through the bottom unit beneath the present tailings pile was not calculated since the bottom unit has not been affected (and will not be affected) by tailings seepage.

3.5.3 Ground water quality

Ground water quality at the Green River tailings site was characterized and compared with the EPA standards for remedial action at inactive uranium processing sites and state of Utah drinking water standards. Since the maximum concentration limits (MCL) for the EPA standards and the Utah Primary Drinking Water Standards are the same, the ensuing discussion will refer only to the EPA standards. A list of standards for purposes of site characterization is provided in Table D.5.1 of Appendix D.

Background ground water quality in the hydrostratigraphic units at the Green River site was determined for the following EPA constituents: chromium; molybdenum; nitrate; selenium; radium-226 and 228; uranium; and gross alpha. The other EPA constituents listed in Table D.5.1 of Appendix D were found at levels below or near detection for the first two rounds of sampling in June 1986 and September 1986; consequently, some of these remaining constituents were excluded from subsequent sampling rounds and are not considered to be present as contamination at the Green River tailings site. Background ground water quality in all hydrostratigraphic units is characterized by total dissolved solids (TDS) and concentrations of sulfate and chloride that exceed EPA and state of Utah Secondary Drinking Water Standards. Based on production capacity and TDS, ground water in all hydrostratigraphic units would be classified as Class II. However, it may be classified as Class III because of the

presence of selenium, molybdenum, chromium, nitrate, and uranium in background samples that exceeds EPA MCLs for those constituents.

Background ground water quality in the top hydrostratigraphic unit is characterized by maximum concentrations of chromium (0.14 milligrams per liter, or mg/L), molybdenum (0.20 mg/L), nitrate (140 mg/L), and selenium (0.38 mg/L), and gross alpha activity (41 pCi/L) that exceed EPA MCLs for these constituents. In the fine-grained middle unit, maximum concentrations of nitrate (93 mg/L), selenium (2.50 mg/L), and gross alpha activity (21 pCi/L) exceed EPA MCLs; uranium (0.038 mg/L) is very close to the MCL of 0.044 mg/L.

Background ground water quality in the coarse-grained middle hydrostratigraphic unit is characterized by concentrations of chromium (0.09 mg/L), molybdenum (0.22 mg/L), nitrate (173 mg/L), selenium (0.32 mg/L), uranium (0.155 mg/L), and gross alpha activity (150 pCi/L) that exceeds the EPA MCLs for these constituents. In the bottom hydrostratigraphic unit, background concentrations of chromium (0.07 mg/L), molybdenum (0.14 mg/L), selenium (0.106 mg/L), and gross alpha activity (30 pCi/L), exceed EPA MCLs.

Contaminated ground water upgrading of the present tailings pile was also detected in the shale and mudstone of the Cedar Mountain Formation beneath the coarse-grained middle unit. This contaminated water was collected from a monitor well located south (upgradient) of the tailings and west of the proposed disposal site. Maximum concentrations of nitrate (1280 mg/L) and selenium (0.322 mg/L) are over one order of magnitude higher than the EPA MCLs for these constituents; the boron concentration is 0.84 mg/L, which is slightly higher than the state of Utah Drinking Water Standards maximum concentration limit of 0.75 mg/L. Since this saturated zone within the Cedar Mountain Formation (78 to 98 feet below the surface) is isolated from any surface source of contamination by strong, vertically upward hydraulic gradients, the source for contaminants found within this unit is from somewhere other than the tailings site, and possibly from an elevation below (upgrading of) the contamination.

The percolation of tailings leachate into the ground water system beneath the present tailings pile has adversely impacted the water quality in both the top and fine-grained middle hydrostratigraphic units. The vertical extent of the contamination is confined to these two units by strong, vertically upward hydraulic gradients between the fine-grained middle unit and the underlying units. The maximum depth of contamination beneath the surface of the tailings is about 65 feet. Ground water within the top and fine-grained middle units beneath the tailings contains levels of gross alpha activity, molybdenum, nitrate, selenium, and uranium that exceed the EPA standards and/or background levels for these constituents; ammonium levels also exceed background levels (ammonium has neither a EPA standard nor a Utah drinking water standard). The maximum concentrations observed for these contaminants in the top unit are: gross alpha activity (950 pCi/L); molybdenum (0.27 mg/L); nitrate (440 mg/L); selenium (0.41 mg/L); uranium (2.23 mg/L); and ammonium (42 mg/L). In the fine-grained middle unit, the observed maximum concentrations are: gross alpha activity (980 pCi/L); molybdenum (0.20 mg/L); nitrate (2480 mg/L); selenium (0.37 mg/L); uranium (3.11 mg/L); and ammonium (47 mg/L).

The contamination resulting from the tailings seepage travels downgradient through the top unit (Brown's Wash alluvium) toward the northwest and the channel of Brown's Wash. Once in Brown's Wash the contaminants move west with ground water flow in the shallow alluvium (as subflow in the channel) or on the surface.

Surface water sample analyses from Brown's Wash (DOE, 1988a) indicate contaminated ground water discharges to Brown's Wash; however, flow in the channel is intermittent and the concentrations of the contaminants (as well as major cations and anions) are a function of the evaporation of water in the channel (i.e., evaporation causes a relative increase in concentration of the contaminants). The contaminated water travels downstream (west) in Brown's Wash and mixes with backwater from the Green River. Water quality analyses from samples of Green River water upstream and downstream from its confluence with Brown's Wash show that the discharge of contaminated water from Brown's Wash to the Green River has no adverse affect on the water quality of the Green River (DOE, 1988a). This is because the contaminants are diluted by a factor of 10^5 to 10^6 once they mix with the Green River.

Contamination from tailings leachate in the fine-grained middle hydrostratigraphic unit extends northwest from the tailings pile. Contaminant plumes of gross alpha, molybdenum, and nitrate extend 1000 to 1200 feet downgradient of the middle portion of the tailings pile. Selenium, which seems to be the most mobile of the contaminants, extends 1800 feet or more downgradient of the tailings. Uranium has probably moved only 300 to 600 feet downgradient of the middle portion of the tailings pile, and the plume probably does not extend past the west (downgradient) edge of the pile; this indicates that uranium is being geochemically attenuated in the fine-grained middle unit. Contamination is also present near Brown's Wash in the fine-grained middle unit 1500 to 1600 feet west of the tailings. The source of this contamination is likely seepage of contaminated water in Brown's Wash channel into the bedrock channel bottom, primarily through connected vertical fractures in the bedrock. Since the source concentrations of the contaminants at this location are far less than the concentrations at the tailings source, this "secondary" plume of contamination is very localized and probably does not extend very far beyond the channel of Brown's Wash.

3.5.4 Ground water use, value, and alternative supplies

There are 15 registered wells in Township 21 South, Range 16 East in the Green River area. Only one of these wells is on the same side of the Green River as the tailings site, and none are within the potentially affected environment of the tailings site. The majority of the 15 registered wells are not being used because of poor quality of the water, disrepair of the wells, and the availability of better quality water from the city of Green River. The usage of ground water in the vicinity of Green River is consistent with the usage of ground water on a regional basis. It is difficult to assign a value to ground water that has no use or only very limited use. Qualitatively, it can be stated that the shallow ground water, either affected or unaffected by tailings seepage, has little or no value because of the naturally high concentrations of selenium, molybdenum, chromium, nitrate, and uranium found within it. For this reason, the shallow ground water may be classified as Class III (i.e., the ground water is contaminated naturally to the extent that it cannot be cleaned up using treatment methods reasonably employed in public water supply systems).

Future use of shallow ground water for domestic consumption in the site area is not expected due to its poor natural quality and the availability of better quality water from the Green River. In spite of the poor natural quality of the ground water within the Brown's Wash alluvium (top hydrostratigraphic unit) and the unnamed member of the Cedar Mountain

Formation, water suitable for livestock and some crop irrigation was located in the Buckhorn Conglomerate Member of the Cedar Mountain Formation beneath the tailings site.

The seepage of tailings fluids from the Green River site has not adversely impacted any ground water currently being used. Alternate water supplies to residents in the Green River area include Green River water as currently supplied by the city of Green River, and commercial (bottled) water.

3.6 SURFACE WATER

The tailings pile and mill site at the Green River site are on a slope between an upper abandoned river terrace and the southern edge of the present floodplains of the Green River and Brown's Wash.

Major tributaries of the Green River (which joins the Colorado River 100 miles downstream of the site) are the Yampa and White Rivers of Colorado and the Duchesne and Price Rivers of Utah, all of which flow into the Green River above the site, and the San Rafael River, which joins the Green River about 20 miles downstream of the site. Brown's Wash has a drainage area of approximately 85 square miles near the Green River tailings site. Approximately 750 feet northeast of the tailings pile an unnamed intermittent stream flows into Brown's Wash.

Surface runoff north of the site is diverted from Brown's Wash and the tailings site by a railroad embankment. Runoff from the mill site is directed northwest to Brown's Wash and eventually to the Green River. An area of approximately 110 acres drains to the disposal area southeast of the mill yard. This area is drained to the southwest and northeast by several small gullies.

The tailings pile is subject to erosion and inundation from flood events in Brown's Wash having a recurrence interval of approximately 500 years. Floods with lesser recurrence intervals could cause erosion of the tailings due to bank failure. The tailings pile would not be affected by flooding of the Green River because the overbank areas are broad and flat and flow could not reach the pile. The proposed disposal area is not susceptible to flooding of either the Green River or Brown's Wash.

There are no uses of water in Brown's Wash in the vicinity of the Green River site. The city of Green River presently takes water out of the Green River upstream of the confluence with Brown's Wash for municipal use. Withdrawal downstream of the site is minimal.

The quality of water in Brown's Wash is affected by the presence of the tailings. The effect is dependent on the quantity of flow in the wash. There are no measurable effects from the tailings on the quality of water in the Green River.

4.0 SITE DESIGN

4.1 INTRODUCTION

This section discusses the following design items for remedial action at the Green River, Utah, UMTRA site:

- Remedial action objectives.
- Permanent design features.
- Construction features.
- Construction activities and schedule.

Maps, drawings, and tables relevant to the design are provided in this section and the appendices of this RAP. The site design presented herein is described to demonstrate compliance with EPA standards.

The main objectives of the site design are to satisfy the UMTRCA and the EPA standards restricting the release of contaminated materials into the environment and limiting the release of radon gas and gamma radiation from tailings, contaminated soils, and other contaminated materials.

4.2 DESIGN OBJECTIVES

The major design objectives are as follows:

- Consolidate and stabilize contaminated materials in a disposal embankment above the elevation of the Probable Maximum Flood (PMF) in Brown's Wash.
- Reduce radon flux to the atmosphere from tailings and from other contaminated materials to levels not greater than 20 pCi/m²/s.
- Design permanent features for stabilization of tailings and other contaminated materials to be effective for at least 1000 years to the extent achievable, and in any event, for at least 200 years.
- Prevent human and animal disturbance of the disposal embankment.
- Minimize, to the extent achievable, the impact of materials in the disposal embankment on ground and surface water.
- In areas that will be released for unrestricted use, reduce Ra-226 contamination levels to less than five pCi/g above background levels in the top 15 cm of soil and to less than 15 pCi/g above background levels in any 15-cm-thick soil layer beneath the top 15 cm.
- Minimize the size of the restricted final disposal site.
- Minimize the release of contaminants from the site during construction.
- Minimize the area disturbed during construction.
- Minimize the exposure of workers and the general population to contaminated materials.

4.3 DESIGN SUMMARY

4.3.1 Remedial action summary

The main feature of the remedial action is relocation and stabilization of contaminated materials in a disposal embankment on a terrace located above Brown's Wash. Contaminated materials to be relocated will include:

- Materials from the tailings pile.
- Windblown contamination on the surface of the site and adjacent areas and contaminated materials from vicinity properties.
- Debris resulting from demolition of contaminated buildings.
- Contamination resulting from decontamination of buildings.

The disposal embankment will cover six acres and contain 339,377 in-place cy of contaminated materials.

The mill site is located approximately one-half mile east of the Green River and one mile southeast of the city of Green River. The disposal embankment will be located southeast of the former mill site on a terrace 70 feet above the elevation of the floodplain of Brown's Wash. The location and design of the disposal embankment have been selected to protect against erosion from Brown's Wash and against undercutting of the embankment by gully formation.

The stabilized embankment will be constructed primarily below the existing ground surface. The excavation for the below-grade portion of the embankment will extend into bedrock of the Dakota and Cedar Mountain Formations. Excavation will be performed with conventional earth-moving equipment. Tailings and windblown contaminated material will be placed and compacted in horizontal layers starting on top of a six-foot-thick layer of compacted select soil fill placed at the bottom of the excavation.

An infiltration/radon barrier will be constructed of compacted uncontaminated materials. The infiltration/radon barrier is designed to protect ground water by minimizing infiltration and to reduce radon flux from the embankment to less than 20 pCi/m²/s. The infiltration/radon barrier will consist of a 36-inch-thick layer of compacted silty clay imported from a source located 2.5 miles north of the site. Six percent bentonite by weight will be mixed into the radon barrier material to ensure a compacted infiltration/radon barrier saturated hydraulic conductivity of less than 2×10^{-8} cm/s.

An erosion protection layer will be constructed to protect the infiltration/radon barrier and embankment from runoff that would result from a Probable Maximum Precipitation (PMP) on the embankment and from runoff that would result from a PMF from the small watershed upslope of the embankment. The erosion protection layer is also designed to protect the embankment from the encroachment of gullies.

The uppermost portion of the erosion protection will be a layer of riprap. Above finished grade, the riprap will be 12 inches thick and have a minimum mean size of $D_{50} = 2.6$ inches. This riprap is referred to as Type A riprap. A six-inch-thick bedding layer will be placed above the select fill to prevent migration of the infiltration/radon barrier into the riprap. The lower 15 inches of the infiltration/radon barrier will be below the maximum projected frost depth at the toe of the sideslopes.

Below finished grade, the riprap will be a minimum of 36 inches thick and have a minimum mean size of $D_{50} = 18$ inches. This riprap is referred to as Type B riprap. A 12-inch-thick layer of Type A riprap and a six-inch layer of bedding material will be constructed between the infiltration/radon barrier and the Type B riprap. These intermediary layers will prevent migration of the infiltration/radon barrier into the Type B riprap.

The configuration of the infiltration/radon barrier, bedding, and Type A and B riprap layers are presented in Figures 4.1 and 4.2.

Slopes of the disposal embankment will be 5:1 and will be from the approximate bedrock surface elevation up to 4181 ft above mean sea level (MSL) at the top of the embankment.

Existing gullies near the disposal embankment will be regraded to minimize potential hazards of enlargement of the gullies and the formation of new gullies. Gravel fill materials will be placed and compacted in the bottom of each gully. The remainder of each gully will be filled with material from the disposal embankment excavation. About 69,900 cy of gravel will be used to fill gullies.

The mill building addition, the office building addition, and the roaster building will be demolished. Debris resulting from demolition will be buried in the disposal embankment. All demolition activities will be controlled to protect workers and to restrict release of airborne contamination. Contaminated material will not be removed from the site.

The mill building, crusher building, and office building will be decontaminated to make them suitable for reuse.

Excavated and disturbed disposal site and borrow site areas will be regraded (or backfilled) as required to promote drainage and subsequently revegetated. Areas outside the final disposal site boundary will be released for unrestricted use after completion of remedial action.

4.3.2 Control and monitoring of moisture in contaminated materials and tailings

The specifications for placement of disposal cell materials have been carefully prepared to minimize and control the use of water during disposal cell construction. (See Section 2200 of Appendix F.) However, natural precipitation and dust control water could lead to an increase in the moisture content within the disposal cell.

4.3.3 Reprocessing assessment

The cost-effectiveness of reprocessing the tailings to recover the residual uranium has been analyzed (FBDU, 1981). The analysis indicates that capital and operating costs for reprocessing the tailings would be approximately \$1600 (1981 dollars) per pound of uranium oxide produced. The present market value of uranium oxide is less than \$25 per pound. Reprocessing, therefore, is not economically feasible.

4.3.4 Site acquisition requirements

Legal access to the site will be through purchase of the site from the Union Carbide Corporation (UMETCO) by the state of Utah. The site will remain in the ownership of the state during site construction. Following completion of the remedial action, ownership of the permanent disposal site will be transferred to the DOE.

4.3.5 Justification of the Green River design

The EPA standards in 40 CFR 192.02(a) require that control of residual radioactive materials and listed constituents be designed to be effective for up to 1000 years, to the extent reasonably achievable, and, in any case, for at least 200 years. For those sites where the DOE is unable to demonstrate that control measures will clearly be effective for 1,000 years, the DOE must demonstrate that (1) the proposed design represents the best reasonably achievable design to control residual radioactive materials and listed constituents, and (2) control will be effective for some duration in excess of 200 years.

The DOE considers that the Green River disposal unit will control residual radioactive materials and listed constituents in compliance with the EPA standards for at least 1,000 years. The DOE's compliance demonstration with the ground water protection standards relies on a narrative supplemental standard (40 CFR §192.22(a); 60 FR 2854 (1995)) based on limited use ground water present in the uppermost aquifer due to widespread ambient contamination that exists due to the presence of soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e); 60 FR 2854 (1995)). Therefore, the DOE will herein demonstrate that the disposal unit design is the best reasonably achievable design and that the disposal unit will effectively control residual radioactive materials for at least 200 years to demonstrate compliance with ground water protection aspects of the EPA standards in 40 CFR 192.02(a).

The DOE has prepared a comparative analysis of alternative disposal designs and concluded that the Green River disposal unit is the best reasonably achievable design to comply with the EPA standards. The following discussion supports this conclusion.

Alternate sites

The DOE considered a representative set of alternative site locations for the disposal of residual radioactive materials from Green River. The set included stabilization in place, stabilization on site (the preferred alternative), and relocation at (1) the northeast Green River site, (2) the southeast Green River site, (3) the Thompson site, and (4) the Woodside site (DOE 1988a; DOE 1986a; and FBDU 1981). Stabilization in place would create a sufficient

hazard from flooding by Brown's Wash that the disposal unit may not comply with the EPA standards with respect to long-term stability. Consequently, stabilization in place was rejected as a disposal option. The alternate sites considered did not provide significantly better conditions in terms of ground water protection because the hydraulic properties and ground water quality at these sites is similar in many ways to those at the Green River site. Further, relocation of the materials to the alternate sites would increase the cost of the remedial action by \$12 million to \$38 million because of the site preparation and transportation costs. Therefore, stabilization on site in the area formerly used for ore storage, well above the floodplain of Brown's Wash, is the preferred disposal site alternative.

Disposal cell configuration

The DOE selected partially below-grade disposal of the residual radioactive materials to enhance the long-term stability of the disposal cell. The DOE considered three variables in selecting the configuration of the disposal cell: shape, area, and depth. Assessments of a representative set of alternate shapes indicated that shape has minimal effect on compliance with the ground water protection standards. The shapes that have the greatest potential to reduce ground water impacts are difficult to construct and significantly increase the cost of the remedial action compared to the square shape of the preferred design. In addition, some shapes significantly increase the surface areas of the disposal unit; increases in surface area result in corresponding increases in the water flux, and conceivably the flux of listed constituents, through the disposal unit. The square shape is the preferred alternative design with minimum area that is readily constructible.

Given the square shape, the maximum excavation depth of 43 feet has been selected to minimize the surface area of the disposal unit. Greater depths of excavation would place the residual radioactive materials unacceptably close to the water table, which is located approximately ten feet below the preferred excavation depth. The separation distance was selected based on the highest measured water table elevation and the maximum recorded seasonal variation of the water table at the site. Deeper excavation would penetrate through the calcareous shale bedrock into the sandstone layer beneath the site. Deeper excavation could be detrimental by destroying the shale layer, which is a natural barrier to contaminant migration, and by directly connecting the base of the disposal cell with the sandstone unit, which has relatively high hydraulic conductivity. Therefore, the DOE selected the disposal cell configuration to minimize the flux of water and constituents through the cell, to protect against saturation within the cell, and to avoid compromising a natural barrier to contaminant migration.

Buffer layer

The DOE included a buffer layer at the base of the disposal unit to protect against preferential flow of leachate through the unsaturated zone beneath the unit, to increase the ground water travel time from the base of the contaminated material to the water table, and to attenuate transport of some listed constituents by adsorption, ion exchange, and precipitation. The DOE considered a number of variables with respect to the design of the buffer layer, including hydraulic properties, sorption characteristics, and thickness.

The DOE considered buffer materials with both lower and higher saturated hydraulic conductivities, ranging from $1\text{E-}8$ to $1\text{E-}3$ cm/s, compared with the design saturated conductivity of the buffer layer of $5\text{E-}5$ cm/s. Once the water flow through the disposal unit reaches steady state, the flux under a unit hydraulic gradient will be controlled by the lowest conductivity to minimize the flux through the disposal unit. Selection of a lower conductivity material for the buffer layer would not significantly improve performance of the disposal unit because the flux rate is governed by the flux through the cover. In addition, the selection of a buffer material with a conductivity equal to or less than the cover conductivity ($2\text{E-}8$ cm/s) could cause adverse accumulation of water above the buffer layer within the disposal (e.g., "bathtubbing"). Such accumulation could cause direct discharge of constituents from the disposal cell. Further, lower conductivity materials may not sufficiently mitigate preferential flow of leachate through the unsaturated zone beneath the unit. Finally, because the buffer will operate in the unsaturated state, there is little difference between it and a lower permeability material that would have to be placed at, and thus operate in, a saturated condition.

The DOE proposes to construct the buffer layer out of the selected silty and clayey sand and gravel that overlies bedrock at the disposal site. Although this material does not possess strong sorptive characteristics for the listed constituents at Green River, locally available materials that are suitable for buffer layer construction are not expected to be significantly better than the Green River materials in terms of sorption capacity. The silty and clayey sands and gravels contain interstitial carbonate deposits that may be effective in buffering the pH of leachate from the Green River disposal cell and, thus, reduce the mobility of chromium, Ra-226, arsenic, nickel, lead, and other constituents via precipitation. In addition, oxiferic and aluminohydroxide coatings in the silty and clayey sands and gravels may be effective in sorbing listed constituents such as uranium, arsenic, and radium. Further, the constituents present in the Green River buffer material may not be effective in attenuating all listed constituents. Therefore, materials with better sorptive characteristics than the selected buffer material do not appear to be readily available without a comprehensive search and analysis of alternative materials and considerable expense.

Batch and column feed testing of the buffer material show that the buffer material is effective in reducing feed concentrations of arsenic, molybdenum, selenium, and vanadium (tailings extract solution) to significantly lower concentrations. This testing, with the results, is documented in calculation GRN-07-89-12-07-00 (see Appendix H).

The DOE also considered the thickness of the buffer layer. In general, the buffer layer must be thick enough to provide sufficient travel time between the residual radioactive material and bedrock and to mitigate preferential flow and yet be thin enough to avoid expanding the surface area of the disposal unit. If the buffer layer were much thinner than the preferred design (e.g., two feet compared with six feet), preferential flow through the buffer layer could become dominant and result in relatively rapid transport of constituents through the fractured bedrock to the water table. In addition, the travel time through the buffer layer would decrease linearly as a function of thickness.

On the other hand, increases in the thickness of the buffer layer (e.g., eight feet compared with six feet) would expand the layer into the volume available to dispose of residual radioactive materials.

Because the base of the excavation is already at a minimum elevation (as discussed above), expansion of the buffer layer would require horizontal expansion of the disposal unit. This expansion would cause a corresponding increase in the surface area of the disposal unit and place more of the residual radioactive materials above the existing ground surface. Such changes could reduce the inherent stability of the disposal cell and may allow the encroachment of nearby gullies and impair the cell's ability to protect ground water in exchange for a slight gain in travel time and sorption. Further, significant increases in the thickness of the buffer layer would be required to increase travel time through the layer significantly because thickness varies linearly and travel time is directly proportional to thickness. For example, an increase in thickness from six feet to 50 feet would be required to increase the travel time through the buffer layer from 120 years to 1,000 years.

Therefore, the design of the buffer layer has been optimized with respect to ground water protection by considering its hydraulic properties, sorptive characteristics, and thickness.

Windblown materials

A substantial volume (200,000 cy) of windblown and vicinity property material was found at the Green River site. This material was characterized in terms of leachable hazardous constituents (calculation GRN-07-89-12-07-00 in Appendix H) to determine where within the disposal cell these materials should best be placed. The chemical characterization of the windblown material showed that, for all of the hazardous constituents identified at the Green River site except for uranium and vanadium, the extract concentrations from batch experiments using the windblown materials are below the interim concentration limits proposed by the NRC (and concurred in by the DOE). The column leach tests show, however, that uranium and vanadium feed concentrations are reduced when leached through a laboratory column of buffer material. For these reasons, the windblown materials were considered to be "clean" of leachable hazardous constituents that could impact ground water quality beneath the disposal cell. The DOE, therefore, optimally placed the windblown and vicinity properties material within the disposal cell between the tailings (upper portion of the cell) and the buffer material (bottom of the cell). It is reasonable to assume, then, that the 25-foot-thick layer of windblown and vicinity property materials acts in a similar manner as the buffer materials and can be included in the calculation of travel times to the base of the disposal cell (calculation GRN-07-89-03-04) from the overlying tailings (see Section E.3 of Appendix E).

Moisture contents

The DOE will construct and maintain the materials comprising the disposal cell at moisture contents near that of the average steady state moisture contents. Moisture contents of the disposal unit materials must be minimized to avoid the drainage of water added during the construction. However, if moisture contents are too low, the DOE may have difficulty compacting materials to the densities required to ensure the long-term geotechnical stability of the disposal unit and maintain airborne particulate concentrations and releases below appropriate state and Federal regulatory limits. As an alternative, the DOE considered adding a surfactant or other chemical agent to suppress fugitive emissions of dust and contaminated materials. However, because surfactants only treat the surface, construction traffic would make them ineffective almost immediately following application. In addition, such treatments

add organic chemicals to the residual radioactive materials that may increase the release of contaminants and reduce the effectiveness of the disposal unit in protecting ground water. The DOE can achieve the density specifications and control airborne emissions at moisture contents down to the approximate steady state moisture contents reported in the RAP.

The DOE has committed to maintain moisture contents as low as reasonably achievable in the buffer and residual radioactive materials layers and in accordance with the steady state moisture contents identified in the April 5, 1989, agreements between the DOE and the NRC. Although lower moisture contents could increase ground water travel times and decrease constituent transport to the point of compliance, imposition of measures to attain these contents could result in violations of the fugitive emission requirements and decrease the stability of the disposal unit.

Radon barrier

The DOE has proposed a radon barrier consisting of three feet of silty clay amended with six percent by weight sodium bentonite that is compacted to 100 percent of the standard Proctor density. The DOE is confident that the barrier will have a saturated hydraulic conductivity of at least $2\text{E-}8$ cm/s and agrees to test as-constructed samples of the barrier to ensure compliance with this design conductivity. The DOE considered alternative cover designs to reduce potential infiltration into the disposal unit further, including substitution of synthetic polymeric membranes, CLAYMAX®, or other alternatives for the silty clay barrier; increased thicknesses of the barrier; and increased percentages of bentonite in the barrier.

The DOE assessed the viability of alternative barriers in generic special studies that were initiated in response to the EPA's proposed ground water protection standards in 40 CFR 192. The results of these studies are documented in "Remedial Action Planning and Disposal Cell Design" (DOE, 1989b). Based on the studies, the DOE concluded that only conventional earthen covers and CLAYMAX could be relied upon for long-term (1,000 years) protection of ground water at disposal sites because of the inherent stability of synthetic materials and the limited operational experience with such materials. The DOE considered installing a thin layer of CLAYMAX in the cover to attain a net flux density equal to or less than $1\text{E-}9$ cm/s. Based on analyses of the Green River site, the DOE concluded that the minimal improvement in performance of the disposal unit associated with a composite cover that included CLAYMAX would not adequately justify the significant increase in cost. In addition, the DOE would have to resolve substantial issues about the long-term durability and performance of CLAYMAX prior to including it in the disposal unit cover. Thus, the DOE rejected CLAYMAX because it was not a reasonable alternative.

The DOE also considered increasing the thickness of the bentonite-amended radon barrier. Increases would not significantly improve the long-term performance of the barrier. At least one foot of the barrier is located below the frost penetration zone and, thus, would be expected to provide a barrier with sufficiently low permeability to infiltration to minimize release of listed constituents. The barrier would be effective in reducing infiltration of water into the disposal unit to below $2\text{E-}8$ cm/s. Thus, increasing the thickness of the radon barrier would only increase the cost of the remedial action without significantly improving the performance of the barrier.

The DOE considered increasing the content of sodium bentonite above the six percent by weight in the current design. Based on laboratory testing data on file at the UMTRA Project Office, the DOE concluded that further amendment of the radon barrier with sodium bentonite would not significantly decrease the hydraulic conductivity of the barrier. The specified hydraulic conductivity for the radon barrier of $2\text{E-}8$ cm/s is approximately one order of magnitude below the generally accepted design conductivity of $1\text{E-}7$ cm/s for compacted clay liners and covers at municipal and hazardous waste landfills. Attainment of the $2\text{E-}8$ cm/s conductivity is considered to be the best and most reasonably achievable in terms of construction of earthen barriers to water and contaminants. Consequently, a six percent sodium bentonite admixture represents the optimum modification of the radon barrier with respect to ground water protection because further increases in bentonite content do not improve performance of the cell.

Filter layer

The DOE has selected a high permeability filter layer above the radon barrier to enhance lateral runoff of incident precipitation off the disposal unit to further minimize infiltration. The hydraulic conductivity of the filter layer has been optimized at a conductivity of four cm/s (Calculation GRN-07-89-03-04) using a relatively clean sand and gravel. Lateral diversion of runoff could be increased, thus decreasing infiltration, by increasing the hydraulic conductivity of the filter layer above four cm/s. However, the runoff may be so rapid under such conditions that the water would erode the radon barrier, which could potentially increase infiltration and radon emissions and decrease stability of the disposal unit. The DOE also considered decreasing the thickness of the filter layer to ensure that the carrying capacity of the layer is minimized to divert runoff from the pile through the riprap under the design storm events. Such a decrease in thickness could lessen infiltration into the radon barrier by decreasing the amount of time that water would be ponded above the radon barrier on the sideslopes of the disposal unit. However, literature supports the concept that a decrease in bedding layer thickness may result in reduced erosional stability (Anderson et al., 1970). Further, calculations (GRN-07-89-03-04) show that by increasing the bedding permeability, little additional effect is gained by further changes to the cover geometry. Therefore, the filter layer has been optimized with respect to ground water protection by ensuring that the thickness and hydraulic conductivity of the layer are large enough to divert runoff laterally off the side slopes of the disposal unit, yet not so high that the runoff would significantly degrade the performance of the disposal unit by eroding the radon barrier.

Source modifications

The DOE considered the viability of source modifications such as geochemical amendments to the residual radioactive materials and thermal stabilization of the materials. Such modifications were assessed generically for the UMTRA Project in special studies (DOE, 1989b). The DOE used the special studies to identify alternatives that deserved additional investigation because they may be viable on a site-specific basis. The DOE considered a representative range of source control alternatives for the Green River site, including washing, thermal stabilization, the addition of peat to reduce uranium and nitrate releases, and the addition of calcium hydroxide. Washing and thermal stabilization were rejected as unreasonable because they would significantly increase (i.e., from two to five times) the costs of the remedial action without demonstrably improving the long-term performance of

the disposal unit in terms of ground water protection. In addition, the washing alternative would require extensive engineering development, permitting, and operation to reduce the volume of the waste but would not significantly reduce the hazards associated with the listed constituents.

The DOE considered adding peat to the contaminated materials and concluded that the peat would not be expected to reduce the release of all constituents, even though it may sorb uranium and several other metals and reduce nitrate to less mobile species. As discussed previously, listed constituents in the residual radioactive materials are mobile under a variety of geochemical conditions and no one environment is expected to attenuate all the constituents. In addition, geochemical amendments such as peat have been studied only in the laboratory; such amendments have not been attempted in either bench- or field-scale applications. The laboratory studies have not provided conclusive results regarding the effectiveness of such amendments in attenuating the release of listed constituents from uranium tailings. Thus, there is considerable uncertainty about whether such amendments would be effective in reducing the release of listed constituents from the Green River disposal cell. Further, the addition of peat would significantly increase the cost of remedial action at the site and could decrease the stability of the site as a result of the organic degradation of the peat (Thomson, 1988). Therefore, the DOE concluded that a peat amendment was not a reasonable alternative for the Green River site.

The DOE also considered adding calcium hydroxide or another alkaline chemical agent to increase the pH of the residual radioactive materials. The increase in pH would be expected to decrease the solubility and mobility of listed constituents that are less soluble under neutral to alkaline pHs. However, the residual radioactive materials already have pHs that are in the range of neutral (e.g., six to eight) and further increases in pH could significantly increase the mobility and solubility of listed constituents such as uranium, molybdenum, and selenium as a result of complexation with hydroxide, carbonate, and bicarbonate radicals. Such behavior has been observed at other uranium tailings sites where alkaline ground waters have been contaminated with tailings seepage or alkaline solutions were used to leach the uranium. Thus, the addition of calcium hydroxide as an amendment in the disposal unit would be expected to have an adverse impact with respect to the protection of ground water (NRC, 1985b; NRC, 1984; NRC, 1983). Therefore, the DOE determined that calcium hydroxide or other alkaline chemical amendments to the disposal unit are inappropriate because they could actually decrease the effectiveness of the unit in terms of ground water protection.

Contaminated material testing

The NRC normally requires testing to verify the placement density and moisture content of contaminated materials (including tailings, windblown contaminated soil, and vicinity property material) placed in the disposal cell at a frequency of one test per 1,000 cubic yards of material placed. Specifications for UMTRA Project sites constructed prior to the Green River disposal cell generally required contaminated material to be placed at 90 percent of standard Proctor density. In evaluating this practice the DOE was concerned that the remedial action subcontractor would not be restricted in the amount of water that could be added for compaction. Realizing that the moisture content at placement would be very important to attaining the ground water protection strategy, the DOE proposed a contaminated material placement specification that would minimize the amount of water that could be added, The

specification (see section 2200, 3.5, C. of Appendix F) states that contaminated materials would be compacted to 90 percent of standard Proctor by a minimum number of passes of a tamping foot or vibratory roller to be determined during initial placement of the first 1,000 cy of windblown materials and tailings. This approach is appropriate because the materials were determined to be homogeneous within types (tailings and other contaminated material) and compaction for soils with similar particle gradations could be predicted from a review of literature and laboratory test data.

Considering the homogeneous nature of the contaminated materials (see Section D.4 of Appendix D), testing to verify placement density, and moisture content, a testing frequency of one test per lift was proposed by the DOE. Approximately 6,000 cy or less of contaminated material would be included in each nine-inch-thick lift.

Further explanation of the testing of contaminated materials and the results of the tests are included in the calculation volume "Green River, Utah, Contaminated Material Moisture Content, Density, and Compaction Data" accompanying this RAP and available through UMTRA Project Document Control, Albuquerque, New Mexico.

Conclusion

The DOE has considered a representative range of alternate disposal actions for the residual radioactive materials at the Green River site. Based on this assessment, the DOE concludes that the present disposal unit design represents the best design that is reasonably achievable to comply with the proposed EPA standards.

4.4 PERMANENT DESIGN FEATURES

4.4.1 Introduction

Permanent design features are described in more detail below for the cleanup of the mill site and adjacent areas and for stabilization of the disposal embankment. Factors considered in the design, including subsurface conditions, engineering properties of the tailings, ground water protection, and requirements for erosion and radon control, are described and their effect on layout and construction of the disposal embankment are discussed.

4.4.2 Contaminated material excavation

Contaminated materials will be excavated and stockpiled. Areas that will be excavated and the corresponding excavation depths are shown on Figures 4.3 and 4.4. After these materials are excavated, the contractor will determine if these areas or other areas require additional excavation.

Stockpiled contaminated materials will be placed in the disposal embankment once the embankment excavation is completed.

4.4.3 Demolition of existing buildings

Six buildings are present on the former mill site. The locations of these buildings are shown on Figure 4.5.

The roaster building, the office building addition, and the mill building addition will be demolished because it is not practical to decontaminate them. Debris that results from demolition will be placed in the disposal embankment. Demolition will be conducted in a manner that will protect workers and that will minimize release of airborne contamination.

4.4.4 Decontamination of existing buildings

The crusher building, the mill building, and the office building will be decontaminated in order to make them suitable for future use. Decontamination will include:

- Washing building walls, ceilings, and floors.
- Excavating contaminated soil and utilities that are located beneath the buildings.

4.4.5 Disposal embankment location

Stabilization on site of the tailings and other contaminated materials is the preferred disposal option. The Environmental Assessment (DOE, 1988a) concludes that stabilization on site is preferred because it is an economic solution that has equivalent or lesser environmental impacts than the other disposal options that were considered.

4.4.6 Disposal embankment layout

A description of the disposal embankment at the completion of remedial action work is provided in Section 4.3.1. The final embankment layout is shown on Figure 4.2. All contaminated materials will be buried in the disposal embankment. The surface area of the embankment has been reduced to the smallest practicable size to minimize quantities of erosion protection materials and the amount of future infiltration into the tailings, and to provide the maximum buffer zone from Brown's Wash.

4.4.7 Geotechnical considerations

The principal geotechnical considerations used to design the disposal embankment are slope stability, liquefaction, settlement, and gully formation.

Analysis of slope stability was made for static and dynamic (earthquake) conditions. Earthquake conditions were simulated using a pseudo-static approach. The pseudo-static coefficient, or horizontal acceleration, was set equal to two-thirds of the maximum site horizontal acceleration given in Appendix D. Strength values for tailings, select fill, and infiltration/radon barrier materials were based on laboratory tests. Conservative strength values were used for bedding and riprap materials. The slope stability analysis concluded that slopes will remain stable under static and dynamic conditions.

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

DEMOLITION, DECONTAMINATION
AND TEMPORARY FENCING PLAN

DE - ACOA - 83AL18794

GN - PS - 10 - 0503

DATE: 10/1/83

BY: [Signature]

FOR: [Signature]

PROJECT: DEMOLITION, DECONTAMINATION AND TEMPORARY FENCING PLAN

LOCATION: [Address]

SCALE: 1" = 400'

FIGURE 4.5

Materials in the disposal embankment will be compacted to increase strength and reduce compressibility. Tailings and contaminated materials will remain unsaturated, based on assessment of site climate, surface grading, subsurface conditions, and reduced infiltration due to the relatively impermeable infiltration/radon barrier. Thus, there is no potential for strength loss and settlement that could be caused by liquefaction or by dynamic densification.

The total long-term settlement of material in the disposal embankment will be very small due to compaction of the embankment materials. Settlement of the bedrock foundation will be negligible. Therefore, the potential hazards of settlement, including differential settlement-induced cracking of the infiltration/radon barrier, are considered to be acceptably small.

4.4.8 Surface hydrology

The disposal embankment site is above the elevation of the PMF elevation in Brown's Wash. The only off-site water that could affect the integrity of the embankment, therefore, would come from the watershed located between the disposal site and I-70. Erosion protection on the southeast side of the embankment will protect against such runoff. For additional protection, this water will be diverted from the disposal embankment by ditches constructed along the southeast side of the disposal embankment. The ditches are designed to carry runoff from ordinary storms away from the embankment perimeter and to reduce runoff velocities below erosive velocities. Only runoff from large precipitation events would flow against the embankment.

4.4.9 Erosion protection

Rock layers placed on the embankment will protect against erosion. Rock sizes are designed to resist erosive forces of runoff from precipitation that will fall directly on the embankment and runoff from the watershed located southeast of the embankment. Riprap toe protection will extend about 20 feet on the surface from the embankment toe to reduce erosion of the ground surface adjacent to the embankment.

Migration of infiltration/radon barrier material or select fill cover materials will be prevented by an overlying layer of bedding. A layer of Type A riprap will be placed between Type B riprap and bedding to prevent the migration of bedding into Type B riprap.

The Utah Department of Transportation quarry at Fremont Junction, Utah, will be the source of Type B and Type A riprap. The durability of rock from this source was determined to be satisfactory to meet the requirements of NUREG/CR-4620 to resist long-term weathering based on the results of tests performed on rock samples obtained from the quarry. The test results are presented in Appendix D of the February 1988 RAP. The subcontractor will be allowed to use rock from another source if it can be demonstrated that the alternate rock source is equivalent to the Fremont Junction rocks. Bedding will be obtained from the same borrow site as used for the infiltration/radon barrier material.

Table 4.1 summarizes the requirements for riprap and bedding materials.

Table 4.1 Erosion protection requirements for disposal embankment

Location	Particle size requirements (inches)	Volume (cy)
Bedding	$0.04 \leq D_{50} \leq 0.2$ $0.75 \leq D_{100} \leq 3.0$	4,800
Type A Riprap	$2.6 \leq D_{50} \leq 3.5$ $3.2 \leq D_{100} \leq 4.4$	10,100
Type B Riprap	$18.0 \leq D_{50} \leq 23.5$ $22.5 \leq D_{100} \leq 30.5$	16,000

The remedial action plan includes the following measures to reduce the hazard of the undermining of the disposal embankment by long-term erosion, including enlargement of existing gullies and formation of new gullies:

- Filling the gullies.
- Constructing riprap protection along the disposal embankment toe that will protect the embankment against erosion in the event that gullies form adjacent to the disposal embankment. Details of the riprap toe protection are presented in Section 4.3.1.
- Grading the site to promote sheet flow and reduce flow concentrations that might cause gully formation.

4.4.10 Infiltration/radon control

An infiltration/radon barrier consisting of uncontaminated soil mixed with six percent bentonite by weight will be constructed over the tailings to limit emanation of radon to the levels set by EPA standards and to inhibit infiltration into underlying tailings. The three-foot-thick infiltration/radon barrier will be placed at sufficient depth to ensure that at least 12 inches of infiltration/radon barrier are below the frost depth.

Based on measurements of current contamination levels, a 12-inch-thick infiltration/radon barrier is satisfactory to reduce radon flux beneath $20 \text{ pCi/m}^2/\text{s}$. The thickness of the infiltration/radon barrier will be verified during construction based on radiation data from in-place contaminated materials, but would not be less than three feet.

Silty clay obtained from the designated borrow site located three miles north of the project site will be used to construct the infiltration/radon barrier. Geotechnical tests, including compaction, shear strength, and permeability tests, were performed on soil samples obtained from this source. Results of the test program are included in Appendix D.4 of Volume IIA of the January 1989 RAP and in the Information to Bidders volume. Based on these results, it is concluded that the infiltration/radon borrow material, when mixed with six percent of bentonite by weight and compacted to 100 percent of maximum dry density based on ASTM D-698, will produce an average saturated hydraulic conductivity of $2 \times 10^{-8} \text{ cm/s}$, or less. Construction features that will be used to protect against defects in the infiltration/radon barrier that might increase permeability include:

- Provide a minimum three-foot-thick barrier to reduce the potential for localized flow paths due to construction irregularities.
- Provide a rough surface between lifts by scarifying prior to placement of overlying lift.
- Provide uniform moisture distribution by "moisture-curing" infiltration/radon barrier materials before compaction.
- Facilitate uniform layer properties by restricting clod sizes to one inch or smaller.
- Control water used for compaction and dust control.

4.4.11 Economic considerations

To the extent practical, the remedial action plan is designed to result in the minimum construction cost that is consistent with design standards, safe construction practices, and other applicable criteria. The EPA standards will be met by stabilizing contaminated material on the site as described above. Stabilization of contaminated materials on the site is less expensive and creates fewer environmental impacts than moving them to a new disposal site. Minimizing the surface area of the embankment reduces the cost of surface and perimeter erosion protection. The use of on-site excavated soils for site grading and cover is made to the maximum extent practicable to reduce costs.

4.5 CONSTRUCTION FEATURES

4.5.1 Overview

Construction features are described below to provide an overview of implementation of remedial action. Construction features include staging areas, decontamination facilities, temporary drainage ditches, wastewater collection and retention systems, a dike to protect the existing tailings pile, and construction offices. Locations and sizes of construction features may be changed to facilitate construction activities.

The office building will be decontaminated at the beginning of construction to allow it to be used as an office by the DOE, the contractor, and the radiological subcontractor.

A woven wire perimeter fence will be constructed around the site to control traffic in and out of the site and to prevent unauthorized entry to the site. Access to the site will be by means of a gate on the site road located about 200 feet west of the decontamination pad. The decontamination pad will be constructed immediately south of the existing mill site buildings (see Figure 4.6). Vehicles leaving contaminated areas will be monitored and washed, if necessary, to prevent the spread of contamination.

Temporary diversion ditches will prevent surface water runoff from entering the site during remedial action operations. Collection ditches on the site will channel on-site contaminated runoff water to the wastewater retention basin or to low areas where runoff can be pumped to the retention basin.

FIGURE 4.6
ACCESS CONTROL AND CONTRACTOR'S OFFICE AREAS PLAN AND DETAILS

Uncontaminated material from the disposal embankment excavation will be stockpiled along the south bank of Brown's Wash to protect the retention basin and tailings pile from a 100-year flood on Brown's Wash. (This design feature is included at the request of the state of Utah.)

Contaminated materials will be transported on temporary haul roads and on existing permanent roads.

The following utilities are available at the site:

- Electricity (Utah Power and Light).
- Telephone (Mountain Bell).
- Water and sewer (city of Green River).

Locations of these utilities are presented on Figure 4.7.

4.5.2 Drainage, erosion control, and wastewater retention basin

Surface water runoff from uncontaminated areas will be diverted to off-site areas. Surface water runoff from contaminated areas will be collected and drained to a retention basin.

Contaminated runoff will either be retained in the retention basin and evaporated or treated as necessary and discharged. To the extent practical, contaminated water will be evaporated or used for compaction water to moisture-condition tailings and other contaminated materials. Treatment and discharge may be necessary if runoff during the construction period exceeds the basin capacity, or if the water in the retention basin does not evaporate before completion of construction. Controlled discharges from the retention basin would meet effluent limits established by a National Pollutant Discharge Elimination System (NPDES) permit. Emergency uncontrolled discharge would be used only if necessary to prevent failure of the retention basin.

Diversion ditches are designed to carry runoff resulting from a PMP event. This will prevent uncontaminated runoff from entering the site. Wastewater collection ditches are designed to carry peak flow from a 10-year storm to the retention basin.

The wastewater retention basin will receive discharge from:

- Runoff from contaminated areas.
- Dewatering of the existing tailings area, if required.
- Decontamination of trucks and other equipment.
- Washbasin and shower facilities.

The retention basin at the site is sized to retain runoff resulting from a 10-year, 24-hour storm in addition to the maximum storage required for normal storm water runoff and wastewater generated from remedial action activities. The retention basin will also have sufficient capacity to hold the total estimated sediment inflow during construction operations. The basin spillway will safely discharge peak runoff from a 25-year storm and maintain one

foot of freeboard between the top of the embankment and the water surface at a time when the spillway is flowing at design elevation.

4.5.3 Existing buildings

The mill building addition, the office building addition, the roaster building, and all other abandoned equipment at the mill site will be demolished. Debris resulting from the demolition will be buried in the disposal embankment. All demolition activities will be controlled to protect workers and to restrict release of airborne contamination. Contaminated material will not be removed from the site.

The mill building, crusher building, and office building will be decontaminated to make them suitable for reuse.

4.5.4 Dewatering

If water is encountered during excavation of the existing tailings pile, dewatering may be performed to facilitate excavation. Water resulting from dewatering operations will be pumped into the retention basin.

4.5.5 Equipment decontamination pad

Equipment leaving contaminated areas will be monitored for contamination. To prevent contaminated materials from being carried out of areas, a decontamination pad with a holding tank and pump will be provided to wash contaminated equipment.

4.5.6 Dust control

Dust generated by excavation, earth movement, vehicle use, temporary stockpiling of materials, and similar activities will be controlled by spraying water and/or water-based surfactants. Special care will be taken to control dust created by the decontamination and demolition of buildings and by temporary stockpiling or mixing of contaminated materials.

Schedules for spraying the roads and embankment areas will vary daily and will be adjusted as required. The frequency of spraying will increase when combinations of low soil moisture and high wind speed are encountered.

4.5.7 Borrow areas

The approximate location of the radon barrier and bedding material borrow area is shown on Figure 4.8. Type B riprap and Type A riprap will be obtained from a boulder, cobble, and gravel deposit at Fremont Junction, approximately 75 miles west of the site.

4.5.8 Archaeological sites

No historic or cultural resources have been identified at the tailings or at the radon barrier borrow site. Cultural resource clearance will be obtained for all areas to be disturbed during construction, including the riprap and bedding borrow sources.

LIST OF DRAWINGS

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GRN-PS-10-0001	TITLE SHEET
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GRN-PS-10-0003	DEMOLITION, DECONTAMINATION AND TEMPORARY FENCING PLAN
GRN-PS-10-0004	FINAL SITE PLAN
GRN-PS-10-0005	CONSTRUCTION FACILITIES AND SITE DRAINAGE
GRN-PS-10-0006	EXISTING UTILITIES LOCATION PLAN
GRN-PS-10-0007	HORIZONTAL AND VERTICAL CONTROL
GRN-PS-10-0008	WASTEWATER RETENTION BASIN PLAN AND DETAILS
GRN-PS-10-0009	ACCESS CONTROL AND CONTRACTOR'S OFFICE AREAS PLAN AND DETAILS
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GRN-PS-10-0013	CONTAMINATED MATERIAL EXCAVATION SECTIONS & MISCELLANEOUS DETAILS
GRN-PS-10-0014	TAILINGS EMBANKMENT FOUNDATION EXCAVATION PLAN
GRN-PS-10-0015	TAILINGS EMBANKMENT FOUNDATION SECTIONS
GRN-PS-10-0016	TAILINGS EMBANKMENT AND FINAL SITE GRADING PLAN
GRN-PS-10-0017	TAILINGS EMBANKMENT AND FINAL SITE GRADING SECTIONS AND DETAILS
GRN-PS-10-0018	MONITOR WELL ABANDONMENT AND BORING LOCATION PLAN

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO
GREEN RIVER, UTAH

LOCATION MAP VICINITY MAP AND LIST OF DRAWINGS

PROJECT NO. DE-AC04-03AL18766
DRAWING NO. GRN-PS-D-0502

FIGURE 4.8
LOCATION MAP, VICINITY MAP, AND LIST OF DRAWINGS

4.5.9 Construction sequence

The following construction sequence is planned for the remedial action. However, the construction subcontractor will be allowed to execute the work within the constraints of project specifications. The actual construction sequence, therefore, may differ from the planned sequence.

The first item of construction will be the establishment of a site security system including erection of the perimeter fence. This will provide a means for control of traffic entering and leaving the site. Immediately thereafter, contaminated materials in the decontamination pad and staging areas will be excavated and stockpiled. The decontamination pad slab will then be constructed.

The next major item of site preparation will be construction of the retention basin and drainage ditches. Materials excavated during these operations will be stockpiled for subsequent use as fill. Site drainage will be improved by clearing the floodplain of Brown's Wash where it flows under the site road and clearing the clogged culverts that drain the small drainage immediately east of the site.

Concurrent with these activities, any necessary construction and/or upgrading of access roads and haul roads will be performed.

After the initial site preparation is completed, earthwork at the disposal area will begin. This will involve excavation and stockpiling of materials to allow for below-grade disposal of contaminated materials. Some excavated materials will be stockpiled near Brown's Wash in the form of a dike to provide flood protection, as discussed in Section 4.5.1.

Concurrently, demolition of the mill building addition, the office building addition, and the roaster building and decontamination of the crusher, mill, and office buildings will proceed.

The tailings pile, windblown tailings, and other contaminated materials will be excavated and placed on a six-foot-thick layer of select fill in the disposal cell. The movement of contaminated materials will not begin until upgrading of the haul and access roads has been completed and until a sufficient area has been opened and approved at the disposal area. After the contaminated materials are in place, the infiltration/radon barrier will be constructed over the disposal embankment. Appropriate measures will be taken during the winter shutdown to ensure that tailings or contaminated material in the disposal cell are not unnecessarily exposed to erosional forces or precipitation and runoff.

The final construction phase will consist of grading operations designed to improve overall site drainage. Grading operations will include filling of gullies and filling and revegetating areas disturbed by construction operations. An extensive fill will be constructed on the floodplain on the south bank of Brown's Wash using excess materials excavated for the disposal embankment.

Demobilization will primarily consist of removal and regrading of the wastewater retention basin and temporary drainage ditches. Contaminated water will be treated and discharged. Sediment and dike materials will be excavated and placed in the disposal embankment. The

decontamination pad will be removed and placed in the disposal embankment. Associated equipment will be cleaned for salvage. The staging area will be dismantled. Associated contaminated items will be either buried or cleaned and salvaged. All contractor equipment will be decontaminated and inspected prior to release from contaminated areas.

4.6 CONSTRUCTION SCHEDULE

The remedial action includes the following tasks:

- Mobilization.
- Site preparation.
- Placement of tailings.
- Construction of embankment cover.
- Construction of embankment erosion protection.
- Site restoration.

Mobilization consists of bringing all required people and equipment to the site.

Site preparation includes establishing the site security system and construction office; the construction of the decontamination pad, retention basin, drainage ditches, and wastewater treatment facility; upgrading of haul and access roads; decontamination and demolition of existing mill buildings; and excavation and stockpiling of windblown contaminated soils.

Placement of tailings includes excavation of the below-grade portion of the disposal embankment, placement of the select fill layer, excavation and stockpiling of material from the tailings pile, and placement and compaction of the tailings and other contaminated materials in the disposal embankment.

Construction of the embankment cover includes delivery to the site, placement in the embankment, and compaction of the infiltration/radon barrier and filter materials.

Construction of embankment erosion protection includes quarrying, delivery to the site, and placement of riprap materials.

Site restoration includes filling of existing gullies, removal of the retention basin and decontamination pad, regrading the floodplain of Brown's Wash, and reseeding of areas disturbed by construction, including borrow sites.

The timetable for performance of these tasks is presented on Figure 4.9. Construction operations are scheduled to start in September 1988, and are scheduled for completion in December 1989. A winter shutdown is optional, depending on weather conditions.

FIGURE 4.9

GREEN RIVER REMEDIAL ACTION SCHEDULE

5.0 WATER RESOURCES PROTECTION STRATEGY SUMMARY

The DOE must provide a demonstration of compliance with the proposed EPA ground water protection standards for inactive mill sites pursuant to 40 CFR Part 192 (1995). This section outlines the proposed strategy to demonstrate compliance with the ground water standards at the Green River, Utah, UMTRA Project site. This demonstration consists of 1) the ground water protection standard, 2) a performance assessment, 3) a closure performance demonstration, and 4) a performance monitoring and corrective action program.

To achieve compliance with the final EPA ground water standards, the DOE proposes a narrative supplemental standard based on limited use ground water (40 CFR §192.22(a) [1995]). Ground water in the Cedar Mountain Formation (uppermost aquifer) is not a current or potential source of drinking water. It meets the definition of limited use based on widespread ambient contamination that exists due to the presence of soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e)[1995]).

The strategy is based on new information, including ground water quality data collected after remedial action was completed, and on a revised assessment of disposal cell design features, surface conditions, and site hydrogeology. The strategy will result in compliance with Subparts A and C of the final EPA ground water protection standards (40 CFR Part 192[1995]). The document contains sufficient information to support the proposed ground water protection strategy, with monitor well information and ground water quality data included as a supplement.

The supplemental ground water standard applies to the uppermost aquifer (unnamed member and Buckhorn Member of the Cedar Mountain Formation) and will not include numerical concentration limits for the hazardous constituents identified in the contaminated materials at the Green River site. In addition, no POC is required under supplemental standards.

Details of the water resources protection strategy are presented in Sections E.1, E.2, and E.3 of Appendix E. Characterization of ground water and hydrogeology at the Green River site is presented in detail in Section D.5 of Appendix D, and is summarized in Section 3.5 of the text.

The following sections summarize the major elements of the ground water protection strategy.

5.1 DESIGN CONSIDERATIONS

The tailings will be placed in a mostly below-grade cell. The base of the excavation will be at an elevation of about 4098 feet, which is nearly 40 feet below existing grade. Ground water is 10 to 12 feet below the base of the excavation. The bottom six feet of the cell will be filled with a compacted, select clean fill soil to retard the movement of contaminants to ground water from the overlying contaminated materials. Above the buffer will be a layer of compacted windblown tailings (mixed with clean soils) and a layer of compacted tailings.

A cover system will be constructed over the tailings. From bottom to top the cover system will consist of three feet of compacted radon barrier, six inches of clean, compacted bedding

material, and one foot of rock for erosion protection. Collectively, the cover layers will limit infiltration of precipitation to less than 2×10^{-8} cubic centimeters per square centimeters per second ($\text{cm}^3/\text{cm}^2/\text{s}$), will protect from catastrophic erosion by the PMF, and will control the release of radon from the cell. Degradation of the infiltration/radon barrier from freezing (via reduced density) will not occur because it is expected never to be saturated. Nevertheless, 15 inches of the infiltration radon barrier will lie beneath the calculated frost depth of 39 inches.

The disposal cell components (buffer, windblown materials, and tailings) will be placed at as low a moisture content as practicable, resulting in a flux rate of less than $2 \times 10^{-8} \text{ cm}^3/\text{cm}^2/\text{s}$, which is the saturated hydraulic conductivity of the infiltration/radon barrier multiplied by a unit gradient. By minimizing the amount of water used for compaction and dust control during construction, drainage of excess water from the cell is not a concern (see Section E.2.1.2).

In terms of ground water protection, the disposal cell and protection strategy at the Green River site make maximum use of the following favorable natural conditions:

- An arid climate (average annual precipitation is six inches per year; estimated ratio of yearly precipitation to actual evapotranspiration is one).
- Consistent, uniform fracturing of the foundation bedrock to prevent any perching of water in the cell and to promote drainage of runoff from the toe of the cell.
- Abundant, desirable secondary minerals on the fracture faces to attenuate constituents of concern within tailings seepage (although tailings seepage into the bedrock is not expected).
- Strong, upward vertical hydraulic gradients in the saturated bedrock downgradient of the disposal site to minimize the downward migration of contamination (although contamination of the ground water by tailings seepage is not expected).
- Flow direction of ground water beneath the disposal site toward the existing contamination from the old tailings pile.

In addition, the mostly below-grade disposal will maximize runoff and minimize infiltration into the disposal cell.

5.2 GROUND WATER PROTECTION STANDARDS FOR DISPOSAL

The final EPA ground water protection standards in 40 CFR §192.02 (1995) require that disposal units be designed to control residual radioactive material (RRM). The ground water protection standard applies to the uppermost aquifer hydraulically downgradient from the disposal unit (NRC, 1989). Definitions of the uppermost aquifer provided in 10 CFR Part 40 (1995), Appendix A, were used to implement the ground water protection standards of 40 CFR Part 192(1995).

Ground water in the Cedar Mountain Formation is not a current or potential source of drinking water. It meets the limited use supplemental standard criterion of 40 CFR §192.22(a)

(1995), Appendix A, were used to implement the ground water protection standards of 40 CFR Part 192(1995).

Ground water in the Cedar Mountain Formation is not a current or potential source of drinking water. It meets the limited use supplemental standard criterion of 40 CFR §192.22(a) [1995]) of the final EPA ground water standards based the presence of widespread ambient contamination that exists due to the presence of soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e) [1995]).

The ground water protection standard consists of three components: 1) a list of hazardous constituents, 2) a corresponding list of concentration limits for the constituents, and 3) a POC (NRC, 1989). During characterization of the ground water in the site vicinity, the DOE collected samples to identify potential hazardous constituents. The DOE identified hazardous constituents in pore fluids of RRM and in ground water in the Cedar Mountain Formation. For this narrative supplemental standard application, no concentration limits or POC have been established for the identified hazardous constituents because of the presence of ambient, soluble selenium related to naturally occurring mineralization in the area and because defining concentration limits and a POC would not further protect human health and the environment. As part of the supplemental standard application, land and water use in the site vicinity were reviewed to assess the beneficial use of ground water. This is discussed in Section E.3.2.2 of Appendix E.

5.3 PERFORMANCE ASSESSMENT

The DOE is required to demonstrate that the performance of the disposal cell at the Green River site will comply with the final EPA ground water protection standard 40 CFR §192.02(c)(2) (1995). To achieve compliance with the EPA ground water protection standards, the DOE proposes the application of a supplemental ground water standard at the Green River site. Ground water in the uppermost aquifer meets the definition of a limited use resource, based on widespread ambient contamination that cannot be cleaned up using methods reasonably employed in public water systems (40 CFR §192.11(e)(2) [1995]).

To demonstrate compliance of the disposal cell design with the final EPA ground water protection standards, design parameters were evaluated in conjunction with the hydrogeological and geochemical characteristics of the Green River site to determine: 1) the distribution of hazardous constituents in ground water under steady-state conditions and 2) the potential for contaminant migration. A detailed discussion of the disposal cell design parameters is presented in Section E.3.3 of Appendix E.

5.4 CLOSURE PERFORMANCE ASSESSMENT

The DOE has demonstrated that the remedial action at the Green River disposal site complies with the EPA ground water protection standards (40 CFR Part 192 [1995])) by meeting supplemental standards based on the presence of limited use ground water in the uppermost aquifer. The DOE assessed the performance of the designed disposal cell at the Green River site in conjunction with the hydrogeologic system and has shown that the disposal cell acts to minimize and control releases of hazardous constituents to ground water and surface

necessary for compliance with the ground water protection standards minimize the need for further maintenance of the disposal site.

5.5 GROUND WATER MONITORING PROGRAM

Remedial action at the Green River site was completed in 1989. A post-closure monitoring program was initiated in 1990 to demonstrate the adequacy of the disposal cell to protect ground water. This program was based on the applicable proposed EPA ground water protection standards (52 FR 36000 [1987]). Compliance with the standards included identification of hazardous constituents present in the RRM, establishing concentration limits for these constituents, and designating a point of compliance (POC) hydrologically downgradient from the disposal cell.

The DOE plans to perform post-closure monitoring of ground water in the uppermost aquifer downgradient from the disposal cell for a period of time following completion of remedial action as a "best management practice" (BMP). The purpose of the BMP monitoring is to provide additional background and characterization information, and to evaluate trends in ground water quality (naturally-occurring or site-related) in the uppermost aquifer. Ground water samples will be collected on a semiannual basis for up to five years (until 2001) from disposal site monitor wells GRN-01-0171 through -0177, -0179, and -0813, and analyzed for nitrate, selenium, sulfate, uranium, and total dissolved solids. Concentrations of monitored constituents will be plotted as logarithmic distributions and compared with current levels of contamination (baseline) in ground water. A significant increase in the distribution of any of the monitored constituents in ground water beneath the site over two successive monitoring events will trigger a physical investigation of the disposal cell to determine if one or more of the potential failure scenarios described in Table E.3.8 have occurred. Upon completion of the sampling program, ground water conditions will be assessed based on the additional information collected, and the BMP monitoring will be discontinued. The NRC will participate in the assessment process.

BMP monitoring is not required under the regulations for the purpose of demonstrating compliance with the final EPA ground water protection standards (40 CFR §192.02 [1995]) and will not trigger corrective action (40 CFR §192.04 [1995]). The appropriate method for long-term monitoring of performance of the disposal system and protection of ground water will be determined and described in the LTSP. Following NRC concurrence on the proposed ground water compliance strategy presented in RAP Modification No. 2 (1996), the LTSP (DOE, 1994) will be revised and finalized.

5.6 CORRECTIVE ACTION PLAN

Pursuant to 40 CFR §192.04 (1995) the DOE will define alternative corrective actions that could be implemented to bring the site into compliance if the cell performance monitoring indicates the disposal cell is not functioning properly. Although it is not possible to propose specific detailed corrective action plans, potential failure scenarios for the Green River disposal site and potential corrective actions are summarized in Table E.3.8.

The Green River disposal cell was constructed of natural materials and the radon/infiltration barrier is adequately protected from disruption by animals, plants, wind, and water. The

disposal cell incorporates standard safety factors on all design components and is expected to perform for a period of greater than the mandated design life of 1000 years with minimal maintenance.

5.7 CLEANUP AND CONTROL OF EXISTING CONTAMINATION

The DOE is required to demonstrate that cleanup or control of existing processing-related ground water contamination at the Green River site will comply with the EPA ground water protection standards in Subpart B of 40 CFR Part 192 (1995). Ground water cleanup will be addressed under a separate DOE program and NEPA process using strategies and options outlined in a programmatic environmental impact statement developed for the UMTRA Project (DOE, 1996). The need for and extent of ground water cleanup at the Green River site will be evaluated based on the extent of existing contamination, the potential for current or future use of ground water from the uppermost aquifer, and protection of human health and the environment.

The current level of characterization at the Green River processing site is sufficient to address only whether the remedial action will comply with Subpart A of the EPA ground water protection standards. Additional investigations will be conducted under the UMTRA Ground Water Project as necessary to determine the appropriate ground water cleanup strategy for the Green River processing site. Surface remedial action will not preclude or interfere with any potential ground water remediation activities at the processing site.

There are no known users of ground water contaminated by uranium processing at the Green River site and no registered water wells in the potentially contaminated area between the site and the Green River (DOE, 1994b). Alternative supplies of good quality water are available to area residents for domestic and irrigation uses from the municipal water supply system and the Green River Canal Company. In addition, the state of Utah currently has adequate institutional controls available under state water law to assure protection of human health and the environment until the final ground water compliance strategy is selected and implemented. The DOE will evaluate the need to implement additional institutional controls during the ground water compliance strategy selection process under the UMTRA Ground Water Project.

**Please note the tables in Appendix D.5
were not changed and are not included in
this revision.**

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D.5 GROUND WATER HYDROLOGY

D.5.1 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has established health and environmental protection regulations to correct and prevent ground water contamination resulting from processing activities at inactive uranium mill tailings sites (40 CFR Part 192 [1995]). According to the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978, the U.S. Department of Energy (DOE) is responsible for assessing the inactive uranium processing sites (42 USC §7901 *et seq.*). The DOE has decided that each assessment will include information on hydrogeologic site characterization. Site characterization activities discussed in this section include the following:

- Definition of hydrogeologic characteristics of the environment, including the hydrostratigraphy, aquifer hydraulic parameters, areas of aquifer recharge and discharge, potentiometric surface, and ground water velocity.
- Comparison of existing water quality with background water quality and applicable EPA standards. Some discussion of EPA secondary drinking water quality parameters is included to define the general quality of the ground water.
- Definition of physical and chemical characteristics of the potential contaminant source, including concentration and leachability in relation to migration of contaminants in ground water and hydraulically connected surface water.
- Description of water resource use, including availability, current and future use, value, and alternative supplies.
- Evaluation of current impacts to the ground water system resulting from uranium processing activities.

On January 5, 1983, the EPA promulgated final standards for the disposal and cleanup of the inactive uranium processing sites (40 CFR Part 192 [1995]) under the UMTRCA. The standards became effective March 7, 1983. However, on September 3, 1985, the ground water provisions of the regulations were remanded to the EPA by the U.S. Court of Appeals for the Tenth Circuit. On September 24, 1987, the EPA issued a proposed revision to the standards (52 FR 36000 [1987]). On January 11, 1995, the EPA promulgated the final ground water protection standards (60 FR 2854 [1995]).

Under the UMTRCA, the DOE must comply with the final standards. The DOE has characterized the Green River site and determined that the remedial action complied with the requirements of Subpart A of the EPA final ground water protection standards (40 CFR Part 192 [1995]). At the Green River site, the need for, and extent, of ground water restoration will be evaluated in accordance with the National Environmental Policy Act (42 USC § 4321 *et seq.*). Additional investigations will be conducted under the UMTRA Ground Water Project as necessary to determine the appropriate ground water cleanup strategy for the Green River processing site. Surface remedial action will not preclude or interfere with any potential ground water remediation activities at the processing site.

Water quality at the Green River tailings site was characterized and compared with the EPA ground water standards for inactive uranium processing sites (Table D.5.1). The constituents listed in Table D.5.1 are most commonly associated with uranium mill tailings. The numerical concentration limits associated with the constituents reflect safe levels for public drinking water and are therefore the same as maximum concentration limits (MCLs) for EPA primary drinking water standards. A complete list of hazardous constituents that should be evaluated on a site-specific basis is included in Table 1 to Subpart A and Appendix I to Part 192 of the final EPA standards. These constituents include both organic and inorganic compounds and elements. Section E.3.1.1 of Appendix E contains a complete discussion of hazardous constituents that are associated with the uranium mill tailings at the Green River site.

The following sections present details of the hydrogeologic characterization at the Green River site. Appendix E presents an assessment of future impacts to the ground water system resulting from the proposed remedial actions, and a strategy for protecting water resources at the Green River site. Figures and tables are presented at the end of the text for ease in reading.

D.5.2 SITE CHARACTERIZATION SUMMARY

D.5.2.1 Summary

The DOE has characterized the hydrogeology, water quality, and water resources at the Green River, Utah, site. Major points are summarized below, followed by a detailed discussion of the site characterization.

- Three distinct hydrostratigraphic units are defined beneath the Green River site within 200 feet (ft) (60 meters [m]) of the ground surface. In descending order these units are: 1) the Brown's Wash alluvium (top hydrostratigraphic unit); 2) the unnamed member of Cedar Mountain Formation which consists of a sandstone/siltstone/conglomerate facies of limited areal extent (coarse-grained middle hydrostratigraphic unit) that is bounded above and below by limestone, claystone, and shale materials (fine-grained middle hydrostratigraphic unit); and 3) the underlying Buckhorn Member of the Cedar Mountain Formation (bottom hydrostratigraphic unit). These units are underlain by the Jurassic-aged Morrison Formation. The Dakota Sandstone is present in some areas beneath the Green River site.
- Average hydraulic conductivities of aquifer materials range from a low of 1.6 feet per day (ft/day) in the shale of the fine-grained middle unit to a high of 25.0 ft/day in the Brown's Wash alluvium. Average linear ground water velocities range from 0.08 ft/day to 1.14 ft/day in the two units, respectively.
- Ground water flow in the fine-grained and coarse-grained middle hydrostratigraphic units is controlled by connected fractures and joints; locally strong, upward, vertical hydraulic gradients; and the attitude (dip) and lateral extent of the hydrostratigraphic units. Ground water flow in the Brown's Wash alluvium and the shale of the fine-grained middle unit, where it lies beneath the alluvium, is also controlled by paleo-erosion of the fine-grained

middle unit near the former tailings pile by a meandering Brown's Wash channel, and by the subsequent deposition of the Brown's Wash alluvium.

- Background ground water quality in all four hydrostratigraphic units is characterized by concentrations of total dissolved solids (TDS), sulfate, and chloride that exceed EPA and state of Utah secondary drinking water standards. Ground water in all four units is classified as Class II based on TDS (TDS greater than 1000 but less than 10,000 milligrams per liter (mg/L)), but it may be classified as Class III because of the concentrations of selenium, chromium, nitrate, and uranium in background samples that exceed proposed EPA MCLs for these constituents.
- Background ground water quality in the top hydrostratigraphic unit is characterized by concentrations of chromium, molybdenum, nitrate, and selenium that exceed proposed EPA MCLs and state of Utah primary drinking water standards (except for molybdenum, which does not have a Utah standard).
- Background ground water quality in the fine-grained middle hydrostratigraphic unit is characterized by concentrations of nitrate and selenium that exceed proposed EPA MCLs and state of Utah primary drinking water standards.
- Background ground water quality in the coarse-grained middle hydrostratigraphic unit is characterized by concentrations of molybdenum, nitrate, selenium, uranium, and gross alpha activity that exceed proposed EPA MCLs and state of Utah primary drinking water standards (except for molybdenum, which does not have a Utah standard).
- Background ground water quality in the bottom hydrostratigraphic unit is characterized by concentrations of chromium, molybdenum, and selenium that exceed proposed EPA MCLs and state of Utah primary drinking water standards (except for molybdenum, which does not have a Utah standard).
- Contamination by tailings seepage is limited to the Brown's Wash alluvium and the shale of the fine-grained middle unit of the Cedar Mountain Formation beneath the former tailings pile. Major contaminants introduced by tailings seepage to these units include: molybdenum, nitrate (chemically reduced, in part due to ammonium), selenium, uranium, and gross alpha activity.
- The tailings seepage has been neutralized by the alluvium and shale bedrock beneath the tailings (the pH of the ground water is near 7.0). Uranium concentrations in the alluvium and shale have not exceeded 3.11 mg/L in any of the wells, while concentrations in the tailings pore water (lysimeter samples) have been measured as high as 675 mg/L. Dilution by ground water underflow and attenuation, probably as cation exchange in the alluvium and precipitation in the shale, have significantly lowered uranium concentrations, as well as other seepage contaminants, to well below the relatively high concentrations found in the tailings pore water.

D.5.2.2 Previous investigations

Bibliographies (ONWI, 1985; USGS, 1971-1985, 1972, 1964; La Pray and Hamblin, 1980; Buss and Geoltz, 1974; Childers and Smith, 1970; Buss, 1951) were reviewed to identify geological, hydrological, and hydrogeological investigations of the Green River site and vicinity. A number of regional studies (USGS, 1964; Howard and Love, 1945; Warning and Knechtel, 1936; Reeside, 1930, 1923; La Rue, 1916) were identified; however, much of the information contained in these reports is either outdated or not sufficient to aid in characterizing the hydrogeology of the site.

Five reconnaissance studies of the Paradox Basin, which contains the Green River site, were conducted as part of a program to evaluate the potential for storage of nuclear waste in salt deposits (Weir et al., 1983); one of these studies (Rush et al., 1982) included the area of the Green River tailings site.

A one-time sampling effort at the Green River tailings site was conducted by Geochemistry and Environmental Chemistry Research, Inc. (GECR, 1983). Data from this report are from sampling and analyses of ground water and surface water from background areas, the area adjacent to the site, and the site. Soils samples were collected and archived, and have not been analyzed. Because of questionable quality assurance and control on the water sample analyses from the GECR report, the data were not used for analyses in this report.

An unpublished report by the DOE (1983) on the Green River site contains the results of drilling, ground water sampling, and aquifer hydraulic testing of eight monitor wells; surface water sampling of Brown's Wash adjacent to and downstream of the site; and climatological data for the vicinity. Some of the data from the DOE (1983) report were used in this report. An engineering assessment (FBDU, 1981) includes site information as well as a summary of the milling operations and a history of the Green River site.

Hydrogeological data, including borehole logs, well completion records, ground water elevations, aquifer hydraulic parameters, and water quality data, were collected at the Green River tailings site by the DOE during three drilling and testing phases from the fall of 1985 to the fall of 1987. Much of this information was included in an environmental assessment of the Green River tailings site (DOE, 1988a). All field and laboratory procedures and calculations were performed in accordance with the DOE's Standard Operating Procedures as contained in the Albuquerque Operations Manual (DOE, 1985).

Five two-inch diameter polyvinyl chloride (PVC) monitor wells, 28 four-inch diameter PVC monitor wells, and three two-inch diameter, low-carbon, galvanized steel well points were installed to characterize the Green River tailings and proposed disposal sites. The depths of these installations range from seven to 185 feet. Twelve exploratory geotechnical boreholes were also drilled, and ranged in depth from 16.5 to 32.5 feet. Lithologic logs were obtained from these boreholes prior to their abandonment by grouting and bentonite sealing from total depth to land surface. In addition, three suction lysimeters were installed in the unsaturated zone within the present tailings pile to characterize the pore water within the tailings. Since their installation, only one lysimeter has worked sufficiently to obtain samples. The locations of all monitor wells, lysimeters, abandoned boreholes, test pits, and surface water sampling sites included in this investigation are shown in Figure D.5.1. Following installation and

development of the monitor wells, slug injection/withdrawal tests and short-duration (less than 25 hours) pumping drawdown/recovery tests were performed to estimate the hydraulic properties of the aquifer materials within the screened zones of the wells. The monitor wells were surveyed and static ground water elevations in the wells were measured to determine vertical and horizontal hydraulic gradients and directions of ground water flow. Table D.5.2 summarizes monitor well information for the Green River tailings site.

D.5.2.3 Geology and hydrostratigraphy

The Green River site is in east-central Utah on the nose of a shallow, northward plunging anticline that is repeated by the arcuate east-northeast to west-northwest trending Little Grand Wash fault, which lies three miles to the south of the site. Bedrock exposed at the surface in the site area consists of sedimentary units of Cretaceous and Jurassic age. Rock units lying beneath the surface range in age from Jurassic to Pennsylvanian and, at depth, include the salt- and gypsum-bearing Paradox Member of the Pennsylvanian Hermosa Formation.

In descending sequence, the geologic units within 200 feet of the surface in the Green River site area are as follows:

- Brown's Wash alluvium beneath the former tailings pile, and alluvial terrace deposits in the area of the disposal site (Quaternary age).
- Tununk Shale Member of the Mancos Shale (Cretaceous age).
- Dakota Sandstone (Cretaceous age).
- Cedar Mountain Formation (Cretaceous age).

The Brown's Wash alluvium consists of a mixture of silt, sand, gravel, and some small cobbles. These alluvial deposits are limited to an area that extends approximately 400 ft (120 m) on either side of Brown's Wash, vary in thickness from 0 to 35 ft (0 to 10 m), and are not present in the disposal cell vicinity (Figure D.5.1). Alluvial terrace deposits consisting of silts, sand, and gravel overlie well cemented sandstone of the Dakota Sandstone. These units range in thickness from 7 to 26 ft (2 to 8 m) in the vicinity of the disposal cell (Figure D.5.2).

The Tununk Shale Member of the Mancos Shale consists of carbonaceous shale interbedded with thin beds of sandstone. It subcrops beneath the Brown's Wash alluvium in the eastern half of the site but is mostly eroded away by the channel of Brown's Wash in the western half of the site area. This unit is exposed in the east-central section of the site, and forms the bluff at the south end of the former tailings pile. This shale unit forms a wedge that thins toward the south and disappears completely between the area of the former tailings pile and the disposal site. South of the former tailings pile, the Tununk Shale is between zero and 25 feet thick.

In the site area, the Dakota Sandstone consists of fractured to unfractured, weathered to fresh sandstone, shale, and conglomerate. It rests unconformably on top of the Cedar Mountain Formation. This unit varies from zero to 10 feet thick and extends both east and

west of the former tailings and disposal sites. The Dakota lies between unconformable contacts with either the Mancos Shale, the Brown's Wash alluvium, or the alluvial terrace deposits (top contact), and the Cedar Mountain Formation (bottom contact). Where it has not been eroded away, the shale and dense, well-cemented sandstone, and conglomerate of the Dakota Sandstone are either not saturated or only partly saturated beneath the former tailings pile.

The Cedar Mountain Formation consists of mudstone, shale, limestone, siltstone, sandstone, conglomerate, and occasional interbedded coal. The Cedar Mountain Formation lies unconformably beneath the Dakota Sandstone and in the site area is at least 150 feet thick. Lithologic units within the Dakota Sandstone and Mancos Shale can be distinguished from units within the Cedar Mountain Formation by visual inspection. The Dakota and Mancos sandstones and shales are generally black (shale) to light tan (sandstone); units within the Cedar Mountain are generally shades of gray to maroon in color. Fractured and unfractured sandstone, sandstone conglomerates, and fractured shales or limestones within the Cedar Mountain Formation are the primary water-bearing units.

Figure D.5.1 shows the locations of cross sections (Figures D.5.2 through D.5.6) that show the hydrostratigraphy at the Green River site. The surface topography shown on the cross sections and was developed from a topographic survey of the site. Subsurface lithologic data were obtained from borehole logs, visual inspection of rock core, and correlation of subsurface data with surface geology.

Hydrological investigations have shown that horizontal and vertical fracturing occurs in the Dakota Sandstone and Cedar Mountain Formation beneath the proposed disposal site. Core samples from monitor wells 562, 807, 812, 813, 814, 816, and 818 at the disposal site (see Figure D.5.1) show that vertical and near-vertical fractures exist in the bedrock and start at the top of the bedrock section. Fracturing is uniform and consistent through the Cedar Mountain Formation at least in the upper 60 feet of bedrock. The degree of fracturing varies from moderate to intense and is typical of the fracturing observed in outcrops of the Cedar Mountain Formation in the vicinity of the disposal site. Fracturing of the bedrock beneath the present tailings pile is variable. The flowing monitor well (581), completed in the sandstone unit beneath the pile, is evidence that the confining unit for the sandstone unit at this location (the overlying shale) must be relatively impermeable. Evidence (aquifer hydraulic conductivities and water levels) suggests that joints, fractures, or minor faulting may be controlling ground water flow in the shallow bedrock approximately along the alignment of Brown's Wash.

Three distinct hydrostratigraphic units are defined beneath the Green River site within 200 ft (60 m) of the ground surface. In descending order these units are the Quarternary alluvial deposits along Brown's Wash (Brown's Wash alluvium), the unnamed upper member of the Cretaceous Cedar mountain Formation, and the underlying Buckhorn Member of the same formation. These units are described as follows:

- The top hydrostratigraphic unit is the Brown's Wash alluvium. Ground water in this unit is locally perched by the dense, well cemented sandstone conglomerate of the Dakota Sandstone and the shale and limestone of the Cedar Mountain Formation (where these bedrock units are not fractured). Directly beneath the former tailings pile, a paleochannel

of Brown's Wash has eroded away the Dakota Sandstone, and the Brown's Wash alluvium directly overlies shale of the Cedar Mountain Formation.

- The middle hydrostratigraphic unit is the unnamed member of the Cedar Mountain Formation which lies beneath the Dakota Sandstone. It consists primarily of complexly interbedded sandstone, siltstone, claystone, shale, and limestone. The unnamed member ranges in thickness from 130 to 160 ft (40 to 50 m). Ground water occurs under confined and semiconfined conditions primarily in a sandstone/siltstone/conglomerate facies of limited areal extent that is bounded above and below by finer-grained materials (limestone and shale). This unit has an approximate maximum thickness of 40 ft (12 m) in the disposal site area. Depth to ground water in this unit ranges from 3 to 75 ft (1 to 23 m) beneath the ground surface.

The coarser-grained sandstone/siltstone/conglomerate facies and the finer-grained limestone, claystone, and shale materials that comprise the unnamed member of the Cedar Mountain Formation will be characterized independently in order to better evaluate the complex hydraulic characteristics of the unnamed member of the Cedar Mountain Formation. In the following sections the sandstone/siltstone/conglomerate facies will be referred to as the coarse-grained middle unit and the limestone and shale materials will be referred to as the fine-grained middle unit.

- The bottom hydrostratigraphic unit is the Buckhorn Member of the Cedar Mountain Formation. This unit consists primarily of sandstone with minor interbeds of mudstone and shale. The top of this unit is encountered at depths of approximately 124 to 160 ft (38 to 50 m) beneath the ground surface, although the thickness of this unit is not determined in this area.

The following sections present more detailed discussion about the hydraulic characteristics and flow of ground water within these units.

D.5.2.4 Hydraulic characteristics

A summary of the hydraulic characteristics of the top, fine-grained middle, coarse-grained middle, and bottom hydrostratigraphic units is presented in Table D.5.3. A number of methods were used to calculate values of hydraulic conductivity for the units. The methods of analyses include the following:

- Ferris-Knowles slug test analysis (Ferris and Knowles, 1963).
- Cooper, Bredehoeft, and Papadopoulos slug test analysis (Cooper et al., 1967).
- Bouwer-Rice slug test analysis (Bouwer and Rice, 1967).
- Pumping drawdown analyses.
- Pumping recovery analyses.

Slug test data from monitor wells 561, 581, 582, 583, 584, 585, 586, 587, 588, 701, 704, 707, 806, 807, 811, 813, 815, and 818 were analyzed by the Ferris-Knowles method. This method is best suited for fully developed wells that are open to the full thickness of an artesian aquifer of small to moderate transmissivity (less than 50,000 gallons per day per foot

(gpd/ft)); it is also suited to some unconfined aquifers (Ferris and Knowles, 1963). The Ferris-Knowles equation is as follows:

$$k = \frac{q(1/t)}{4\pi sL}$$

where

k = hydraulic conductivity (ft/day).
q = slugged volume (cubic ft).
t = time (days).
s = residual drawdown at time t_s (ft).
L = length of interval being tested (ft).

The values of $1/t$ and s are obtained from a straight-line fit through the plotted data points. These data are available from the Albuquerque UMTRA Project Office, Albuquerque, New Mexico.

Slug test data from monitor wells 561, 582, 583, 584, 585, 586, 587, 588, 701, 704, 707, 806, 807, 811, 813, 815, and 818 were analyzed using the Cooper, Bredehoeft, and Papadopoulos (Cooper et al., 1967) method, which has requirements similar to the Ferris-Knowles method, and is as follows:

$$k = \frac{r^2}{tL}$$

where

k = hydraulic conductivity (ft/day).
r = radius of well casing (ft).
t = time for point in "matched-type curve" (days).
L = length of interval being tested (ft).

The value t is obtained by matching data points of residual drawdown versus time (log scale) to a "type curve" referenced by Cooper, Bredehoeft, and Papadopoulos (Lohman, 1972).

Short-duration aquifer pumping tests were analyzed from monitor wells 581, 582, 586, 587, 588, and 813 by the single-well pumping drawdown or recovery method, formally recognized as the modified Theis nonequilibrium formula (Freeze and Cherry, 1979). The pumping drawdown or recovery formula is as follows:

$$k = \frac{264q}{sL}$$

where

k = hydraulic conductivity (gpd/ft²).

q = average pumping rate for the duration of the test (gpm).

s = drawdown per one log cycle (ft).

L = length of interval being tested (ft).

An aquifer pumping drawdown test was conducted on alluvial well 702 (DOE, 1983). Also, slug tests were performed and analyzed from monitor wells 701, 702, 704, 705, 706, and 707 using the Bouwer-Rice method (DOE, 1983).

Assumptions inherent in the analyses of the aquifer hydraulic test data, regardless of the method of analysis, are as follows:

- The unit being tested is homogeneous and isotropic.
- The radius of the well is small in comparison to the extent of the aquifer.
- The removal of the slug and the development of initial, residual drawdown are instantaneous.
- The influence of the filter pack is negligible.

To obtain the average hydraulic conductivity values listed in Table D.5.3, values from each analysis were summed and an arithmetic mean was calculated. Wells 701, 704, and 707 were tested in 1983 and 1986. Alluvial wells 702, 705, and 706 were only tested in 1983. All other wells listed in Table D.5.3 were tested in 1986 and 1987.

Average linear velocities listed in Table D.5.3 were calculated as follows (Freeze and Cherry, 1979):

$$v = \frac{ki}{n}$$

where

v = average linear velocity (ft/day).

k = average saturated hydraulic conductivity (ft/day).

i = average hydraulic gradient (ft/ft).

n = assumed porosity of aquifer material (dimensionless).

The saturated hydraulic conductivity of the unfractured bedrock of the Cedar Mountain Formation was measured by the triaxial backpressure falling head method (Table D.5.4). The measured conductivity is low, ranging from 2.4×10^{-8} centimeters per second (cm/s) to 2.4×10^{-11} cm/s. These values indicate that flow of ground water in the bedrock is controlled by interconnected fractures and joints.

More detailed discussions of the hydraulic characteristics of the three hydrostratigraphic units are presented in the following sections. Table D.5.5 presents static ground water elevations

in the monitor wells for four sampling periods: June, 1986; September, 1986; March, 1987; and October, 1987.

D.5.2.5 Ground water flow

Top hydrostratigraphic unit

Shallow, unconfined ground water is present in Brown's Wash alluvium beneath the former tailings pile. The occurrence of this shallow ground water is limited by the lateral extent of the alluvium. The top unit is a maximum of 600 feet wide near the tailings pile. Monitor wells 702, 704, 705, 706, 707, 708, 808, and well points 563, 564, and 821 are completed in this unit.

A water table contour map of the top hydrostratigraphic unit is presented in Figure D.5.8. This contour map was developed from water level data and the surveyed elevations of the wells in October, 1987 (see Table D.5.5). The depth to ground water ranges from nine to 17 feet below the surface in the top unit. The hydraulic gradient within the top unit ranges from 0.0029 ft/ft near monitor well 707 to 0.0125 ft/ft near monitor wells 702 and 808.

Table D.5.6 presents a summary of aquifer hydraulic characteristics for the top hydrostratigraphic unit. The calculated geometric mean linear velocity of ground water in the top unit is 1.14 ft/day. Ground water in the top unit is recharged by flow from the shale of the fine-grained middle unit from the south, and by infiltration of surface runoff and precipitation in the channel of Brown's Wash. Ground water discharges from Brown's Wash alluvium into the channel of Brown's Wash at a point west of the tailings pile where the site access bridge crosses Brown's Wash (see Figure D.5.1). From this point west to the Green River, the Dakota Sandstone and Cedar Mountain Formation inhibit the downward movement of water in the channel; however, a portion of this water likely infiltrates into the bedrock, especially where fractures are present. Water that flows west in the channel eventually mixes with backwater from the Green River (at surface-water sampling site 526, shown on Figure D.5.1). Ground water also discharges from the Brown's Wash alluvium into the underlying fine-grained middle shale unit of the Cedar Mountain Formation, to the atmosphere as evaporation, and to the tamarisk vegetation that lines the channel of Brown's Wash. The DOE (1988a) measured the base flow in Brown's Wash channel in November, 1985, at 2.3 gallons per minute (gpm). The measurement was made immediately west of the access bridge to the site near well point 564 (see Figure D.5.1). The remainder of the shallow alluvial ground water from beneath the present tailings pile is lost to evapotranspiration and vertical downward leakage into the Cedar Mountain Formation. Since well points 564 and 821 and monitor well 706 were dry (see Figure D.5.1), very little flow is assumed to move downgradient to the alluvium west of monitor wells 706.

The ground water flux through the top hydrostratigraphic unit beneath the present tailings pile can be estimated by using Darcy's Law (Todd, 1980) as follows:

$$Q = WDki$$

where

Q = ground water flux (ft^3/day).

W = saturated width of aquifer perpendicular to ground water flow beneath the tailings.

D = saturated height of aquifer beneath the tailings (ft).

k = saturated hydraulic conductivity of the alluvium (ft/yr).

i = hydraulic gradient (ft/ft).

To calculate the ground water flux in the alluvium beneath the former tailings, the projected area perpendicular to the flow was divided into three areas represented by monitor wells 702 and 808 for the eastern area; monitor well 704 for the middle area; and monitor well 705 for the western area. The ground water flux for each of these areas and the total flux in the alluvium beneath the tailings is summarized in Table D.5.7. The total flux is estimated to be 9.9 gpm beneath the former tailings.

Fine-grained middle hydrostratigraphic unit

Confined and semiconfined ground water is present in the fine-grained middle unit beneath the Green River tailings site. This unit consists mostly of limestone and shale of the Cedar Mountain Formation. Beneath the tailings and the proposed disposal site, the fine-grained middle unit is separated by a sandstone/siltstone/conglomerate channel deposit, which is considered to be the coarse-grained middle unit of the Cedar Mountain Formation. To the west and east of the former tailings and disposal site coarse-grained middle unit is not present or intertongues as thin layers with the shale of the fine-grained middle unit (see Figures D.5.2, D.5.3, and D.5.4).

Beneath the proposed disposal site, fracturing occurs in the fine-grained and coarse-grained middle units. A total of six core holes were drilled beneath and peripheral to the disposal site. Core from all of these holes shows moderate to intense vertical and horizontal fracturing and fractures extending from the fine-grained middle unit down into the coarse-grained middle unit (DOE, 1987a). Monitor wells completed in the fine-grained middle unit include 583, 584, 585, 701, 806, 807 (completed below the sandstone and conglomerate channel deposit), 809, 810, 812, 814, 816, 822, and 823. Monitor wells 812, 814, 816, 822, and 823 were installed at the disposal site; only well 816 encountered ground water (at a depth of 60 feet). Depth to ground water in the fine-grained middle unit beneath the former tailings surface is about 26 feet at monitor well 701.

A potentiometric contour map of the fine-grained middle hydrostratigraphic unit is presented in Figure D.5.9. This contour map was developed from water level data and the surveyed water elevations in the wells in October, 1987 (see Table D.5.5). The hydraulic gradient within the fine-grained middle hydrostratigraphic unit ranges from 0.0063 to 0.0083 ft/ft. Ground water flux in the fine-grained middle unit is controlled by fractures, joints, or minor faulting, which is most evident in the vicinity of the tailings pile. A "trough" is present in the potentiometric surface, which trends east-west and is just south of the channel of Brown's Wash (see Figure D.5.9). Ground water flux in the fine-grained middle unit is also controlled by vertical recharge from the overlying alluvial aquifer and the underlying coarse-grained middle unit.

Table D.5.8 presents a summary of aquifer hydraulic characteristics for the fine-grained middle unit. The calculated average linear velocity of ground water in the fine-grained middle unit ranges between 0.01 and 0.71 ft/day; the geometric mean velocity is 0.08 ft/day. Ground water flux through the fine-grained middle unit beneath the former tailings pile was calculated based on the calculated hydraulic conductivities and water levels from monitor wells 584 and 701. The method for calculating ground water flux was the same as that used to calculate flux through the top hydrostratigraphic unit. The total flux is estimated to be 4.9 gpm beneath the former tailings in the fine-grained middle unit (Table D.5.9).

Coarse-grained middle hydrostratigraphic unit

The coarse-grained middle hydrostratigraphic unit is the sandstone/siltstone/conglomerate channel deposit within the fine-grained middle hydrostratigraphic unit of the Cedar Mountain Formation. This unit is a maximum of 30 feet thick and is confined in the area of the former tailings pile by overlying shales and limestones of the fine-grained middle unit. The coarse-grained middle unit does not appear to be present, or it intertongues as thin lenses with the limestone and shale, east and west of the tailings (see Figures D.5.2, D.5.3, and D.5.4). Monitor well 581 was drilled and completed in this unit beneath the former tailings, and it flowed at the surface. Monitor wells 561 and 562 were screened in both the fine-grained middle and coarse-grained middle units and data collected from these wells may not represent actual conditions in either unit. However, monitor well 562 was completed beneath the area of the disposal site and well 561 was completed west of the disposal site; because of the fracturing present in the fine-grained middle and coarse-grained middle units at the disposal site, these two units are probably somewhat hydraulically connected, and the screened intervals in monitor wells 561 and 562 probably included the zone of hydraulic connection. Other monitor wells drilled and completed in the coarse-grained middle unit included 811, 813, and 815. Background monitor well 811, located east of the former tailings pile near Brown's Wash (see Figure D.5.1), encountered only thin, separated lenses of sandstone that are probably of the coarse-grained middle unit.

A potentiometric contour map of the coarse-grained middle unit is presented in Figure D.5.10. This map was developed from water level data for October 1987 (See Table D.5.4) and the surveyed elevations of the monitor wells. The potentiometric surface in the coarse-grained middle unit is two to three feet above the surface of the tailings at monitor well 581. The depth to water in this unit is approximately 60 feet in the area of the disposal site. The hydraulic gradient within the coarse-grained middle unit ranges from 0.0083 to 0.025 ft/ft.

The flow of ground water in the coarse-grained middle unit is strongly influenced by the attitude (dip) of the unit, its limited lateral extent to the east and west, and its recharge by underlying aquifers. Rock cores from monitor wells 562, 807, and 813 indicate this unit is fractured and is probably hydraulically connected with the overlying shale of the fine-grained middle unit beneath the disposal site; however, the coarse-grained middle unit is confined by the shale beneath the former tailings. Additionally, monitor well 581, which was drilled and completed in the coarse-grained middle unit, flows at the surface. The strong, vertically upward hydraulic gradient between the fine-grained and coarse-grained middle units beneath the former tailings pile has prevented any tailings seepage from moving into the coarse-grained middle unit.

Table D.5.10 presents a summary of aquifer hydraulic characteristics for the coarse-grained middle hydrostratigraphic unit. The calculated average linear velocity of ground water in the coarse-grained middle unit ranges between 0.02 and 2.7 ft/day; the geometric mean is 0.14 ft/day. Ground water flux through the coarse-grained middle unit beneath the former tailings was not calculated since this unit has not been affected by tailings seepage.

Bottom hydrostratigraphic unit

The Buckhorn Conglomerate Member of the Cedar Mountain Formation has been defined as the bottom hydrostratigraphic unit. Confined ground water is present beneath the former tailings site vicinity in this unit. The unit is 15 to 25 feet thick in the site vicinity and is confined by the maroon to gray-blue shales and mudstones that separate the bottom unit from the overlying hydrostratigraphic units. Monitor wells 582 and 819, drilled and completed near Brown's Wash west of the tailings, flow at the surface. The other monitor wells completed in this formation (586, 587, 588, and 818) do not flow because they are at a higher elevation than the flowing wells. Monitor well 817, located east of the tailings near Brown's Wash (see Figure D.5.1), was thought to be drilled and completed in the bottom unit. Detailed analyses and comparison with other well data showed that well 817 is probably screened somewhere below the coarse-grained middle unit (see Figure D.5.3). Because of the uncertainty associated with the completion of monitor well 817, data from the well have not been included in hydrogeologic analyses of any of the units.

A potentiometric contour map of the bottom unit is presented in Figure D.5.11. This contour map was developed from water level data for October 1987 (see Table D.5.4) and the surveyed elevations of the monitor wells. The potentiometric surface in the bottom unit is five to 14 feet above land surface in the vicinity of the former tailings, and 56 to 71 feet below land surface in the vicinity of the disposal site. The hydraulic gradient within the bottom unit ranges from 0.040 to 0.044 ft/ft.

Table D.5.11 presents a summary of aquifer hydraulic characteristics for the bottom unit. The calculated average linear velocity of ground water in the bottom unit ranges from 0.072 to 0.17 ft/day; the geometric mean is 0.12 ft/day. Ground water flux through the bottom unit beneath the tailings was not calculated since tailings seepage has not affected this unit. Because of overlying confining layers and strong, vertically upward hydraulic gradients between the bottom unit and the two presently contaminated units, the bottom unit will not become contaminated from tailings seepage.

Vertical hydraulic gradients

Strong, vertically upward hydraulic gradients exist between the bedrock units in the vicinity of the Green River site. These gradients have prevented the downward movement of tailings seepage into the coarse-grained middle and bottom hydrostratigraphic units beneath the former tailings pile. Beneath the disposal site these gradients may limit the amount of mixing of any tailings seepage (as a result of the proposed remedial action) between the fine-grained middle and coarse-grained middle units. Additionally, the strong gradients will restrict the movement of any tailings seepage into the bottom unit. Tables D.5.12 and D.5.13 summarize the vertical hydraulic gradients at the former tailings site and the disposal site, respectively.

D.5.2.6 Background ground water quality

Background ground water quality in the four hydrostratigraphic units at the Green River site was determined for the following constituents listed in the proposed EPA standards (40 CFR 192): chromium; molybdenum; nitrate; selenium; radium-226 and -228; uranium; and gross alpha activity. The other constituents listed in the proposed EPA standards (see Table D.5.1) were found to have levels below detection for the first two rounds of sampling in June 1986 and September 1986; consequently, these remaining constituents were excluded from subsequent sampling rounds and are not considered to be present as contamination in ground water at the Green River tailings site. Table D.5.14 describes all of the ground water sampling locations and Table D.5.15 presents the results of the chemical analyses for all of the wells and well points. Figure D.5.12 is a trilinear plot of the monitor wells at the Green River site. The trilinear plot shows the general types of ground water in the alluvium and Cedar Mountain Formation.

Top hydrostratigraphic unit

The locations of background monitor well 707 and well point 563 are shown on Figure D.5.1. These monitoring locations are upstream and upgradient of the tailings.

A background ground water quality summary of the top unit is presented in Table D.5.16. The maximum background concentration of the range exceeds the proposed EPA MCL for all the constituents in the table except for Ra-226 and 228. Many other constituents exceed EPA secondary and state of Utah drinking water MCLs. These include (but are not limited to): chloride (> 250 mg/L), sulfate (> 5500 mg/L), and TDS (> 9000 mg/L). (See Table D.5.15 for specific concentrations of these constituents.) The general water type for the top unit is calcium or sodium sulfate; the water is Class II based on TDS (greater than 1000 mg/L TDS but less than 10,000 mg/L), but is Class III based on the high levels of chromium, molybdenum, nitrate, selenium, and uranium that occur naturally.

Fine-grained middle hydrostratigraphic unit

The locations of background monitor wells 816 and 806 are shown on Figure D.5.1. Monitor well 806 was upgradient of the former tailings, and monitor well 816 was upgradient and updip of the former tailings.

A background ground water quality summary of the fine-grained middle unit is presented in Table D.5.17. The wide range of background quality reflects the range in concentrations found at each well. High concentrations of the contaminants listed in Table D.5.17 are found at well 816, which was located south (upgradient) of the tailings in the area of the disposal site. Proposed EPA MCLs for nitrate, selenium, and gross alpha activity are exceeded in monitor well 816. The measured uranium concentration is very close to the proposed MCL and chromium has been measured at levels as high as the MCL. The nature of the contamination present in this well suggests the source may be from the surface, as well as from recharge by naturally contaminated water from underlying aquifers. The general water type in background well 806 is sodium bicarbonate. The concentrations of both sodium and sulfate are much higher in monitor well 816 than in monitor well 806, but since alkalinity was

not determined for well 816 (limited sample quantity), well 816 is not plotted on the trilinear plot. The water in the fine-grained middle unit is Class II based on TDS, but is Class III based on the high nitrate and selenium concentrations found in monitor well 816.

Monitor well 807 was completed in the shale of the fine-grained middle unit below the sandstone of the coarse-grained middle unit (see Figure D.5.2). The screened interval in well 807 was from 78 to 98 feet (see Table D.5.2). The water quality analysis of a sample taken from this well in July 1988 (see Table D.5.15) shows that cadmium (0.125 mg/L), chromium (0.06 mg/L), nitrate (1280 mg/L), and selenium (0.322 mg/L) concentrations exceed proposed EPA and state of Utah MCLs for these constituents. In addition, the boron concentration was measured at 0.84 mg/L, which is slightly greater than the state of Utah maximum concentration limit for boron (see Table D.5.1). Finally, total dissolved solids were measured at 11,700 mg/L, and the sulfate concentration was 6450 mg/L. Since this saturated zone within the Cedar Mountain Formation is isolated from surface contamination by strong, vertically upward hydraulic gradients, the source for the contaminants formed within this unit is from somewhere off the site, and possibly from below the elevation of the well screen. It is possible that contaminants were discharged into this zone by injection, but there is no evidence that this is the case (Day, 1988).

Coarse-grained middle hydrostratigraphic unit

The locations of background monitor wells 562, 811, and 813 are shown on Figure D.5.1. Monitor well 811 is upgradient of the former tailings, and monitor wells 562 and 813 are upgradient and updip of the former tailings.

A background ground water quality summary of the coarse-grained middle unit is presented in Table D.5.18. The background quality range for this unit is similar to that of the fine-grained middle unit. Beneath the disposal area, the fine-grained and coarse-grained middle hydrostratigraphic units may be hydraulically connected by numerous vertical fractures. In the north, away from the disposal area and toward the former tailings pile, the vertical fractures are not as intense or abundant and the coarse-grained middle unit is confined by the overlying shales and limestones of the fine-grained middle unit. Background concentrations of chromium, molybdenum, nitrate, selenium, uranium, and gross alpha activity exceed the proposed EPA MCLs south (upgradient) of the former tailings at the disposal site. The source of this contamination, like that found in the fine-grained middle unit, is probably from upgradient sources south of the disposal area. There is no evidence at the ground surface that the proposed disposal site is a source of contamination. The general water type in the coarse-grained middle unit is sodium sulfate; the water is Class II, based on TDS, but is Class III based on high levels of chromium, molybdenum, nitrate, selenium, uranium, and gross alpha activity.

Bottom hydrostratigraphic unit

The locations of background monitor wells 586, 587, 588, 817, and 818 are shown on Figure D.5.1. These monitor wells are upgradient and updip of the tailings.

Ground water in this unit is much better in quality than the three shallower units; TDS levels are near 2000 mg/L. The general water type is sodium sulfate and the water is at the lower

end of Class II, based on TDS, but is also Class III because of high levels of chromium, molybdenum, selenium, and gross alpha activity.

For the September 1986 and March 1987 rounds of water sampling, monitor wells 586 and 587 were considered to be cement grout contaminated since the time the wells were drilled and completed. The pH of the water samples from these wells ranged from 9.92 to 11.61 standard units. For the October, 1987, sampling, the pH was measured as 8.10 in monitor well 586 and 9.35 in monitor well 587, indicating the majority of the grout was removed from the producing intervals during the purging (sampling) process. The pH values for all of the sampling dates for monitor wells 586, 587, and 818 were plotted versus molybdenum, nitrate, selenium, uranium, and sulfate concentrations on a linear-linear graph (Figure D.5.13) to show the effect of pH on the concentrations of these constituents. A linear regression was done for each constituent, the coefficient of determination (r^2) was calculated, and Student's "t" statistic (McClave and Dietrich, 1979) was calculated to test the null hypothesis that the slopes of the best-fit regression lines for each parameter are not different from zero. The calculated "t" statistics indicate that at a 99 percent level of confidence there does not appear to be any linear relationship between pH and the concentrations of the constituents tested. Based on these results, values for these constituents and all other constituents analyzed from wells 586, 587, and 818 were included in the background water quality calculations, regardless of the water pH at the time of sampling.

A background ground water quality summary of the bottom unit is presented in Table D.5.19. Concentrations of chromium, molybdenum, selenium, and gross alpha activity in the bottom unit are slightly higher than the proposed EPA standards for these constituents. These levels probably reflect high natural levels of these constituents, and indicate that the high levels of these constituents found in the over-lying hydrostratigraphic units may also be (at least in part) from natural sources.

Summary

The range of background ground water quality in the fine-grained and coarse-grained middle hydrostratigraphic units of the Cedar Mountain Formation is wide because background monitor wells are located both east (upstream) and south (updip) of the tailings. The wells south of the tailings (at the proposed disposal site) indicate there is a source of contamination upgradient of the disposal site that is not related to the milling processes since it would be outside the boundary of the mill site. If the high nitrate levels are an indication of the source, it may be from activities associated with the White Sands Missile Range test complex (DOE, 1988a). High levels of chromium, molybdenum, and selenium in the bottom hydrostratigraphic unit indicate these constituents are from natural sources; because this unit is confined by a thick shale unit in the vicinity of the tailings site contamination from the surface is unlikely. Because the high background levels of nitrate, molybdenum, chromium, and selenium indicate contamination from natural sources, ground water in all four hydrostratigraphic units at the Green River site may be classified as limited use, according to 40 CFR§ 192.21(g), which states that limited use ground water includes water that is not a current or potential source of drinking water because widespread, ambient contamination not due to activities involving residual radioactive materials from a designated processing site exists that cannot be cleaned up by using treatment methods reasonably employed in public water-supply systems.

The town of Green River currently takes water from the Green River upstream of its confluence with Brown's Wash for domestic use and irrigation. Because an ample supply of good-quality surface water is available for domestic use, the development of ground water in the potentially affected environment of the Green River tailings site is highly unlikely. See Section D.5.2.10 for a more complete discussion of ground water use, value, and alternate supplies at the Green River tailings site.

D.5.2.7 Extent of existing contamination

Percolation of tailings seepage into the ground water system beneath the tailings pile has adversely impacted the water quality in both the top and fine-grained middle hydrostratigraphic units. The vertical extent of contamination is confined to these two shallow units by strong, vertically upward hydraulic gradients between the fine-grained middle unit and the underlying units. The maximum potential depth of contamination in ground water beneath the surface of the former tailings pile is about 65 feet.

Top hydrostratigraphic unit

Gross alpha activity, molybdenum, nitrate, selenium, and uranium concentrations exceed background levels and proposed EPA and state of Utah ground water MCLs beneath and downgradient of the tailings. Table D.5.20 shows the maximum and minimum observed concentrations of contaminants in the top unit and the proposed EPA maximum concentration limits. The range in concentrations of contaminants varies widely from sampling to sampling, probably in response to evaporation and percolation of rainfall and snowmelt through the tailings over time; this type of variation is also seen in the pore water sample analyses for the same reasons (see Section D.5.3.5). Figures D.5.14 through D.5.18 show the lateral extent of contamination as gross alpha activity, molybdenum, nitrate, selenium, and uranium, respectively, in the top unit (Brown's Wash alluvium) and in the channel of Brown's Wash, based on the maximum observed concentrations.

The contamination resulting from tailings seepage travels downgradient through the alluvium toward the northwest and the channel of Brown's Wash. Once in Brown's Wash, the contaminants move west with ground water flow in the shallow alluvium or on the surface. Surface water sample analyses from Brown's Wash (DOE, 1988a) indicate contaminated ground water discharges to Brown's Wash; however, flow in the channel is intermittent and the concentrations of contaminants (as well as major anions and cations) are a function of the evaporation of water in the channel (i.e., evaporation causes a relative increase in concentration of the contaminants). The contaminated water travels downstream (west) in Brown's Wash and mixes with backwater from the Green River approximately 400 feet west of surface water sampling station 710 (see Figures D.5.14 through D.5.18). Water quality analyses from samples of Green River water upstream and downstream from its confluence with Brown's Wash show that the discharge of contaminated water from Brown's Wash to the Green River has no adverse affect on the water quality of the Green River (DOE, 1988a). This is because the contaminants are diluted by a factor of 10^5 to 10^6 once they mix with the Green River.

As part of the site characterization, monitor well 705 (was located on-site and completed in the alluvium) was sampled and analyzed for EPA priority organic pollutants in July 1986. The analyses measured 13 parts per billion (ppb) of methylene chloride, but it is noted by the analytical laboratory that the elevated value may be a result of laboratory contamination. Two other unknown, semivolatile compounds were tentatively identified by the lab to have concentrations of 100 and 40 ppb. In July 1988, monitor well 705 together with monitor wells 561, 562, 583, 806, 807, and 816, and lysimeter 714 (see Figure D.5.1 for locations) were sampled for volatile and semi-volatile organic compounds. The analyses showed that the only compound detected in confirmable concentrations was methylene chloride; methylene chloride was also detected in the trip blank for this batch of samples. Based on these results, methylene chloride is suspected of being present as a result of contamination by the analytical laboratory. These analytical results are on file at the UMTRA Project Office in Albuquerque, New Mexico.

Contamination as ammonium was also identified in the top unit. Figure D.5.19 shows the extent of ammonium contamination in Brown's Wash alluvium and the channel of Brown's Wash. Ammonium was used in the milling process (see Section D.5.2.8) and may be present in ground water beneath the tailings by the reduction of nitrate (NO_3^-) within the tailings to ammonium (NH_4^+). The chemical characteristics of the tailings pore fluid are discussed in detail in Section D.5.2.8; geochemical conditions present in the Green River site area are discussed in Section D.5.2.9.

Fine-grained middle hydrostratigraphic unit

Gross alpha activity, molybdenum, nitrate, selenium, and uranium exceed background levels and proposed EPA and state of Utah ground water standards beneath and downgradient of the tailings. Table D.5.21 shows the maximum observed concentrations of contaminants in the fine-grained middle unit and the proposed EPA MCLs. Figures D.5.18 through D.5.22 show the lateral extent of contamination as gross alpha activity, molybdenum, nitrate, selenium, and uranium, respectively, in the fine-grained middle hydrostratigraphic unit, based on the maximum observed concentrations.

Contamination from tailings seepage in the fine-grained middle unit extends northwest from the tailings pile (from monitor well 701, on the site), roughly following the "trough" shown by the potentiometric contours (see Figures D.5.18 through D.5.22). This trough probably is a result of higher secondary permeability in the shale caused by joints, fractures, or minor faulting that is oriented the same direction as the trough. Ground water flow in the fine-grained middle unit is discussed in more detail in Section D.5.2.4.

Contamination is also present in monitor well 583 west of the tailings and Brown's Wash (see Figures D.5.18 through D.5.22). This contamination is probably a result of seepage of contaminated water in Brown's Wash down into the bedrock channel bottom. As discussed previously, the contaminated water in Brown's Wash is a result of the discharge of contaminated alluvial ground water into the channel adjacent to and downgradient of the former tailings.

Contamination as ammonium was identified in monitor well 701 on the site; however, the ammonium appears to be limited to the area directly beneath the former tailings because

elevated levels of ammonium are not found in any of the off-site monitor wells. The maximum observed concentration of ammonium observed in monitor well 701 was 47 mg/L.

D.5.2.8 Tailings and milling process characterization

Tailings

The former tailings pile at the Green River site comprised an area of eight acres. The tailings were not saturated and there is no evidence that a ground water mound ever existed beneath the tailings prior to remedial action. The depth to ground water beneath the base of the former tailings ranges from four to ten feet, using the available monitor well and water level information.

The tailings were a fairly well-sorted, white to pink sand with some silt. Based on laboratory test data (Table D.5.22), the average saturated hydraulic conductivity of compacted tailings is 1.5×10^{-4} cm/s. This value is probably representative of the tailings since there were no slimes within the pile and the tailings were uniform in texture. Under natural, uncompacted conditions, the vertical hydraulic conductivity is probably greater than 10^{-4} cm/s. The horizontal hydraulic conductivity of the underlying Brown's Wash alluvium (top hydrostratigraphic unit) is near 1×10^{-2} cm/s, based on average hydraulic conductivities at monitor wells 702, 704, 705, and 708 (see Table D.5.7). Considering that the alluvium is anisotropic (Bouwer, 1978), the vertical hydraulic conductivity is probably in the range of 5×10^{-3} to 1×10^{-3} cm/s.

In an attempt to calculate the percolation rate through the tailings pile prior to remedial action, the following mixing relationship was used:

$$C_b(Q_r - Q_t) + C_t Q_t = C_r Q_r$$

where

C_b = concentration of water quality constituent upgradient (background) of the tailings (mg/L).

Q_r = volume flux rate of alluvial ground water beneath the tailings (resultant volume flux rate from mixing the background ground water with the fluid percolating through the tailings) (gpm).

Q_t = volume flux rate (percolation) through the tailings (gpm).

C_t = concentration of water quality constituent in tailings pore fluid (lysimeter sample) (mg/L).

C_r = concentration of water quality constituent in the alluvium beneath the tailings (resultant concentration from mixing background alluvial water with tailings pore water) (mg/L).

Using $Q_r = 9.9$ gpm (see Table D.5.8), average pore water concentrations from lysimeter GRN01-714 (Table D.5.23), average background ground water concentrations from alluvial monitor wells 563 and 707, and resultant ground water concentrations from alluvial on-site wells 702, 704, and 705, Q_t was calculated to be 0.010 gpm using both uranium and manganese concentrations. Other constituents were considered but were not useful either

because their background concentrations were higher than resultant concentrations or pore water analyses were not available.

Based on the calculated Q_t , the continuous infiltration rate over the eight-acre area of the tailings is 6.4×10^{-11} feet per second (ft/s) (2.0×10^{-9} cm/s); the average annual rate is equal to 0.024 inches per year (in/yr) (0.06 cm/yr), or 0.4 percent of the average annual precipitation. While this method of calculating Q_t has inherent uncertainties (e.g., averages are used and geochemical attenuation is not considered), it indicates that the percolation of water through the tailings is very little, and is probably within the range estimated by Rush et al. (1982). Detailed mixing calculations to estimate Q_t are on file in the UMTRA Project office, Albuquerque, New Mexico.

Tailings pore water samples were collected and analyzed from lysimeter 714 located at the east end of the former tailings pile (see Figure D.5.1) in September 1986 and March 1987 (Table D.5.23). Less than 500 milliliters could be obtained from the lysimeter each time, so only a select number of parameters could be analyzed. No pore water at all could be collected during October 1987 and January 1988 samplings. Since radionuclide analyses require one liter of water or more, radionuclide concentrations in the pore water could not be determined. In addition, since only a select number of constituents were analyzed, a cation/anion balance could not be accurately performed and the reliability of the results are uncertain. Finally, the pore water samples are highly sensitive to fluctuations in soil moisture content (responses to rainfall and evaporation); this seems to be reflected by the high variance in pore water parameters like chloride, potassium, nitrate, sulfate, TDS, and uranium.

Uranium mill tailings, buffer material, and contaminated windblown soils samples were collected from representative stockpiles at the Green River site in March 1989. The stockpiles for tailings, buffer material, and windblown soils are located near test pit 544, between monitor wells 588 and 561, and near test pit 577, respectively (see Figure D.5.1). The samples were used to determine the mobility of contaminants in the materials to be placed in the disposal cell. Batch leach and column extraction tests were conducted on the samples, and the batch solutions and column feed solutions were analyzed for all of the hazardous constituents identified at the site (see Table D.5.27). Radionuclides were not analyzed because of the limited quantity of solution from the batch leach and column extraction tests.

Results show that, for all of the hazardous constituents identified at the Green River site, except for uranium and vanadium, the extract concentrations from batch experiments using windblown soils are below the interim concentration limits proposed by NRC (see Table E.1.1). Concentrations of vanadium slightly exceed the NRC-proposed interim concentration of 0.09 mg/L, but are well below the observed range of maximum values from background ground water samples beneath the disposal site (0.38 mg/L maximum). Uranium concentrations from the windblown extract are above both the interim concentration limit of 0.044 mg/L (which is EPA's established MCL) and the maximum observed value in ground water of 0.146 mg/L. However, the column feed experiments show that uranium is attenuated by the buffer material to a concentration greater than one order of magnitude less than the feed concentration (from tailings solution). Based on the batch and column experiments, it can be assumed that the windblown soils are "clean" and are "buffer"

material in addition to the clean select-fill buffer material that was placed in the bottom of the cell. With this assumption, travel of contaminants can be assumed to be from the base of the tailings (top of the windblown soils) through the base of the buffer materials.

Milling process

The Green River processing plant was operated from March 1958 to January 1961 (FBDU, 1981). Ore from uranium mines at Temple Mountain, Utah, was upgraded, and the ore concentrate was shipped by railroad to Rifle, Colorado, for further processing.

The uranium ore was sandstone loosely cemented with clay and asphaltic material, with part of the uranium intimately associated with carbonaceous minerals. After crushing and grinding, the ore was screened, with minus-35 mesh material going to flotation and the plus-35 mesh material joining the flotation concentration to form a carbonaceous concentrate. The flotation tailings were separated into sand and slime fractions. The sands were leached with acid, the leached slurry washed, and the spent sands discarded to the tailings area. The recovered slimes and pregnant solution were then joined with a portion of the initial slime fraction. Any excess acid was neutralized with ammonia. This mixed product plus the remainder of the primary slimes were then dewatered and dried for shipment to the Rifle, Colorado, processing plant.

D.5.2.9 Geochemical conditions

The presence of pyrite and organic matter in the Cedar Mountain Formation aquifer of the Green River site indicates that ground water at the site is relatively reducing (DOE, 1988b). The Cedar Mountain Formation contains mudstones with occasional thin and discontinuous calcareous beds. Ground water flow is controlled by fractures, joints, and faults, which are continuous through the upper middle portion of the stratum. Fracture surfaces in the unsaturated zone contain significant quantities of ferric oxyhydroxide, calcite, gypsum, and oxidized pyrite. The presence and movement of ground water beneath the tailings impoundment is controlled by connected fractures. Strong, upward, vertical hydraulic gradients are locally prevalent through the entire saturated hydrostratigraphic sections.

Results of selected water-quality analyses of the Cedar Mountain Formation aquifer are provided in Table D.5.24. The monitor wells were sampled in May 1988 and the water-quality data collected during this period are representative of the aquifer. This ground water generally is a sodium sulfate type and the TDS content is higher than 4500 mg/L. Monitor wells 562 and 813 were upgradient of the tailings impoundment; however, ground water samples from these monitor wells had high concentrations of nitrate, sulfate, and TDS. Monitor well 701 is completed beneath the tailings impoundment and ground water samples from this well are contaminated from tailings leachate. Concentrations of nitrate, ammonium, selenium, and macrosolutes are elevated above background. The ground water remains buffered by limestone lenses within the aquifer.

Monitor wells 581 and 584 were downgradient from the tailings impoundment, and ground water samples from these wells contained relatively low concentrations of nitrate and most other macro-solutes. Dissolved hydrogen sulfide occurs in monitor well 581, where field Eh measurements indicate relatively reducing conditions. Field alkalinity values recorded at

monitor well 581 are relatively high, which may be the result of the oxidation of solid organic matter in the presence of hydrogen sulfide. Sulfate reduction is a bacterial reaction in which bacteria use the oxygen in SO_4^{2-} to oxidize organic matter to CO_2 , which contributes to alkalinity, producing sulfide species. Sulfate reduction is represented by the following equation with pH values above 7:

Petrographic analyses of core material taken near monitor well 581 show unoxidized, euhedral pyrite crystals in a matrix of solid organic matter, calcite, and quartz. Ground water chemistry and mineralogy indicate that the Cedar Mountain Formation is relatively reducing downgradient of the tailings impoundment.

Uranium concentrations within the Cedar Mountain Formation decrease by several orders of magnitude within 600 feet downgradient of the former tailings pile. For example, the concentration of uranium in ground water samples from monitor well 701, completed beneath the tailings pile, is 2.69 mg/L, whereas the concentrations of uranium in ground water samples from monitor wells 581 and 584 are below 0.001 mg/L. Figure D.5.22 shows the distribution of uranium in the fine-grained middle hydrostratigraphic unit at the Green River site.

The Cedar Mountain Formation consists of a Cretaceous marine limestone with lenses of sandstone and siltstone (see Section D.5.2.3). Many secondary minerals are found on the fracture surfaces in the foundation bedrock beneath the disposal site. These include, but are not limited to, calcite, gypsum, and iron and magnesium oxides; pyrite is abundant on the fracture surfaces in the coarse-grained middle sandstone unit.

Core samples collected above the water table contain fracture coatings consisting of calcite, gypsum, and iron and manganese oxides. The fractures have a higher permeability than the matrix permeability.

In general, the core samples collected below the water table indicate a considerable amount of carbonate is present, primarily as cement and vein filling, in the siltstones and sandstones. The sulfide (pyrite) content of the core samples ranged from 0.1 percent to 1.0 percent; in some cases oxidation to iron oxides affects the outer surfaces of individual grains.

The porosity appears to be low in the siltstones and moderate to low in the sandstones, and increases with increasing grain size. Fracture permeability probably has a significant role in fluid migration through these rocks. The fractures observed in the core samples are generally cemented with carbonate, and contain coatings of iron oxides. Fracture porosity is variable, but in general the existing fractures have moderate to low porosity.

Geochemical modeling using PHREEQE (Parkhurst et al., 1980) was performed to mix the tailings leachate with the ambient ground water. Results of the modeling show that most heavy metals and trace elements have the potential to adsorb or precipitate from solution as a result of contact with the calcite and iron oxides in the aquifer. Where reducing conditions

exist in the saturated zone and pyrite is present, the ground water is predicted to be oversaturated with uraninite and amorphous UO_2 , and precipitation of uranium would occur.

The solubility of uranium within the Cedar Mountain Formation aquifer may be controlled by precipitation of tetravalent uranium minerals such as uraninite and coffinite, by adsorption of uranium onto ferric oxyhydroxides and clay minerals, or by a combination of precipitation and adsorption processes. Cedar Mountain Formation ground water is sufficiently reducing downgradient of the tailings pile to account for uraninite precipitation. Table D.5.25 shows the measured field Eh and the theoretical Eh required for Cedar Mountain Formation ground water to be in equilibrium with uraninite. The measured field Eh value for monitor well 581 was more reducing than the theoretical Eh value calculated by the computer code PHREEQE. For monitor well 584, the measured Eh was approximately 0.02 volts more oxidizing than the theoretical Eh value required for uraninite equilibrium. The discrepancy between the field Eh and theoretical Eh values may be insignificant with respect to uraninite precipitation. Uranium concentrations, however, in ground water samples from monitor wells 581 and 584 are in the low microgram/liter range.

Reduction of the uranyl ion (UO_2^{2+}) by aqueous sulfide forming poorly crystalline uraninite has been investigated by Mohogheghi and Goldhaber (1982). Their investigation shows that uranium concentrations greater than 2.75 ppm results in the precipitation of uraninite within 24 hours. Adsorption of hexavalent uranium may be necessary prior to chemical reduction. The partial pressures of hydrogen sulfide and carbon dioxide during their experiments were 4.3×10^{-2} atmospheres. Based on their experiments, concentrations of hydrogen sulfide within the Cedar Mountain Formation should provide conditions favorable for uraninite precipitation.

Speciation and saturation index calculations by PHREEQE can be made using either field Eh or calculated Eh values. Determining the most appropriate redox couple to use for model simulations is very difficult because internal disequilibrium exists between the redox couples (Lindberg and Runnells, 1984). Field Eh values were used as input for the PHREEQE simulations because they are intermediate to the calculated redox couples. It must be shown, however, that electron-transfer reactions taking place between the aqueous species of interest and the electrode surface are similar to reactions taking place between the aqueous species and the electron donor/acceptor present in the Cedar Mountain Formation aquifer. Small uncertainties in the measured electrode potentials and in the calculated Eh values from the redox couples may be important for simulating whether solubility control or adsorption is the major attenuation mechanism for uranium in the Cedar Mountain Formation aquifer. The $\text{Fe}^{3+}/\text{Fe}^{2+}$ and Sato dissolved oxygen redox couples appear to be in close agreement with the measured Eh values for monitor wells 562, 701, and 813 upgradient from the tailings impoundment, whereas the $\text{HS}^-/\text{Rhombic S}$ redox couple approximates measured Eh values for monitor wells 581 and 584 downgradient from the tailings impoundment. Berner (1963) has shown that the $\text{HS}^-/\text{Rhombic S}$ couple is reversible for marine sediments and this redox couple is useful for approximating redox conditions in certain portions of the Cedar Mountain Formation aquifer where detectable concentrations of aqueous hydrogen sulfide are present.

The saturation indices for uraninite, coffinite, calcite, gypsum, pyrite, and amorphous $\text{Fe}(\text{OH})_3$ with $\text{PCO}_2 = 10^{-2}$ atmospheres were computed by PHREEQE from analytical results (Tables

D.5.23 and D.5.24) obtained from the ground water analyses from monitor wells 562, 581, 584, 701, and 813. These modeling results are shown in Table D.5.26. Ground water samples from monitor wells 562, 701, and 813 were undersaturated with respect to uraninite, coffinite, and pyrite and were oversaturated with respect to gypsum and amorphous $\text{Fe}(\text{OH})_3$.

Cedar Mountain Formation ground water is in equilibrium with calcite. Therefore, uranium is likely to be mobile in the Cedar Mountain Formation aquifer at the proposed disposal site and downgradient towards the existing tailings pile.

Petrographic analysis has shown the ubiquitous occurrence of calcite, gypsum, and ferric oxyhydroxide within the fractures. Uranium, stable as $\text{UO}_2(\text{CO}_3)_2^{2-}$ and $\text{UO}_2(\text{CO}_3)_3^{4-}$ complexes, is likely to be mobile in this portion of the aquifer. Conversely, ground water is predicted to be oversaturated with respect to uraninite and pyrite downgradient of the tailings impoundment where uranium concentrations are below 0.001 mg/L. Pyrite occurs as euhedral crystals with no detectable oxidation coatings, indicating that oxidizing solutions are not presently in contact with the sediments. The analytical detection limit for total uranium is <0.001 mg/L and the saturation index values for uraninite and coffinite are maximum values. If the actual concentrations are less than 0.001 mg/L, then ground water samples from monitor wells 581 and 584 could have been undersaturated with respect to uraninite and coffinite. The occurrence of uraninite and coffinite in this portion of the Cedar Mountain Formation has not been established by petrographic techniques.

Solubility experiments conducted by Ryan and Rai (1983), however, show that $\text{U}(\text{OH})_5$ may not be as strong a complex of U(IV) because no evidence for the predominance of $\text{U}(\text{OH})_5$ was observed under alkaline pH conditions. In addition, thermochemical data (hydrolysis constant) for $\text{U}(\text{OH})_5$ may be suspect (Bruno et al., 1987) and the stability fields for dissolved U(IV) species can be much larger than what are reported in the literature. This implies that the stability fields for U(IV) species may be much more restricted in nature.

In light of these concerns, additional speciation calculations which did not include $\text{U}(\text{OH})_5$ in the database still show that Cedar Mountain Formation ground water remains oversaturated with uraninite using analytical data from monitor well 581. Uranyl tricarbonate becomes the dominant solution species of uranium in the absence of $\text{U}(\text{OH})_5$. Input Eh value is the dominant control, in addition to uranium concentrations, for calculating the saturation index of uraninite.

Adsorption of uranium onto ferric oxyhydroxides, clay minerals, and other adsorbents present in the Cedar Mountain Formation (DOE, 1988b) may partially account for the observed concentration decrease of uranium. Complete adsorption of uranium onto ferric oxyhydroxide under relatively oxidizing conditions, however, is inhibited by the formation of $\text{UO}_2(\text{CO}_3)^0$, and $\text{UO}_2(\text{CO}_3)_2^{2-}$, $\text{UO}_2(\text{CO}_3)_3^{4-}$ complexes (Hsi and Langmuir, 1985; Tripathy, 1984). Speciation calculations for uranium show that the hydrolysis species $\text{U}(\text{OH})_5$ is the dominant uranium species predicted for ground water samples from monitor well 581, whereas $\text{UO}_2(\text{CO}_3)_3^{4-}$ is the dominant species in ground water samples for monitor well 584. Adsorption of uranium onto minerals such as goethite, amorphous $\text{Fe}(\text{OH})_3$, and hematite may occur to a greater extent where uranium hydroxo complexes are more abundant than uranyl carbonate complexes (Hsi and Langmuir, 1985; Tripathy, 1984).

In nature, uranium can become chemically reduced and concentrated to form an ore deposit. Uranium roll-front deposits consist of naturally occurring ore-grade uranium and the geochemical environment of these deposits may be similar to that of the Cedar Mountain Formation. The ore deposits are formed by several geochemical processes including dissolution, chemical reduction, complexation, sorption, and precipitation. The Eh of ground water in contact with the ore deposit is relatively reducing ($Eh \leq -0.100$ V) and dissolved uranium concentrations can vary from 0.001 to 2000 mg/L (Deutsch and Serne, 1984; Runnells and Lindberg, 1984; Chathan et al., 1981; Cowart and Osmond, 1980). Downgradient from the ore deposit, uranium concentrations are in the low mg/L range under chemically reducing conditions. Uranium rollfront and tabular deposits are found throughout the world in different geologic strata. The Cedar Mountain Formation is chemically reducing and uranium is being attenuated downgradient from the tailings pile through geochemical processes. Hydrogen sulfide, pyrite, and solid organic matter occur in the Cedar Mountain Formation and these materials are chemical reducing agents for uranium and other metals. Generation of hydrogen sulfide within the Cedar Mountain Formation has been occurring for millions of years. Subsequently, long-term reducing conditions are established for this formation.

D.5.2.10 Ground water use, value, and alternative supplies

Existing use and value

There are 15 registered wells in Township 21 South, Range 16 East (State of Utah, 1985). Thirteen of these wells are on the west side of the Green River; one well is on the east side of the river one mile northeast of the tailings site (Figure D.5.25). The final well, the Crystal Geyser well, is in the southeastern corner of Section 34, Township 21 South, Range 16 East on the east bank of the Green River. Most or all of these wells, except for Crystal Geyser, are shallow (less than 20 feet deep) and are completed in the Green River alluvium. Information was obtained regarding 10 of the 15 wells. The majority of the wells are not being used because of the poor quality of the water, disrepair of the wells, and the availability of better-quality water from the city of Green River. This is consistent with Rush et al. (1982) on ground water use on a regional basis.

The reported past use of water from these wells was for watering gardens or livestock. Ground water in the Green River area is not considered potable (Rush et al., 1982). The city of Green River provides water to residents on the eastern side of the Green River. The nearest resident to the tailings site hauls potable water from a coin-operated outlet in the city of Green River (Casper, 1985). In summary, there are no known uses of ground water within the potentially affected hydrogeologic setting of the tailings site.

It is difficult to assign an absolute value to water resources, especially those of lesser quality. Qualitatively, it can be stated that the shallow ground water affected by the Green River mill tailings has a very low value due to its origin in an area affected by the Mancos Shale and other shale and limestone deposits of the Cedar Mountain Formation. The Utah Division of Water Resources (DWR, 1975) states, "Water originating from this [Mancos Shale] formation has little value..."

Future use and value

Future use of shallow ground water for domestic consumption in the site area is not expected due to the poor natural quality and low yield of aquifers in the area. Ground water in the area of Green River is not considered to be potable (Rush et al., 1982).

Drill stem tests have indicated that the relative ability of the shallow ground water system to yield fluid during testing is small and permeability values are low (Rush et al., 1982). Other studies in the region also report a lack of ground water resources. The water found during oil and gas drilling corroborates these reports (DWR, 1975):

"Most all wells that were drilled contacted water, but the quality of this water has been such that it was not fit to drink."

The detrimental effects of the Mancos Shale on the availability of good-quality ground water is one of the main factors limiting future development of ground water in the area (DWR, 1976):

"Ground water development of fissured or fractured areas of the Mancos Formation has not been successful because most water located in fissures or by complete penetration into other strata has been of poor quality..."

Present development of alluvial ground water is limited because of natural and man-made degradation of the water, and these conditions will persist. The availability of better quality water from the municipal supply has caused a decline in the use of alluvial ground water. In spite of the poor water quality in the Brown's Wash alluvium and in the underlying shales and limestones of the Cedar Mountain Formation, water suitable for crop irrigation and livestock watering was located in a sandstone unit of the Buckhorn Member of the Cedar Mountain Formation beneath the tailings site (bottom hydrostratigraphic unit). The value of this potentially usable source of ground water is very difficult to determine; however, an estimate of the value can be made by comparing the value of alternate sources of water for irrigation and stock watering. The city of Green River charges water users outside the city limits \$23 for the first 6000 gallons per month, and \$2 for each additional 1000 gallons per month (City of Green River, 1984).

The cost of municipally supplied water for users outside the city's limits is twice that for users within the city's limits. While ground water obtained from the Buckhorn Conglomerate member of the Cedar Mountain Formation cannot replace current domestic supplies unless better-quality water can be found in this unit elsewhere, the value of municipally supplied water provides an upper limit for the value of the water available in these units. The ultimate value of the water in the Buckhorn Conglomerate will also be dependent upon the lateral extent of this unit, its recharge capacity, and the long-term availability of water from this unit.

In summary, the future usage of ground water will be limited by the generally small supply and relatively poor quality of ground water in the area, and the availability of a good quality municipal water supply.

Alternative supplies

The tailings have not affected any ground water currently being used. Alternate water supplies include Green River water as currently supplied by the city of Green River, and commercial water supply (e.g., delivery by tanker).

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FIGURE D.5.1
LOCATIONS OF CROSS SECTIONS, MONITOR WELLS, LYSIMETER, AND SURFACE WATER SAMPLING SITES
GREEN RIVER, UTAH, SITE

FIGURE D.5.2 HYDROGEOLOGICAL CROSS SECTION A-A'
GREEN RIVER, UTAH, SITE

NOTE: VERTICAL EXAGGERATION = 5X

FIGURE D.5.3
HYDROGEOLOGICAL CROSS SECTION B-B'
GREEN RIVER, UTAH, SITE

NOTE: VERTICAL EXAGGERATION = 5X

150 75 0 150
 HORIZONTAL SCALE IN FEET
 DATUM IS MEAN SEA LEVEL

LEGEND

- SANDSTONE OR SILTSTONE
- SHALE OR MUDSTONE
- LIMESTONE
- ALLUVIUM
- UNCONFORMITY
- FRACTURES

- Qt TERRACE ALLUVIUM
- Kd DAKOTA SANDSTONE
- Kcmu(fg) CEDAR MOUNTAIN FORMATION - UNNAMED MEMBER (FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT)
- Kcmu(cg) CEDAR MOUNTAIN FORMATION - UNNAMED MEMBER (COARSE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT)
- Kcmb CEDAR MOUNTAIN FORMATION - BUCKHORN CONGLOMERATE MEMBER (BOTTOM HYDROSTRATIGRAPHIC UNIT)

- 4084.4 STATIC WATER LEVEL AND ELEVATION, 10/ 87
- CASING PERFORATIONS
- TD - TOTAL DEPTH

NOTE: VERTICAL EXAGGERATION = 3X

FIGURE D.5.5
HYDROGEOLOGICAL CROSS SECTION D-D'
GREEN RIVER, UTAH, SITE

LEGEND

	SANDSTONE OR SILTSTONE	Qt	TERRACE ALLUVIUM	4088.4 ▽	STATIC WATER LEVEL AND ELEVATION, 10/87
	SHALE OR MUDSTONE	Kd	DAKOTA SANDSTONE		CASING PERFORATIONS
	LIMESTONE	Kcmu(fg)	CEDAR MOUNTAIN FORMATION - UNNAMED MEMBER (FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT)	TD	TOTAL DEPTH
	ALLUVIUM	Kcmu(cg)	CEDAR MOUNTAIN FORMATION - UNNAMED MEMBER (COARSE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT)		
	UNCONFORMITY				
	FRACTURES				

NOTE: VERTICAL EXAGGERATION = 7.5X

FIGURE D.5.6
HYDROGEOLOGICAL CROSS SECTION E-E'
GREEN RIVER, UTAH, SITE

FIGURE D.5.7
WATER TABLE CONTOUR MAP AND MONITOR WELLS, TOP HYDROSTRATIGRAPHIC UNIT
GREEN RIVER, UTAH, SITE, OCTOBER, 1987

FIGURE D.5.8
POTENTIOMETRIC CONTOUR MAP AND MONITOR WELLS
FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT
GREEN RIVER, UTAH, SITE, OCTOBER, 1987

FIGURE D.5.10
POTENTIOMETRIC CONTOUR MAP AND MONITOR WELLS
BOTTOM HYDROSTRATIGRAPHIC UNIT
GREEN RIVER, UTAH, SITE, OCTOBER, 1987

pH	Molybdenum (mg/l)
8.10	<0.01
8.30	<0.01
9.35	0.03
9.92	0.14
10.51	0.10
11.49	0.09
11.61	<0.10

pH	Nitrate (mg/l)
8.10	<1
8.30	<1
9.35	<1
9.92	2
10.51	<1
11.49	<1
11.61	<1

pH	Selenium (mg/l)
8.10	<0.01
8.30	<0.01
9.35	<0.01
9.92	0.036
10.51	<0.01
11.49	<0.01
11.61	<0.01

pH	Uranium (mg/l)
8.10	<0.003
8.30	0.005
9.35	<0.003
9.92	0.005
10.51	0.0036
11.49	0.0015
11.61	<0.001

pH	Sulfate (mg/l)
8.10	690
8.30	620
9.35	950
9.92	700
10.51	720
11.49	540
11.61	1170

FIGURE D.5.11
PLOTS OF pH vs. MOLYBDENUM, NITRATE, SELENIUM, URANIUM, AND SULFATE
FOR BOTTOM HYDROSTRATIGRAPHIC UNIT
BACKGROUND MONITOR WELLS 586, 587, AND 818

FIGURE D.5.13
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF MOLYBDENUM CONTAMINATION IN THE
TOP HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.14
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF NITRATE CONTAMINATION IN THE
TOP HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.16
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF URANIUM CONTAMINATION IN THE
TOP HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.17
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF AMMONIUM CONTAMINATION IN THE TOP HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.18
MAXIMUM OBSERVED ACTIVITIES AND EXTENT OF GROSS ALPHA CONTAMINATION IN THE FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.19
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF MOLYBDENUM CONTAMINATION IN THE FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.20
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF NITRATE CONTAMINATION IN THE FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.21
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF SELENIUM CONTAMINATION IN THE FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

FIGURE D.5.22
MAXIMUM OBSERVED CONCENTRATIONS AND EXTENT OF URANIUM CONTAMINATION IN THE FINE-GRAINED MIDDLE HYDROSTRATIGRAPHIC UNIT, GREEN RIVER, UTAH, SITE

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LIST OF ACRONYMS AND ABBREVIATIONS

<u>Acronym</u>	<u>Definition</u>
cm	centimeters
cm/yr	centimeters per years
cm/s	centimeters per second
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
km	kilometer
LTSP	Long-term Surveillance Plan
m	meter
mm	millimeter
MCL	maximum concentration limit
mg/L	milligrams per liter
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
pCi/L	picocuries per liter
PMF	probable maximum flood
PMP	probable maximum precipitation
POC	point of compliance
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RRM	residual radioactive material
TDS	total dissolved solids
UMTRA	Uranium Mill Tailings Remedial Action
USGS	U.S. Geological Survey

CHANGE HISTORY

Document version	Date	Pages/comments
Rev. 1, Ver. 1	10/12/94	Revision of the RAP. Modification for Green River (GRN009D.WCI).
	10/31/94	Revised pages 2-1, 2-2, 3-1, 3-4, 3-5, and 3-20.
	11/08/94	Minor revisions. Added completion report reference and citations. Updated affected citations and reference list.
Rev. 2, Ver. 1	06/29/95	Revised to reflect NRC comments. Document becomes an addendum to the GRN RAP.
Rev. 2, Ver. 2	07/02/95	Title changed; author revisions incorporated.
Rev. 2, Ver. 3	07/12/95	Title changed; final author changes made.
Rev. 2, Ver. 4	08/23/95	Title changed; major author revisions incorporated.
Rev. 2, Ver. 5	09/29/95	Author comments incorporated in preparation for signoff review.
Rev. 3, Ver. 1	04/08/96	Revised to reflect state of Utah Department of Governmental Quality comments.
Rev. 4, Ver. 1	9/3/96	Total rewrite of Appendix E.
Rev. 4, Ver. 2	10/25/96	Minor comments incorporated.

E.1 WATER RESOURCES PROTECTION STRATEGY SUMMARY

The U.S. Department of Energy (DOE) must provide a demonstration of compliance with the final U.S. Environmental Protection Agency (EPA) ground water protection standards for inactive mill sites pursuant to 40 CFR Part 192 (1995). This section outlines the proposed strategy to demonstrate compliance with the ground water standards at the Green River, Utah, Uranium Mill Tailings Remedial Action (UMTRA) Project site. This demonstration consists of 1) the ground water protection standard, 2) a performance assessment, 3) a closure performance demonstration, and 4) a performance monitoring and corrective action program.

To achieve compliance with the final EPA ground water standards, the DOE proposes a narrative supplemental standard based on limited use ground water (40 CFR §192.21(g) [1995]). Ground water in the Cedar Mountain Formation (which is the uppermost aquifer at the Green River site) is not a current or potential source of drinking water. It meets the definition of limited use based on widespread ambient contamination that exists due to the presence of soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e) [1995]).

The strategy is based on new information, including ground water quality data collected after remedial action was completed, and on a revised assessment of disposal cell design features, surface conditions, and site hydrogeology. The strategy will result in compliance with Subparts A and C of the EPA final ground water protection standards (40 CFR Part 192 [1995]). The document contains sufficient information to support the proposed ground water protection strategy, with monitor well information and ground water quality data included as a supplement.

The supplemental ground water standard applies to the uppermost aquifer (unnamed member and Buckhorn Member of the Cedar Mountain Formation) and will not include numerical concentration limits for the hazardous constituents identified in the contaminated materials at the Green River site. In addition, no point of compliance (POC) is required under supplemental standards. A summary of the principal features of the water resources protection strategy for the Green River site follows.

- All tailings and contaminated material at the Green River site have been consolidated into a stable and partially below-grade disposal cell. The disposal cell is covered with a low-permeability radon/infiltration barrier that greatly reduces the radon flux from the cell and the rate of infiltration of surface water through the cell.
- The local climate, hydrogeologic conditions, infiltration and ground water recharge rates, moisture content of the tailings and contaminated materials, and surface and subsurface drainage patterns were considered in the design of the disposal cell. The design and construction of the disposal cell, in conjunction with the natural conditions at the site, ensures that human health and the environment are protected.
- Hazardous constituents that are reasonably expected to be in, or may be derived from, residual radioactive material stabilized at the disposal site were identified through chemical analyses of pore fluids. They include arsenic, cadmium, chromium, lead,

molybdenum, net gross alpha, nickel, nitrate, selenium, uranium, vanadium, and radium-226 and -228.

- To achieve compliance with the final EPA ground water protection standards, the DOE proposes to use narrative supplemental standards rather than establishing numerical concentration limits for constituents in ground water at a point of compliance. The application of supplemental standards is based on the classification of ground water in the Cedar Mountain Formation (uppermost aquifer) as limited use because it is not a current or potential source of drinking water. Ground water in the uppermost aquifer may be considered limited use because it meets the following criteria:
  - Based on a review of regional and site-specific hydrogeologic and water quality information, widespread, ambient, soluble selenium related to naturally occurring mineralization in the area is present in the ground water. High levels of other contaminants (with respect to state and federal standards) in the ground water, notably sodium and sulfate, also are associated with the naturally occurring mineralization.
  - Some of the ground water in the uppermost aquifer has not been affected by milling activities at the Green River site. However, the quality of this ground water does not meet drinking water standards and does not compare favorably with water typically used as public supply in Utah. Cleanup of this naturally contaminated ground water to drinking water standards in the disposal site area would require extensive and costly treatment processes. Such treatment is not typically used in Utah or in the region; therefore, the naturally contaminated ground water cannot be cleaned up from an engineering practicality perspective for use as a public water supply by reasonably employed treatment methods.
- The DOE plans to perform post-closure monitoring of ground water in the uppermost aquifer downgradient from the disposal cell for a period of time following completion of remedial action as a best management practice. Results of ground water sampling will be used to evaluate trends in concentrations of these constituents in ground water in the uppermost aquifer. A significant increase will trigger a physical investigation of the disposal cell to determine if potential failure has occurred. POC wells will not be required under the supplemental standards compliance strategy.
- The constituents to be evaluated during ground water monitoring are nitrate, sulfate, total dissolved solids (TDS), and uranium. These constituents are the most mobile and reliable indicators for monitoring potential migration of tailings-related contamination into the ground water beneath the disposal cell. Selenium will also be monitored to provide additional data to further evaluate this widespread natural contaminant of the ground water.
- The Green River disposal cell comes as close as possible to meeting the otherwise applicable standard under 40 CFR §192.02(c)(3) (1995) as is reasonably achievable (40 CFR §192.22(a)[1995]). The DOE has assessed the performance of the disposal cell at the Green River site in conjunction with the hydrogeologic system and demonstrated that the releases of hazardous and radiological constituents to the ground water and

surface water will be minimal; therefore, human health and the environment are protected.

- Natural, stable materials were used in all design components of the Green River disposal cell so that long-term performance is ensured. Furthermore, the DOE demonstrated that the features necessary for compliance with the EPA ground water protection standards do not require active maintenance to ensure they perform as intended for the design life of the disposal cell.
- Demonstration of cleanup and control of ground water contamination associated with the former mill processing activities that existed prior to the construction of the disposal cell at the Green River site will be addressed under a separate DOE program (UMTRA Ground Water Project) and National Environmental Policy Act (NEPA) process. This course of action will include the characterization and evaluation of the preexisting ground water contamination under the UMTRA Ground Water Project and will result in compliance with Subpart B of the EPA final ground water protection standards 40 CFR Part 192 (1995). The ground water protection strategy and resulting compliance with Subparts A and C for surface remedial action at the Green River site does not preclude or interfere with active ground water restoration under Subpart B, should it be required.

E.2 CONCEPTUAL DESIGN FOR WATER RESOURCES PROTECTION

This section discusses natural site features and design considerations important in the performance of a disposal cell for protecting water resources at Green River. Details of the proposed disposal cell cover are presented in Section E.2.2. Design details and specifications are presented in Appendix F.

E.2.1 DESIGN CONSIDERATIONS

The disposal site is on a topographically high area 600 to 1200 feet south of the former tailings pile (see Figure D.5.1 of Appendix D). The tailings were placed in a mostly below-grade disposal cell. The disposal cell foundation (unsaturated bedrock) consists of moderately to highly fractured shale, mudstone, and limestone of the unnamed member of the Cedar Mountain Formation to a depth of about 15 feet below the base of the excavation. Below this depth, the unnamed member is saturated and consists of an additional 10 to 40 feet of moderately to highly fractured silty sandstone and sandstone conglomerate. The disposal cell configuration is shown in Figure E.2.1, and a typical cross section of the disposal cell and foundation is shown on Figure E.2.2. Figure E.2.3 shows the components of the cover system.

In terms of ground water protection, the cell design makes maximum use of favorable natural conditions at the site. Some of the design and disposal site features and considerations include the following:

- Mostly below-grade disposal of the tailings to limit the exposed area of the pile, and thereby minimize percolation of precipitation through the tailings.
- Consistent, uniform, vertical fracturing of the foundation bedrock to prevent ponding ("bathtubbing") in the tailings, and promote drainage of runoff water from the toe of the cell.
- Abundant, desirable, secondary minerals on the foundation fracture surfaces to attenuate constituents of concern within tailings seepage in the unlikely event that seepage leaves the cell.
- Strong, upward, vertical hydraulic gradients in the saturated bedrock downgradient of the disposal site to inhibit downward migration of contamination.
- Flow direction in the shallow ground water beneath the disposal site that is toward the former tailings pile and existing contamination.
- Inclusion of a buffer layer of select fill beneath the tailings in the cell to absorb contamination exiting the contaminated material and to separate contaminants further from ground water.
- Limiting the placement moisture content of the contaminated materials in order to minimize drainage of construction water.

LEGEND

- RAILROAD
- DIRT ROAD
- TRAIL OR CLEARED LINE
- FENCE
- CROSS-SECTION TRACE LINE
- INTERMITTENT STREAM
- DISPOSAL SITE BOUNDARY
- SPOT ELEVATION
- SECTION CORNER T21S R18E

FIGURE E.2.1
PLAN VIEW

GREEN RIVER, UTAH, DISPOSAL CELL

TOPOGRAPHIC CONTOUR INTERVAL 10 FEET
SCALE: 1"=300'

FIGURE E.2.2
DIAGRAMMATIC CROSS SECTION OF DISPOSAL CELL AND FOUNDATION
GREEN RIVER, UTAH, DISPOSAL SITE

SCHEMATIC - NOT TO SCALE

LEGEND

K_{sat} SATURATED HYDRAULIC CONDUCTIVITY
cm/s CENTIMETERS PER SECOND

FIGURE E.2.3
DISPOSAL CELL COVER SYSTEM
GREEN RIVER, UTAH, DISPOSAL SITE

- Placement of a tight clay cap and surface drainage layers that promote runoff and limit infiltration.

The following sections describe in more detail the site-specific natural features and design considerations important in the optimum performance of the cell design to protect ground water.

E.2.1.1 Climate

Climate is an important design consideration because of its effects on the quantity of water available to percolate through the tailings and potentially move contaminants to ground water. The Green River site is semiarid and is therefore well-suited for tailings disposal.

Climate at the Green River site is discussed in detail in the environmental assessment (DOE, 1988). The average annual precipitation at Green River was six inches for the period 1951 through 1980. Other climatological data as excerpted from the environmental assessment are: the average annual pan evaporation (60 inches per year); the average annual temperature (52°F); and the average snowfall (10 inches per year).

C.W. Thornthwaite Associates (1964) and the DOE (1983) have calculated the net infiltration of annual precipitation to ground water (deep percolation) for Green River, Utah. Both studies independently calculated the ratio of yearly precipitation to yearly actual evapotranspiration to be unity; that is, no water percolates to the ground water from precipitation. In reality, there is some very small discrete quantity of water that reaches the ground water system when climate conditions allow deep percolation (i.e., sustained rainfalls or melting snow cover; Walton, 1970). This natural recharge occurs in topographically low areas where soils remain saturated for long periods (Freeze and Cherry, 1979).

Rush et al. (1982) estimated that one percent or less of the average annual precipitation in the Green River, Utah, area recharges the upper ground water system. Rush et al. (1982) note that the recharge estimate is conservatively high because of the soils within the study area were assumed to be coarse-textured and, therefore, to have a high potential for deep percolation. In addition, this nominal recharge was estimated to occur in low-lying areas within the basin, principally in drainages. One percent of the average annual precipitation at Green River is equal to 1.4×10^{-9} inch per second (4.8×10^{-9} centimeters per second [cm/s]).

The consumptive use of precipitation by vegetation is nominal in the Green River area because of the lack of rainfall and consequent lack of vegetation. For this reason, the rock cover for the Green River disposal cell is appropriate. It is reasonable to believe that the disposal cell will limit infiltration through the tailings to a rate that is equal to or less than the conservative estimate of basin recharge by Rush et al. (1982). Additional discussion regarding cover infiltration and performance is presented in Section E.3.3.

E.2.1.2 Drainage of surface runoff and tailings water

Drainage of surface runoff

The surface runoff from the former processing site and the disposal area flows northwest towards Brown's Wash and, thence, into the Green River. Any runoff from the watershed north of the Green River site is intercepted by Brown's Wash before reaching the site area.

Precipitation that falls directly on the disposal cell will either evaporate, run off the cell through the rock riprap or filter bedding, or infiltrate into the tailings. Areas surrounding the disposal cell are filled and graded to direct runoff away from the cell and to prevent ponds of surface water from forming at or near the edge of the disposal cell. The disposal cell configuration causes runoff to occur as sheet flow over the slopes.

A conservative estimate of the quantity of runoff from the disposal cell cover system is 15.2 centimeters per year (cm/yr) (equal to the average annual precipitation) multiplied by the total area of the cell (4.4 acres; $1.8 \times 10^8 \text{ cm}^2$). Theoretically, this runoff could create a ring of ponding (below-grade) around the tow of the pile (see Figure E.2.2). Should ponding occur, the minimum infiltration (drainage) rate will be proportional to the vertical hydraulic conductivity of the bedrock, under a gradient of unity. For drainage considerations, a value of 0.2 foot/day ($7.1 \times 10^{-5} \text{ cm/s}$) was chosen to be a conservative value of the bulk (fractured) vertical hydraulic conductivity of the fractured foundation bedrock beneath the disposal site. This value is equal to the lowest calculated bulk horizontal hydraulic conductivity of the fine-grained middle hydrostratigraphic unit (see Table D.5.8 of Appendix D). Therefore, the minimum drainage rate would equal $7.1 \times 10^{-5} \text{ cm/s}$. Making allowances for the geometry of the cell and the porosity of the bedding layer (assumed to be 0.25), the maximum potential ponding depth around the periphery of the cell would equal 74 cm (29 inches), or about 23 inches (maximum ponding into the Type A riprap). The width of this ponding ring around the perimeter of the cell is very small (approximately one percent of the area of the tailings) and thus the ponding would have minimal effect on infiltration or leachate generation.

This estimate of maximum potential ponding is very conservative because it assumes (1) the buffer layer beneath the tailings is non-existent, when in reality the buffer layer will help drain any runoff from the toe of the cell and prevent preferential flow path from developing; (2) a minimum calculated bedrock hydraulic conductivity; (3) no evaporation; and (4) no infiltration. A more likely condition is that a significant portion of the precipitation that falls on the cell will evaporate back to the atmosphere or infiltrate into the foundation rock and/or surrounding soil.

Drainage of tailings construction water

In a steady-state condition, the seepage rate from the bottom of the disposal cell is primarily a function of the infiltration rate through the radon/infiltration barrier. On the basis of laboratory and field tests of the radon/infiltration barrier material, the saturated conductivity of the barrier is at least $2 \times 10^{-8} \text{ cm/s}$ (NRC, 1990). Transient drainage conditions resulting from the seepage of tailings pore fluid and water added during disposal cell construction can occur after completion of a disposal cell. However, to improve

compaction, the tailings and other contaminated material in the Green River disposal cell were placed at a level of saturation that was considerably less than the optimum moisture content. Disregarding differences in test results from separate sampling rounds, the initial moisture condition of the tailings and other contaminated material varied from 15 to 25 percent saturated (DOE, 1992). Consequently, the potential impact from transient seepage of pore fluid from the disposal cell on the quality of ground water in the uppermost aquifer is expected to be minimal.

E.2.2 DISPOSAL CELL DESIGN

The principal design features that ensure that the Green River disposal cell is in compliance with the EPA ground water protection standards (40 CFR Part 192 [1995]) are described in the following section. Also included is a discussion of the design life and maintenance requirements of the principal components of the disposal cell.

E.2.2.1 Disposal cell geometry

The disposal cell footprint is square. The steep side slopes (20 percent) minimize planar surfaces through which precipitation can infiltrate; therefore, the volume of surface water that potentially can seep through contaminated material is lessened. The disposal cell configuration is shown in Figure E.2.1, and a typical cross section of the disposal cell and foundation is presented in Figure E.2.2. Figure E.2.3 shows the components of the cover system.

E.2.2.2 Disposal cell components

The disposal cell at the Green River site is designed to stabilize the tailings and contaminated material from the Green River processing site, reduce airborne radon concentrations, and protect ground water resources. The contaminated materials are covered with a multilayered cover consisting of (in ascending order): 1) a radon/infiltration barrier, 2) a filter layer, and 3) an erosion protection barrier. The cover components are described below.

- **Radon/infiltration barrier** - The radon/infiltration barrier minimizes the infiltration of water into the contaminated materials, and thereby reduces the subsequent seepage of leachate from the disposal cell; it also inhibits radon emanation. The barrier consists of 3 ft (0.9 m) of silty clay amended with 6 percent by weight sodium bentonite and compacted to 100 percent of standard Proctor density. Based on extensive testing, including both field and laboratory measurements, the saturated conductivity of the radon barrier layer is 2×10^{-8} cm/s or less (NRC, 1990).
- **Filter layer** - A highly permeable filter layer directly above the radon/ infiltration barrier enhances lateral runoff of precipitation off the disposal cell and thus reduces direct vertical infiltration of water through the tailings and contaminated material. The size range of material used to construct the filter layer was calculated to ensure that both the thickness and hydraulic conductivity of the layer will divert runoff laterally from the

sideslopes of the disposal cell, yet runoff velocity will not erode the radon/infiltration barrier.

- Erosion protection layer - The rock layer on the top and sideslopes of the disposal cell is designed to prevent erosion due to surface runoff resulting from the probable maximum precipitation (PMP) falling on the disposal cell.

E.2.2.3 Disposal cell longevity

The EPA ground water protection standards require that the disposal cell be designed to stabilize the contaminated material and protect the environment for 1000 years where reasonably achievable, and, in any case, for at least 200 years. In addition, the design features and components of the disposal cell must not require active maintenance to ensure their long-term performance.

Natural, stable materials were used in the Green River disposal cell so that long-term stability of the tailings and contaminated material is assured. The riprap used to cover the disposal cell was selected based on its durability. The long-term integrity of the radon/infiltration barrier is ensured by the overlying filter and riprap layers, which protect it from degradation by wind, water, burrowing animals, and, to a lesser extent, plant roots.

E.3 DISPOSAL AND CONTROL OF RADIOACTIVE MATERIALS AND NONRADIOACTIVE CONTAMINANTS

The final EPA standards in 40 CFR Part 192 (1995) require information and assessments to demonstrate that the disposal of residual radioactive materials (RRM) complies with ground water protection and performance standards. The information and assessments needed can be categorized into four components: 1) the ground water protection standard, 2) a performance assessment, 3) a closure performance assessment, and 4) a performance monitoring and corrective action program. The monitoring for the performance assessment confirms the performance of the disposal cell and provides for corrective actions that may be necessary if the disposal cell does not perform adequately (NRC, 1989). The following sections describe in detail the four components of the ground water protection and performance standards.

E.3.1 GROUND WATER PROTECTION STANDARD

The final EPA ground water protection standards in 40 CFR §192.02 (1995) require that disposal units be designed to control RRM. The ground water protection standard applies to the uppermost aquifer hydraulically downgradient from the disposal unit (NRC, 1989). Definitions of the uppermost aquifer provided in 10 CFR Part 40 (1995), Appendix A, were used to implement the ground water protection standards of 40 CFR Part 192 (1995).

Ground water in the Cedar Mountain Formation is not a current or potential source of drinking water. It meets the limited use supplemental standard criterion of 40 CFR §192.21(g) (1995) of the final EPA ground water standards based on the presence of widespread ambient, soluble selenium related to naturally occurring mineralization in the area (40 CFR §192.11(e)[1995]).

The ground water protection standard consists of three components: 1) a list of hazardous constituents, 2) a corresponding list of concentration limits for the constituents, and 3) a POC (NRC, 1989). During characterization of the ground water in the site vicinity, the DOE collected samples to identify potential hazardous constituents. The DOE identified hazardous constituents in pore fluids of RRM and in ground water in the Cedar Mountain Formation. For this narrative supplemental standard application, no concentration limits or POC have been established for the identified hazardous constituents because of the presence of widespread ambient, soluble selenium related to naturally occurring mineralization in the area and because defining concentration limits and a POC would not further protect human health and the environment. As part of the supplemental standard application, land and water use in the site vicinity were reviewed to assess the beneficial use of ground water. This is discussed in Section E.3.2.2 of this appendix.

E.3.1.1 Hazardous constituents

The final EPA ground water standards for uranium mill tailings disposal at inactive sites (40 CFR Part 192[1995]) incorporates a complete list of hazardous constituents that should be evaluated on a site-specific basis in Table 1 to Subpart A and Appendix I to Part 192.

The hazardous constituents within the Green River tailings are related to both the uranium ore and the chemicals used in the milling process. Section D.5.2.8 of Appendix D, Site Characterization, discusses the milling process at Green River and the physical and chemical characteristics of the tailings. The following discussion of hazardous constituents within the Green River Tailings is subdivided into inorganic and organic components. Table E.3.1 is a summary of the hazardous constituents identified within the Green River tailings.

Table E.3.1 Summary of hazardous constituents within uranium mill tailings at Green River, Utah^a

Constituent	Concentration pore water ^b	Concentration subpile ^c	Detection limit ^d	EPA MCL ^e	Standard ^f
Cadmium	0.032	<0.001	0.001	0.010	Title I
Chromium	1.88	0.03	0.01	0.05	Title I
Molybdenum	0.15	0.27	0.01	0.1	Title I
Nickel	25.3	0.05	0.04	none	Title I
Nitrate	2251	440	1	44	Title I
Selenium	0.15	0.76	0.005	0.01	Title I
Uranium	448.0	2.23	0.003	0.044	Title I
Vanadium	178.0	0.24	0.01	none	Title I
Radium-226 and -228	NM	7.5 pCi/L	2.0 pCi/L	5.0 pCi/L	Title I
Gross alpha	NM	1200.0 pCi/L	0.2 pCi/L	15.0 pCi/L	Title I

^aAll concentrations are in mg/L unless noted otherwise.

^bData from lysimeter 714 (see Figure D.5.1 and Table D.5.22 of Appendix D). Values are arithmetic mean where two analyses are reported in Table D.5.22.

^cMaximum report value from Table D.5.14 of Appendix D for former on-site alluvial monitor wells 702 and 808.

^dLaboratory method detection limit.

^e"None" means there is no MCL for that constituent.

^f"Title I" refers to EPA proposed standards for remedial action at inactive (Title I) uranium processing sites (40 CFR Part 192 [1995]). The MCLs established by 40 CFR Part 143 (1995) are the same as those in the State of Utah Drinking Water Standards for community water systems.

"NM" means not measured.

Inorganic constituents

The inorganic constituents within the tailings at Green River are mostly metal and metalloid elements associated with the uranium ore. Those elements that should be considered include antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, selenium, silver, thallium, tin, and vanadium. Of these elements, only arsenic (0.05 milligrams per liter [mg/L]), barium (1.0 mg/L), cadmium (0.01 mg/L), chromium (0.05 mg/L), lead (0.05 mg/L), mercury (0.002 mg/L), and selenium (0.01 mg/L) have associated MCLs (see Table D.5.1). Other inorganic elements and associated MCLs include: molybdenum (0.10 mg/L); nitrate as NO₃ (44 mg/L); radium-226 and -228 activity (5.0 picocuries per liter [pCi/L]); uranium-234 and -238 (30 pCi/L activity or 0.044 mg/L); and gross alpha activity (15 pCi/L). Based on acidic (low pH) pore water samples of the Green River tailings (see Table D.5.22 of Appendix D), values of the following inorganic hazardous constituents are higher than the proposed MCLs (see Table E.3.1):

- Cadmium.
- Chromium.

- Molybdenum.
- Nitrate.
- Selenium.
- Uranium.

Concentrations for the following inorganic hazardous constituents without MCLs are higher than laboratory method detection limits (see Table E.3.1):

- Nickel.
- Vanadium.

Originally, beryllium and thallium were not analyzed for in ground water, tailings, windblown soils, or buffer materials at the Green River site. Both of these elements exist in trace quantities in nature. However, the DOE has evaluated whether beryllium and thallium are hazardous constituents in the contaminated materials (see Table D.5.27 of Appendix D). Representative samples of tailings, windblown soil, and buffer materials were collected and analyzed for these constituents. Laboratory analyses indicate that neither beryllium nor thallium is present in the contaminated materials. Consequently, these two constituents will not be included in the list of hazardous constituents at the disposal site.

Ammonium contamination was identified in the top hydrostratigraphic unit beneath the present tailings pile (see Section D.5.2.7 of Appendix D). Ammonium was used in the milling process (see Section D.5.2.8 of Appendix D) and may be present in the ground water beneath the tailings by the chemical reduction of nitrate within the tailings to ammonium. Ammonium was present in much lower concentrations within the tailings pore fluid (see Table D.5.2.23 of Appendix D) than in concentrations in ground water beneath the tailings (see Figure D.5.17 of Appendix D). Ammonium is not considered a hazardous constituent and it has no associated MCL.

Organic constituents

Any organic compounds within the tailings would be present from processing activities. As discussed in Section D.5.2.8 of Appendix D, the sand tailings at Green River were leached with acid, and excess acid was neutralized with ammonia.

As discussed in detail in Section D.5.2.7 of Appendix D, a priority organic pollutant scan and analyses specifically for volatile and semi-volatile organic compounds were conducted on a sample from a lysimeter and several monitor wells at the tailings site. The analytical results showed no compounds to be present in confirmable concentrations. Methylene chloride was originally included in the hazardous constituents list because it is the breakdown product of several organic compounds, and has the potential to exist at the disposal site. However, no methylene chloride was detected in ground water samples collected and analyzed quarterly following completion of the remedial action. Therefore, the DOE has removed methylene chloride from the hazardous constituents list at the disposal site. The priority pollutant scan results and the other organic analyses are on file in the DOE UMTRA Project Office in Albuquerque, New Mexico.

E.3.1.2 Preexisting ground water contamination in the disposal cell area

Water quality data collected from monitor wells during the period from 1986 to 1988, prior to surface remediation, indicate that uranium processing-related contamination is present in ground water in the unnamed member of the Cedar Mountain Formation in the vicinity of the present disposal cell. Work began on the disposal cell in September 1988 and continued through December 1989. Figure E.3.1 shows maximum nitrate and uranium concentrations in the uppermost aquifer (the unnamed member and the Buckhorn Member of the Cedar Mountain Formation) at the Green River disposal site during the period from June 1986 to July 1988. Isopleth maps showing nitrate and uranium distribution at the site could not be prepared due to the complexity of the uppermost aquifer and the lack of monitor well coverage.

Nitrate and uranium are likely to be naturally present in ground water in small concentrations. However, the association of these two constituents at the levels observed, for example in monitor well 562 (173 mg/L nitrate and 0.146 mg/L uranium), could not be due to natural processes and indicates contamination from uranium processing-related activities. Contamination related to uranium processing is present in the unnamed member of the Cedar Mountain Formation in the present area of the disposal cell and beneath the alluvium in Brown's Wash in the area of the former tailings pile (Figure E.3.1). Monitor well 583, completed in the unnamed member on the west side of Brown's Wash, also appears to have been impacted by uranium processing. Monitor wells completed in the Buckhorn Member of the Cedar Mountain Formation do not appear to have been impacted by uranium processing-related activities.

E.3.1.3 Proposed concentration limits

To achieve compliance with the proposed EPA ground water protection standards (40 CFR Part 192 [1995]), the DOE proposes a narrative supplemental ground water standard rather than establishing numerical concentration limits at a specified POC. A narrative supplemental ground water standard is appropriate for the Green River site for the following reasons:

- Widespread, ambient, soluble selenium related to naturally occurring mineralization is present in the area.
- The ground water in the uppermost aquifer is not a current or potential drinking water source downgradient of the affected area. Establishing numerical concentration limits for the identified hazardous constituents at a specified POC will not further protect human health and the environment.
- The proposed remedial action at the Green River site comes as close to meeting the otherwise applicable standards (40 CFR Part 192 [1995]) as is reasonable under the circumstances (see Sections E.2.1 and E.2.2 for a discussion of disposal cell design features).

- The application of a supplemental ground water protection standard ensures protection of human health and the environment (40 CFR Part 192 [1995]).

E.3.1.4 Point of compliance

A POC has not been established for the Green River site for the reasons discussed in Section E.3.1.3.

E.3.2 NARRATIVE SUPPLEMENTAL STANDARD

The U.S. Nuclear Regulatory Commission (NRC) requires three elements to be considered when applying supplemental standards (NRC, 1989). These include 1) a description and applicability of the supplemental standards, 2) a demonstration that the remedial action complies with the proposed supplemental standard, and 3) a demonstration that the supplemental standard approaches meeting the otherwise applicable standards.

E.3.2.1 Description and applicability

Compliance with the final EPA ground water protection standards will be achieved by applying supplemental standards (40 CFR §192.22(a) [1995]) at the Green River disposal site based on the presence of limited use ground water in the uppermost aquifer due to widespread natural ambient contamination (40 CFR §192.11(e) [1995]). Ground water in the uppermost aquifer is not a current or potential source of drinking water because of the presence of widespread, ambient concentrations of naturally occurring selenium, sulfate, and TDS. These concentrations are not caused by activities that involve residual radioactive material from the former processing site and cannot be cleaned up using treatment methods reasonably employed in public water supply systems. Furthermore:

- No ground water sources that require treatment to meet state or federal standards are used for public supply in Utah. Ground water from the uppermost aquifer would require "substantial" treatment, as defined in Utah's Administrative Code R317-6-3 (Utah, 1993a) to be of drinking water quality. Accordingly, the treatment technologies required to upgrade the ground water quality at the Green River site are not those typically or reasonably employed in the region.
- The ground water not impacted by activities at the former processing site contains concentrations of selenium in excess of the EPA MCL of 0.01 mg/L (40 CFR Part 192 [1995]). In addition, the levels of several other constituents that impact the aesthetic quality of the water are elevated well above the limits found in both state and Federal Secondary Drinking Water Standards (40 CFR Part 143 [1995]).
- In accordance with Utah's classification system (R317-6-3, 3.6) (Utah, 1993a), the uppermost aquifer may be presumed a Class III (limited use) ground water source because the level of TDS is greater than 3000 mg/L, and the concentration of selenium exceeds the state standard of 0.01 mg/L.

The practicality of treating ground water is discussed below on two sections: 1) treatability analysis and 2) economic-based test.

Treatability analysis

The treatability analysis of the ground water from the uppermost aquifer consists of 1) a discussion of the characteristics of water typically used for municipal supplies in Utah; 2) the DOE's assessment of background water quality in the vicinity of the disposal site; and 3) an evaluation of the practicability of treating ground water from the uppermost aquifer using applicable treatment technologies, after considering the differences between items 1 and 2. The EPA ground water standards and the EPA secondary drinking water standards are used as the criteria for determining the technical and economic viability of treating water from the uppermost aquifer. Ground water standards promulgated by the state for metals and inorganic chemicals are identical to the EPA standards, except the state includes copper in its list of metals with MCLs, whereas molybdenum is included in the EPA standards as a regulated metal, but is not on the state's list (Utah, 1993a). In Utah, EPA secondary standards are used as an additional guideline for determining whether an aquifer is a potentially usable drinking water source (Topham, 1993).

The approach to determining whether treating a ground water source is reasonable, including an economic-based test, is taken directly from *Guidelines for Ground-Water Classification Under the EPA Ground-Water Protection Strategy* (EPA, 1986).

To demonstrate that treating a water source is reasonable, the following should be considered:

- Standards and criteria for treatment - The standards are usually MCLs. For constituents without MCLs, however, other criteria can be used to assess treatability, including recommended MCLs or health advisory levels.
- Regional availability of treatment technologies ("reference technologies") - In some areas of the country a treatment method may be used commonly, whereas in another region of the country it may not be used at all. The treatment technologies typically used in EPA Region VIII are listed in Table E.3.2 and include aeration, carbon adsorption, precipitation, chlorination, flotation, fluoridation, and filtration. As defined in Utah statutes, conventional treatment technologies include flocculation, sedimentation, filtration, and disinfection. Other technologies, such as air stripping, desalination (reverse osmosis), ion exchange, and ozonation are not commonly used in EPA Region VIII. In Utah, technologies such as ion exchange and reverse osmosis are classified as specialized treatment methods (R317-6-1, 1.29) (Utah, 1993a).
- Treatment efficiency - The treatment (removal) efficiency for a given contaminant or group of contaminants requires an evaluation of interferences and interactions of constituents. Contaminant concentration, physical conditions, solution chemistry, and the presence of competing or interfering ions can all contribute to large variations in the efficiency of treatment methods.

Table E.3.2 Application of treatment technologies in public water supply systems for EPA Region VIII

Technologies commonly applied in Region VIII	Number of systems identified
Aeration	8
Carbon adsorption	4
Chemical precipitation	35
Chlorination	64
Flotation	70
Fluoridation	23
Granular medium filtration	44
Technologies seldom applied in Region VIII	
Air stripping	0
Desalination (reverse osmosis)	1
Ion-exchange	2
Ozonation	0
Technologies not applied in Region VIII	
Distillation	0
Wet air oxidation	0
Biological treatment	0

Note: Table modified from Table 4-9, *Guidelines for Ground-Water Classification Under the EPA Ground-Water Protection Strategy* (EPA, 1986).

In addition, an economics-based test for determining the practicality of treating ground water can be used by itself or in conjunction with the "reference technology" approach. Specifically, the cost to a community of treating ground water for use as a drinking water supply is compared to the average cost incurred by the community for its current drinking water supply.

Characteristics of water used for municipal supply in Utah

The Utah Department of Natural Resources maintains a data base containing information on 1505 discrete drinking water supply systems located throughout the state. Drinking water for 576 public systems in Utah is obtained from springs, while ground water from wells is used to supply another 878 drinking water systems. Surface water is the source of drinking water for the remaining 51 public systems listed in the data base (Topham, 1993). The following information is based on a review of documents provided by the State of Utah Natural Resources - Division of Water Rights, the Utah Division of Drinking Water, and on conversations with personnel from both agencies. Additional information is acquired from EPA guidelines (EPA, 1986).

- Currently, no drinking water source in Utah requires treatment to remove EPA-regulated constituents (Georgeson, 1993).
- The concentration of TDS in ground water supplies is less than 3000 mg/L, and usually less than 1000 mg/L (Topham, 1993).

- There are very few reverse-osmosis and ion-exchange systems in EPA Region VIII used for treating public water supplies. There are no reverse osmosis facilities in Utah used for treating a public water supply. The three ion-exchange plants currently operating in Utah are utilized for reducing TDS in industrial wastewater (Georgeson, 1993).

Assessment of background ground water quality at the disposal site

Background ground water quality in the Cedar Mountain Formation in the vicinity of the Green River disposal site was determined by analyzing ground water samples collected from representative monitor wells completed in the uppermost aquifer in off-site areas not affected by uranium processing activities. These were off-site monitor wells GRN-01-0585, -0806, and -0811 in the unnamed member; and off-site monitor wells GRN-01-0582, -0588, and -0819 in the Buckhorn Member (Figure D.5.1 in Appendix D). Ground water quality data for 1986 through 1994 are provided in Tables SI.3 and SI.4. Water quality data for the downgradient disposal site monitor wells (GRN-01-0171 through -0176 and -0813) and the upgradient disposal site monitor wells (GRN-01-0177 through -0180) were not used to evaluate background water quality but are included in the supplemental information section of this document (Table SI.4). Other monitor wells at the site were not included in the background evaluation because ground water quality data indicate they are in areas that have been or may be impacted by uranium processing activities (water quality data included in Table SI.4 for reference). Monitor wells completed in the alluvium were not included because they are not relevant to the evaluation of ground water quality for the disposal cell compliance strategy. Monitor well locations are shown on Figure D.5.1 in Appendix D. Monitor well information (Table SI.1), ground water elevations (Table SI.2), and water quality sampling history (1986 through 1994) (Table SI.3) are also included in the supplemental information section of this document.

Background ground water quality is defined as the quality of water if uranium milling activities had not taken place. The background geochemical conditions in the unnamed member and in the Buckhorn Member are characterized by variable but high concentrations of selenium, sulfate, and TDS (Table SI.4). Selenium concentrations in ground water range from less than 0.002 up to 0.155 mg/L in the unnamed member and from less than 0.002 to 0.096 in the Buckhorn Member, commonly exceeding the EPA MCL of 0.01 mg/L (40 CFR Part 192). Sulfate ranges from 280 to 2610 mg/L in ground water in the unnamed member and from 393 to 2120 mg/L in the Buckhorn Member. TDS has a range of 1740 to 5660 mg/L in the unnamed and 1880 to 3820 mg/L in the Buckhorn Member. Sulfate and TDS values are all well above the Federal Secondary Drinking Water Standards (40 CFR Part 143) of 250 and 500 mg/L, respectively.

The chemistry of selenium is similar to that of sulfur and, as expected, selenium is associated with elevated sulfate levels in the ground water in both units of the Cedar Mountain Formation. Sulfate and its corresponding cation, sodium, make the primary contribution to high TDS levels in ground water in background wells at the Green River site. The state of Utah classifies ground water containing greater than 3000 mg/L TDS as Class III (limited use) ground water; the federal limit is 10,000 mg/L. TDS in ground water has been as high as 5660 mg/L in the unnamed member and 3820 mg/L in the Buckhorn Member (Table E.3.3). The wide variability of constituent concentrations in the unnamed

member is the result of the complex and variable lithology of that unit. The Buckhorn Member has a less variable chemical signature, corresponding to its less variable lithology.

Table E.3.3 Concentrations of selenium, sulfate, and TDS found in ground water in background monitor wells, Green River, Utah, site

Constituent	Unit of completion		MCL (mg/L)
	Unnamed member (mg/L)	Buckhorn Member (mg/L)	
Selenium	<0.002-0.155	<0.002-0.096	0.01
Sulfate	280-2610	393-2120	250 ^a
TDS	1740-5660	1830-3820	500 ^a

^aFederal Secondary Drinking Water Standard (40 CFR Part 143 [1995]).

High values of these constituents are related to naturally occurring selenium and sulfate in the Cedar Mountain Formation and overlying units and are not the result of uranium processing at the Green River site. If constituent concentrations were related to processing, they would be accompanied by elevated concentrations of more mobile process-related constituents such as nitrate and uranium. Selenium and sulfur are known to be elevated in marine shales (Shacklette et al., 1974; Krauskopf, 1979) such as the Mancos Shale, which is stratigraphically above the Cedar Mountain Formation in the Green River area. Selenium and sulfur are likely to be present in these units as selenides and sulfides. This association has been documented in the Morrison Formation (Young et al., 1960) in the area south of Green River. The Morrison Formation lies directly below the Cedar Mountain Formation in the Green River area and the two units are products of a similar depositional environment (Stokes, 1944).

Fracture surfaces in the unsaturated zone and near the water table in the unnamed member of the Cedar Mountain Formation at the site contain significant quantities of ferric oxyhydroxide and oxidized pyrite (iron sulfide). Fracture surfaces below the water table contain unoxidized pyrite. As oxidizing ground water comes into contact with sulfide and selenide minerals, sulfur and selenium dissolve, creating sulfate and selenite complexes. Thus, selenium and sulfate in ground water at the Green River site is most likely related to oxidation of selenides and sulfides in the Cedar Mountain Formation itself. However, some selenium may be derived from the underlying Morrison Formation or it may be the result of high TDS, high sulfate runoff from regional exposures of the Mancos Shale (Laronne and Shen, 1982) percolating into ground water in the Cedar Mountain Formation. The absence of high uranium levels indicates selenium and sulfate are not derived from sulfide oxidation in uranium ore deposits. Although selenium can substitute for sulfur in nature (Brookins, 1988), this association is independent of uranium ore deposits.

All background monitor wells have shown high concentrations of selenium at some time in their sampling history. On the other hand, selenium concentrations were below detection in background monitor wells during other periods. This fluctuation may be due to water table fluctuations causing oxidation of selenide minerals associated with sulfides at the site. These water table fluctuations may ultimately be related to periods of relatively high precipitation followed by dryer intervals. These could be annual cycles or they could be longer term climatic cycles. As a result it is currently impossible to predict when selenium concentrations will be high in ground water in the Cedar Mountain Formation. Therefore,

to protect human health, it must be assumed that selenium concentrations are always at levels above safe drinking water standards.

In summary, widespread high levels of selenium in ground water may be from one or more of several probable sources, including the Cedar Mountain Formation itself, the underlying Morrison Formation, and regional exposures of the overlying Mancos Shale. Widespread selenium in ground water at the Green River site is due to naturally occurring mineralization in the region and not related to uranium processing. In accordance with EPA treatability criteria, the occurrence of selenium in ground water meets the definition of limited use ground water based on widespread, ambient contamination (40 CFR §192.11(e) [1995]).

Applicable treatment technologies (reference technologies)

Generally, water treatment systems are designed to operate effectively over a range of conditions. The water distributed through a public system should be of high quality and any hazardous or radiologic contaminants present in the untreated water must be lowered to levels below applicable state and federal MCLs in the treated water. Hence, the maximum observed concentrations of hazardous constituents in the ground water are used when assessing the conceptual design of a treatment system and when addressing the issue of treatability.

In all wells, the levels of selenium found in ground water from the uppermost aquifer are typically elevated above the MCL; however, the maximum observed concentrations of selenium are highly variable, ranging from slightly below the MCL to over one order of magnitude above the MCL. Thus, determining a characteristic influent to a hypothetical treatment plant is problematic. However, this issue can be resolved for the following reasons:

- Because of liability issues and existing institutional controls, no drinking water supply wells will ever be installed within the boundaries of the designated disposal site or on property owned by the U.S. Army.

The following wells have been installed within the uppermost aquifer of the Cedar Mountain Formation and are located in off-site areas not affected by uranium processing activities: GRN-01-0585 (downgradient) and -0806 and -0811 (crossgradient) completed in the unnamed member; and GRN-01-0582, -0588, and 0819 (upgradient) completed in the Buckhorn Member. Therefore, the levels of contamination present in ground water drawn from these wells are representative of contaminant concentrations that could be expected in drinking water supply wells completed in the unnamed member of the Cedar Mountain Formation.

The required removal efficiencies for selenium are presented in Table E.3.4 and are based on lowering selenium concentrations to the MCL.

Table E.3.4 Required removal efficiency of selenium for wells completed in the Cedar Mountain Formation, Green River, Utah, site

Well number	Range of concentrations above detection limit (mg/L)	Required removal efficiency (%)
<u>Unnamed member</u>		
GRN-01-0585 (downgradient)	0.039-0.155	Up to 94
GRN-01-0806 and -0811 (crossgradient)	0.014-0.048	Up to 79
<u>Buckhorn Member</u>		
GRN-01-0582, -0588, and -0819 (upgradient)	0.006-0.096	Up to 90

The treatment processes that most readily remove selenium include chemical precipitation, reverse osmosis, ion exchange, and ozonation (EPA, 1986). In addition, activated alumina adsorption also is used to reduce levels of selenium in water. The latter two processes, ozonation and alumina adsorption, are not currently in use in EPA Region VIII or in Utah (EPA, 1986; Georgeson, 1993); thus, they cannot be considered reasonably employed in public water supply systems.

The process and typically achievable removal efficiencies for selenium are as follows: 1) chemical precipitation, 45 to 70 percent; 2) reverse osmosis, up to 99 percent; and 3) ion exchange, up to 98 percent. The variation in removal efficiencies of selenium using chemical precipitation (i.e., conventional treatment) is due to the type of coagulant used in the process, with best results achieved using ferric sulfate and poorer results using lime. In addition, the effectiveness of conventional treatment also is dependent on the oxidation state of selenium. The removal efficiencies cited above apply to selenium + 4, because the removal efficiencies for selenium + 6 is 10 percent or less using conventional treatment, regardless of the precipitant used (Montgomery, 1985).

On the basis of pH and Eh conditions, selenium + 4 as HSeO_3^- is the predominant species in the Cedar Mountain Formation water; however, chemical precipitation cannot produce the desired effluent water quality.

Based on the reported removal efficiencies, reverse osmosis and ion exchange can achieve acceptable water quality levels for selenium. Although neither reverse osmosis nor ion exchange are used in public water systems in Utah, both processes are in limited use in EPA Region VIII. Thus, the ground water from the Cedar Mountain Formation might not be considered Class III utilizing reference technology criteria alone. An economic-based test is used in conjunction with the reference technology criteria, however, to demonstrate that the ground water cannot be cleaned up using treatment methods reasonably employed in public water supply systems and is, therefore, Class III (limited use) ground water.

Economic-based test

The economic-based test is another approach that can be used to determine the practicality of treating ground water. This test can be used by itself, or in conjunction with the "reference technology" approach.

The size of the hypothetical user population of ground water from the uppermost aquifer is based on a calculation of sustained yield of the water-bearing strata. The sustained yield and areal extent of the water-bearing zone are determined from pumping test data and hydrogeologic characterization of the area (DOE, 1994b). Based on hydrogeologic data, the estimated maximum sustainable yield of the uppermost aquifer system is 24,600 gal (93,100 L) per day. The population that could be served by this yield is 164 (150 gal (570 L) per day per person). Using the state average of 3.15 persons per household, the potential user population is equivalent to 52 households.

A population of 164 persons will use about 9 million gal (34 million L) per annum (i.e., 164 persons x 150 gal (570 L) per day per person x 365 days). The annual cost for a typical ground water system to produce this amount of water is about \$67,670 (i.e., 9 million gal [34 million L] x \$7519 per million gal [3,785,000 L] from Exhibit G of the EPA guidelines) (EPA, 1986). Finally, the estimated system cost apportioned to acquisition and service is approximately \$26,391 (i.e., \$41,360 x 39 percent from Exhibit H) (EPA, 1986). The median household income for Green River is \$21,369. The income estimate is based on data supplied by Governor's Office of Planning and Budget (Utah, 1993b).

Although either ion exchange or reverse osmosis are appropriate processes for cleaning up ground water from the uppermost aquifer, the high level of TDS and the oxidation state of selenium in the water are expected to raise the treatment costs of either process. Given the high level of TDS in the ground water, the operational efficiency of an ion-exchange plant or a reverse-osmosis system is dependent not on the level of trace hazardous constituents in the ground water, but on the high levels of major ions such as sulfate. Additionally, the cost of an anionic exchange system (as required for selenium removal) is about 50 percent higher than a typical cation exchange system (EPA, 1979). Thus, the cost of treating ground water from the uppermost aquifer is expected to be comparatively high because of interfering ions and the chemical characteristics of the trace contaminant.

The estimated annualized costs of treating this ground water source with anionic exchange or reverse osmosis are \$5,442 and \$15,768, respectively. These costs were calculated using Exhibit H (EPA, 1986), inflating the costs to 1994 dollars assuming an annual inflation rate for the period of 5 percent, and prorating the costs for a population of 164. Because anionic exchange clearly is the less expensive system, the cost of using a reverse-osmosis system is not assessed further. The estimated cost of acquisition and support services for an ion-exchange plant is \$26,391, for a total cost of \$31,833. Total annual cost per household for an ion-exchange system is \$612 (\$31,833 divided by 52 households).

Two threshold values are used to complete the Class III economic-based test: 1) the total system cost, and 2) the treatment costs per household. The total system cost is the total annual water system cost per household divided by annual income per household. The treatment cost per household is the percent increase in the water rate and is determined by comparing the current average yearly residential water bill with the predicted yearly household cost for water from a new treatment system.

If the "total system cost" exceeds 0.3 to 0.4 percent and treating the proposed ground water source increases water rates more than 100 percent, the ground water is Class III (limited use). The range is based on a national survey, wherein it was determined that the average yearly water bill is 0.3 to 0.4 percent of average annual household income. Based on information obtained from the Green River Water Supervisor (Fluckey, 1993; 1994), the average annual residential water bill in Green River is about \$160. For the residents of Green River, the average annual water bill represents 0.75 percent of total annual household income (Table E.3.5). Ground water from the uppermost aquifer is therefore deemed economically untreatable and, accordingly, a Class III (limited use) resource.

Table E.3.5 Summary of economics-based test

Proposed system	Total system cost threshold percent	Exceeds percentage of annual household income paid by current water users?	Exceeds EPA proposed range of 0.3-0.4 percent?	Annual treatment cost per household	Percent change in average annual residential water bill	Greater than 100 percent increase to average water bill?
Anionic exchange system	2.9	Yes	Yes	\$612	+283	Yes

When an economic-based test of treatability is applied to conditions in the local community or area, the following information is also relevant:

- No public water systems in Emery County, including the Green River Municipal System, are supplied by wells. Drinking water for all public systems in Emery County is diverted from surface water sources and springs (Utah, 1991).
- The Green River is the source of all drinking water for the town of Green River. As required by federal regulations, the surface water is treated to reduce turbidity caused by suspended solids, eliminate pathogenic organisms, and alleviate taste and odor problems. The Green River treatment plant employs the following processes: sedimentation, alum and low-dose polymer addition, coagulation and flocculation, sedimentation, filtration, and chlorination (Fluckey, 1994).
- Treatment plant wastes generated by the Green River sewage treatment facility are pumped to a holding pond. The wastes are disposed of in a public landfill (Fluckey, 1994).
- Ground water diversion from wells accounts for about 50 percent of the total public water supply in adjacent Grand County. All public supply wells in Grand County, however, are completed in the Navajo Sandstone and water diverted from this formation requires no treatment to meet either state or federal drinking water standards.
- Based on information obtained from town water supervisors and water supply district managers, all drinking water supply wells in southeastern Utah, including those in San Juan County and on the Navajo Indian Reservation, are screened in the Navajo Sandstone. Water diverted from the Navajo Sandstone is ranked as Class II (drinking

water quality) or better using the state's classification system (R317-6-3, 3.6) (Utah, 1993a).

E.3.2.2 Demonstration that remedial action complies with supplemental standards

The compliance demonstration consists of an evaluation of land and water use in the vicinity of the site and the potential impacts of ground water use to human health and the environment. Disposal cell design features and predicted cell performance are relevant to the discussion of compliance of the remedial action with the supplemental standards. A discussion of the disposal cell components and their function is presented in Section E.2.2.

Land use

Green River, Utah, is a town of about 900 permanent residents (Utah, 1993b). The economic basis of the community is tourism and agriculture. The principal agricultural activity is melon farming, although corn and hay are other cash crops commonly grown in the area. The former uranium processing site is located outside of the town boundaries; Green River and the unincorporated community of Elgin are the closest population centers.

There are 13 occupied houses and trailers and four abandoned residences in the unincorporated community of Elgin. The population of Elgin is estimated to be about 30 persons (Fluckey, 1993). There are two residences located within 0.6 mile (mi) (1 kilometer [km]) of the site. There is very little farming activity among residents of the community of Elgin, although some of the residents raise horses, grow pasture grasses, and have small vegetable gardens. The U.S. Army White Sands Missile Range and Headquarters Control operations use most of the vacant land south and east of the disposal site. The headquarters military facility is located immediately northwest of the disposal site and includes several large buildings and about 70 mobile home units. None of the mobile homes are occupied at the present time. Six magazines are located immediately south and southeast of the site between the site and Interstate 70. These magazines are abandoned and have not been used for nearly 20 years. Although operations at the missile range and headquarters have been discontinued, it is possible they may be resumed in the future.

Water use

There are no drinking water wells located within a 2-mi (3-km) radius of the Green River site. The populations of the town of Green River and the community of Elgin are connected to a municipal water supply system. The source of water for the municipal supply system is the Green River. The water intake station and the municipal water treatment facility are approximately 0.75 mi (1.2 km) upstream of the former processing site. The river water used for public supply is conventionally treated using sedimentation, alum addition and flocculation, and filtration. The treatment plant has a maximum capacity of 1.5 million gal (57 million L) per day.

Though a large number of tourists visit the Green River area in the summer, thereby greatly increasing daily water use, the average daily water use by the permanent population of Green River is about 200,000 gal (800,000 L) per day. About 5000 gal (19,000 L) per day

are consumed by the permanent residents of the Elgin area. The monthly water rate is \$11.50 for the first 6000 gal (22,000 L) and \$1.25 for every additional 1000 gal (4,000 L).

There are 10 registered water wells and one well owned by the state of Utah identified within a 2-mi (3-km) radius of the former uranium processing site. The locations of these wells are shown on Figure E.3.1. Most of the registered wells are located on the western side of the Green River, which acts as a hydrologic barrier to shallow ground water on either side of it. Except for the state-owned well, most of the wells are shallow and are completed in the Green River alluvium. Because of generally poor quality, shallow ground water in the region, and the availability of good-quality surface water from the Green River, none of the wells shown on Figure E.3.2 are being used as a drinking water source (Fluckey, 1993). Some of the wells are in limited use as a source of water for stock, lawns, or gardens.

Nearly all the water used for agricultural and domestic gardens in the area is obtained from the Green River Canal. The water in the canal is diverted from the Green River several miles upstream of the town.

Future development of the uppermost aquifer at the Green River site is unlikely for several reasons: All present needs of Green River and Elgin, in terms of both quality and quantity of drinking water, are supplied by the Green River. Nearly all present and projected agricultural needs are, or will be, supplied by the Green River Canal. In order for a ground water source to be considered suitable for development, the following criteria would have to be met: 1) the aquifer would have to be relatively shallow (500 ft [150 m] or less) due to the high cost of pumping ground water from a deep aquifer, and 2) the ground water would have to be acceptable as a drinking water source without treatment. Personnel from the State Division of Drinking Water confirmed that the latter constraint is common in Utah; that is, the residents of most small towns cannot afford the cost of treating contaminated ground water for use as their drinking water supply. According to the Green River water supervisor, most of the permanent residents of Green River and Elgin have limited incomes and could not afford increased water rates (Fluckey, 1994).

E.3.2.3 Remedial action approaches meeting the otherwise applicable standards

The disposal cell at the Green River site is designed to control radioactive materials and hazardous constituents in conformance with ground water protection standards as required in the EPA ground water protection strategy.

Both the design features of the disposal cell and the favorable climatic conditions in the area serve to protect ground water.

- The average annual precipitation in the Green River area is 6 inches (152 mm). Average annual potential lake evaporation is 40 to 43 inches (1000 to 1100 mm), or 5 to 6 times greater than precipitation (USGS, 1982).

- Based on the results of both laboratory and field tests, the saturated conductivity of the radon/infiltration barrier is 2×10^{-8} cm/s or less. Thus, the rate of infiltration through the contaminated material is minimized. The NRC has concurred with DOE in its assessment of the saturated conductivity of this layer (NRC, 1990).
- All contaminated materials were placed drier than their optimum moisture content. Although the specific placement moisture content of the tailings and other contaminated material is disputed, it is not disputed that all contaminated material layers are placed at a low degree of saturation. Hence, the volume of contaminated pore fluid that can seep into the ground water of the uppermost aquifer, during both transient and steady-state drainage conditions, is minimized.
- A buffer layer of select fill was placed on the bottom of the disposal cell. The NRC agrees that the buffer layer does not contribute hazardous or radiologic constituents to any seepage from the disposal cell, and that the buffer acts as a reservoir for storing seepage from tailings and contaminated material layers (NRC, 1990).

E.3.3 PERFORMANCE ASSESSMENT

The DOE is required to demonstrate that the performance of the disposal cell at the Green River site will comply with the final EPA ground water protection standard 40 CFR §192.02(c)(2) (1995). To achieve compliance with the EPA ground water protection standards, the DOE proposes the application of a supplemental ground water standard at the Green River site. Ground water in the uppermost aquifer meets the definition of a limited use resource, based on widespread ambient contamination that cannot be cleaned up using methods reasonably employed in public water systems (40 CFR §192.11(e)(2) [1995]).

To demonstrate compliance of the disposal cell design with the final EPA ground water protection standards, design parameters were evaluated in conjunction with the hydrogeological and geochemical characteristics of the Green River site to determine 1) the distribution of hazardous constituents in ground water under steady-state conditions, and 2) the potential for post-closure contaminant migration. The following hydrogeologic characteristics and design features are significant in demonstrating compliance with the final EPA standards:

- Existing ground water contamination. Widespread, ambient, soluble selenium related to naturally occurring mineralization in the area is present in the ground water above the EPA MCL. High levels of other contaminants in the ground water, notably sodium and sulfate (based on secondary standards), also are associated with the mineralized trend.
- Infiltration. The disposal cell incorporates design features that will reduce the infiltration and thereby limit leachate migrating from the tailings. These features include the following:
  - Based on the results of both laboratory and field tests, the saturated conductivity of the radon/infiltration barrier is 2×10^{-8} cm/sec or less. Thus, the rate of infiltration

through the contaminated material is minimized. The NRC has concurred with DOE in its assessment of the saturated conductivity of this layer (NRC, 1990).

- A buffer layer is placed on the bottom of the disposal cell. The NRC agrees that the buffer layer does not contribute hazardous or radiological constituents to any seepage from the disposal cell, and that the buffer acts as a reservoir for storing seepage from tailings and contaminated material layers (NRC, 1990).
- The disposal cell sides are sloped at 20 percent to allow rapid lateral drainage of any surface water and to prevent runoff from ponding on the disposal cell.
- Transient drainage. All contaminated materials are placed drier than their optimum moisture content. Depending on the sampling results, the levels of saturation of the tailings is 15 to 25 percent. Hence, the potential for gravity drainage of pore fluid is eliminated, and the volume of contaminated pore fluid that can potentially migrate into the uppermost aquifer under transient, unsaturated conditions, is minimized.

E.3.4 CLOSURE PERFORMANCE ASSESSMENT

The DOE has demonstrated that the remedial action at the Green River disposal site complies with the EPA ground water protection standards (40 CFR Part 192 [1995]) by meeting supplemental standards based on the presence of limited use ground water in the uppermost aquifer. The DOE assessed the performance of the designed disposal cell at the Green River site in conjunction with the hydrogeologic system and has shown that the disposal cell acts to minimize and control releases of hazardous constituents to ground water and surface water, and radon emanations to the atmosphere, to the extent necessary to protect human health and the environment.

Natural, stable materials were used in constructing the Green River disposal cell so that long-term performance is ensured. The DOE has also demonstrated that the design features necessary for compliance with the ground water protection standards minimize the need for further maintenance of the disposal site.

E.3.5 GROUND WATER MONITORING PROGRAM

Remedial action at the Green River site was completed in 1989. A preliminary monitoring program was initiated in 1990 to demonstrate the adequacy of the disposal cell to protect ground water. This program was based on the applicable proposed EPA ground water protection standards (52 FR 36000 [1987]). Compliance with the standards included identification of hazardous constituents present in the RRM, establishing concentration limits for these constituents, and designating a point of compliance (POC) hydrologically downgradient from the disposal cell.

The concentration limits originally proposed for the disposal site were based on concentrations measured in ground water samples from 16 monitor wells screened in the Cedar Mountain Formation and located near the disposal cell. It was thought at the time that the large differences observed between wells, with respect to constituent concentrations, represented naturally occurring variations of the ground water chemistry within the Cedar

Mountain Formation. However, recent geochemical and statistical evaluation of the ground water quality data indicates the ground water in the vicinity of the disposal cell was impacted by uranium processing activities that took place at the site. The strongest evidence for the presence of preexisting, mill processing-related contamination is indicated by two former monitor wells (GRN-01-0562 and -0816) that were in the same vicinity of the present disposal cell (Figure E.3.1). In the baseline risk assessment (DOE, 1994b), concentrations of several constituents associated with uranium processing (including nitrate and uranium) were determined to be elevated above background levels prior to construction of the disposal cell (Table E.3.6). Preconstruction water quality data from the site are provided as a supplement to this document (Tables SI.3 and SI.4).

Table E.3.6 Nitrate and uranium concentrations in the unnamed member of the Cedar Mountain Formation, Green River, Utah, site

Constituent	Background ^a (mg/L)	Disposal site ^b (mg/L)
Nitrate	<0.1 to 4.1	45 - 173
Uranium	<0.003	0.007 - 0.146

^aMonitor wells GRN-01-0585, -0806, and -0811.

^bMonitor wells GRN-01-0562 and -0816.

- Notes:
1. Data were collected from 1986 to 1988, before the disposal cell was constructed.
  2. Concentrations in monitor wells on the disposal site are compared to concentrations in background monitor wells.

The presence of preexisting contamination in the disposal cell vicinity complicates the assessment of disposal cell performance because the hazardous constituents identified in the RRM are also present in the ground water downgradient of the disposal cell. In addition, changes in concentration levels unrelated to disposal cell performance may occur at the disposal site as a result of migration of the pre-existing contamination.

Although POC wells will not be required under the supplemental standards compliance strategy, the DOE plans to perform post-closure monitoring of ground water in the uppermost aquifer downgradient from the disposal cell for a period of time following completion of remedial action as a "best management practice" (BMP). The purpose of the BMP monitoring is to provide additional background and characterization information, and to evaluate trends in ground water quality (naturally-occurring or site-related) in the uppermost aquifer. Ground water samples will be collected on a semiannual basis for up to five years (until 2001) from disposal site monitor wells GRN-01-0171 through -0177, -0179, and -0813, and analyzed for nitrate, selenium, sulfate, uranium, and total dissolved solids. These constituents were selected based on two criteria:

- A very large differential exists between tailings pore water concentrations and ground water concentrations of these constituents in the vicinity of the disposal cell (Table E.3.7).
- These constituents are stable under the existing geochemical conditions of ground water beneath the cell and are transported through the aquifer matrix at approximately the same velocity as water.

Based on these criteria, the selected constituents will provide early and clear warning in the unlikely event that contaminants from the disposal cell migrate into the ground water beneath the cell.

Table E.3.7 Comparison of maximum concentrations in tailings pore water to maximum concentrations in ground water of the unnamed member of the Cedar Mountain Formation, Green River, Utah, site

Constituent	Maximum concentration	
	Pore water ^a (mg/L)	Ground water ^b (mg/L)
Nitrate	6,100	2,480
Selenium	40	0.55
Sulfate	56,200	7,950
TDS	80,800	13,900
Uranium	650	3.11

^aLysimeter 714.

^bAll monitor wells completed in the unnamed member of the Cedar Mountain Formation.

Note: Data were compiled in June 1995.

Results of ground water sampling will be used to evaluate trends in concentrations of these constituents in ground water in the uppermost aquifer. Concentrations of monitored constituents will be plotted as logarithmic distributions and compared with current levels of contamination (baseline) in ground water. A significant increase in the distribution of any of the monitored constituents in ground water beneath the site over two successive monitoring events will trigger a physical investigation of the disposal cell to determine if one or more of the potential failure scenarios described in Table E.3.8 have occurred. Upon completion of the sampling program, ground water conditions will be assessed based on the additional information collected, and the BMP monitoring will be discontinued. The NRC will participate in the assessment process.

BMP monitoring is not required under the regulations for the purpose of demonstrating compliance with the final EPA ground water protection standards (40 CFR §192.02 [1995]) and will not trigger corrective action (40 CFR §192.04 [1995]). The appropriate method for long-term monitoring of performance of the disposal system and protection of ground water will be determined and described in the LTSP, which will follow the DOE *Guidance for Implementing the Long-Term Surveillance Program for UMTRA Project Title I Disposal Sites* (DOE, 1996). Following NRC concurrence on the proposed ground water compliance strategy presented in RAP Modification No. 2 (1996), the LTSP (DOE, 1994) will be revised and finalized.

E.3.6 CORRECTIVE ACTION PLAN

Pursuant to 40 CFR §192.04 (1995), the DOE will define alternative corrective actions that could be implemented to bring the site into compliance if an inspection of the cell indicates the disposal cell is not functioning properly. Although it is not possible to propose specific detailed corrective action plans, potential failure scenarios for the Green River disposal site and potential corrective actions are summarized in Table E.3.8.

Table E.3.8 Corrective action plan summary for the Green River, Utah, site

Failure scenario	Potential corrective action
Contaminated seepage emerges in artificially induced springs below the pile.	Modify cover to eliminate excess infiltration.
Radon barrier cracks due to desiccation.	Replace filter layer with lower permeability layer.
Siltation of erosion protection layer.	No action needed unless it increases infiltration or induces vegetation.
Vegetation threatens integrity of cover.	Add biointrusion layer.
Biointrusion by animals.	Modify rock cover.
Erosion of cover.	Not a realistic failure scenario (pile is designed for PMP and PMF events).

PMP - probable maximum precipitation
PMF - probable maximum flood

The Green River disposal cell was constructed of natural materials and the radon/infiltration barrier is adequately protected from disruption by animals, plants, wind, and water. The disposal cell incorporates standard safety factors on all design components and is expected to perform for a period of greater than the mandated design life of 1000 years with minimal maintenance.

The EPA standards (40 CFR §192.04 [1995]) require that a corrective action program to restore the disposal cell to the design requirements be implemented within 18 months if initial performance of the disposal cell is not in compliance with the EPA ground water protection standards. The NRC-proposed regulations in Appendix A of 10 CFR Part 40 (1995) specify that the DOE will notify the NRC before implementing any significant action(s) that may be required. The DOE will prepare and submit a corrective action plan to the NRC for review and approval. A copy of this plan also will be transmitted to the state of Utah. The corrective action plan may include indirect monitoring to demonstrate the effectiveness of the corrective action. The DOE will implement corrective action when NRC approval has been granted.

In preparing a corrective action plan, a risk assessment may be performed to evaluate the potential impact to nearby populations or the environment. If the risk assessment demonstrates no potential harm to human health and the environment, the recommended corrective action may consist of "no action" except continued inspection of the disposal cell.

E.4 CLEANUP AND CONTROL OF EXISTING CONTAMINATION

The DOE is required to demonstrate that cleanup or control of existing processing-related ground water contamination at the Green River site will comply with the EPA ground water protection standards in Subpart B of 40 CFR Part 192 (1995). Ground water cleanup will be addressed under a separate DOE program and NEPA process using strategies and options outlined in a programmatic environmental impact statement developed for the UMTRA Project (DOE, 1996). The need for and extent of ground water cleanup at the Green River site will be evaluated based on the extent of existing contamination, the

potential for current or future use of ground water from the uppermost aquifer, and protection of human health and the environment.

The current level of characterization at the Green River processing site is sufficient to address only whether the remedial action will comply with Subpart A of the EPA ground water protection standards. Additional investigations will be conducted under the UMTRA Ground Water Project as necessary to determine the appropriate ground water cleanup strategy for the Green River processing site. Surface remedial action will not preclude or interfere with any potential ground water remediation activities at the processing site.

There are no known users of ground water contaminated by uranium processing at the Green River site and no registered water wells in the potentially contaminated area between the site and the Green River (DOE, 1994b). Alternative supplies of good quality water are available to area residents for domestic and irrigation uses from the municipal water supply system and the Green River Canal Company. In addition, the state of Utah currently has adequate institutional controls available under state water law to assure protection of human health and the environment until the final ground water compliance strategy is selected and implemented. The DOE will evaluate the need to implement additional institutional controls during the ground water compliance strategy selection process under the UMTRA Ground Water Project.

E.5 LIST OF CONTRIBUTORS

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- 40 CFR Part 143, *National Secondary Drinking Water Regulations*, U.S. Environmental Protection Agency (1995).
- 40 CFR Part 192, *Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings*, U.S. Environmental Protection Agency (1995).

FEDERAL REGISTER

- 60 FR 2854, *Groundwater Standards for Remedial Action at Inactive Uranium Processing Sites*, Final Rule, 11 January 1995.

SUPPLEMENTAL INFORMATION

TABLE S1.1. MONITOR WELL INFORMATION
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	GROUND ELEVATION (FT MSL)	BOREHOLE DEPTH (FT)	BOREHOLE DIAMETER (INCHES)	CASING ELEVATION (FT MSL)	CASING LENGTH (FT)	CASING DIAMETER (INCHES)	SCREEN BEGINNING DEPTH (FT)	SCREEN LENGTH (FT)	FLOW CODE	FORMATION OF COMPLETION
0171	59535.5	58723.8	4137.40	88.	7.875	4139.35	88.0	4.0	76.	10.	D	CM
0172	59676.3	58869.3	4137.82	96.	7.875	4139.62	96.	4.0	84.	10.	D	CM
0173	59820.3	59004.4	4138.43	104.	7.875	4140.37	104.	4.0	92.	10.	D	CM
0174	59773.6	59098.4	4139.51	85.	7.875	4141.37	85.	4.0	73.	10.	D	CM
0175	59638.3	59246.2	4139.48	90.	7.875	4142.08	90.	4.0	78.	10.	D	CM
0176	59491.9	59396.2	4140.62	84.	7.875	4142.67	84.	4.0	72.	10.	D	CM
0177	58983.9	58967.4	4144.18	115.	7.875	4146.89	115.	4.0	103.	10.	U	CM
0178	58877.8	59160.1	4152.68	110.	7.875	4156.05	110.	4.0	98.	10.	U	CM
0179	59162.8	59425.2	4157.96	90.	7.875	4160.65	90.	4.0	78.	10.	U	CM
0180	59436.0	59803.6	4155.34	90.	7.875	4158.39	90.	4.0	78.	10.	U	CM
0561	59838.7	58028.8	4108.70	150.	6.000	4111.20	143.5	2.000	108.5	30.0	C	CM
0562	59585.9	59014.3	4143.60	150.	6.000	4147.70	127.	2.000	85.	40.0	U	CM
0582	60427.0	57424.8	4065.50	170.	8.000	4067.00	168.5	4.000	146.5	22.0	D	CB
0583	60462.5	57425.9	4065.60	50.00	6.000	4067.10	50.	2.000	28.	20.0	D	CD
0584	60654.2	58236.8	4072.10	50.00	6.000	4073.60	50.	2.000	28.	20.0	D	CD
0585	60925.6	57423.5	4067.60	50.00	6.000	4069.10	50.	2.000	38.	10.0	D	CD
0586	59171.8	58915.7	4142.40	166.50	8.000	4143.40	166.5	4.000	144.5	20.0	U	CB
0587	59177.2	59540.5	4167.90	190.	8.000	4169.40	185.	4.000	163.	20.0	U	CB
0588	59445.0	57782.7	4112.20	145.00	8.000	4113.50	145.	4.000	123.	20.0	U	CB
0806	60839.6	60243.9	4082.0	68.	7.875	4084.40	66.8	4.000	55.	10.0	U	CD
0809	60371.1	58519.2	4080.3	70.00	7.875	4083.03	69.6	4.000	47.8	20.0	D	CD
0810	60011.6	57868.6	4098.76	80.00	7.875	4101.37	80.	4.000	58.	20.0	D	CD
0811	60818.9	60300.0	4082.83	79.30	7.875	4085.39	79.30	4.000	62.5	15.0	U	CM
0813	59622.2	58669.9	4135.10	99.50	7.875	4136.72	99.5	4.000	77.7	20.0	U	CM
0816	59392.3	59003.8	4141.26	82.3	8.000	4143.91	60.	4.000	48.	10.0	U	CD
0817	60794.8	60347.9	4083.31	157.	7.875	4085.52	131.5	4.000	100.	30.0	U	CB
0818	59145.1	59189.7	4150.58	187.00	7.875	4152.47	187.	4.000	165.	20.0	U	CB
0819	60583.3	58230.8	4072.70	167.8	7.875	4074.88	167.80	4.000	146.00	20.0	D	CB

FORMATION OF COMPLETION CODE:

CM - CEDAR MOUNTAIN LOWER MEMBER
 CB - CEDAR MOUNTAIN BUCKHORN MEMBER
 CD - CEDAR MOUNTAIN UPPER MEMBER

FLOW RELATIONSHIP CODE:

D - DOWN GRADIENT
 U - UPGRADIENT
 C - CROSS GRADIENT

DATA FILE: \DART\GRN01\MWI10004.DAT

TABLE S1.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0171	59535.5	58723.8	CM	D	4139.35	4137.40	01/09/91	08:48	57.35	55.40	4082.00
							04/19/91	14:17	57.50	55.55	4081.85
							07/16/91	07:40	58.65	56.70	4080.70
							01/15/92	16:20	57.63	55.68	4081.72
							07/22/92	09:43	57.21	55.26	4082.14
							01/30/93	14:20	56.99	55.04	4082.36
							06/22/93	13:23	55.35	53.40	4084.00
							12/09/93	15:56	56.14	54.19	4083.21
							06/01/94	15:27	56.47	54.52	4082.88
							01/25/95	11:21	56.56	54.61	4082.79
							06/05/95	13:24	56.14	54.19	4083.21
0172	59676.3	58869.3	CM	D	4139.62	4137.82	01/09/91	11:40	57.60	55.80	4082.02
							04/19/91	11:28	57.84	56.04	4081.78
							07/15/91	13:35	58.89	57.09	4080.73
							01/13/92	11:55	57.82	56.02	4081.80
							07/21/92	07:59	57.47	55.67	4082.15
							01/30/93	11:58	57.28	55.48	4082.34
							06/22/93	16:06	55.59	53.79	4084.03
							12/09/93	15:54	56.40	54.60	4083.22
							06/01/94	15:19	56.81	55.01	4082.81
							01/26/95	16:38	55.94	54.14	4083.68
							06/05/95	13:21	56.27	54.47	4083.35
0173	59820.3	59004.4	CM	D	4140.37	4138.43	01/09/91	14:44	58.30	56.36	4082.07
							04/19/91	07:40	58.44	56.50	4081.93
							07/15/91	09:00	59.55	57.61	4080.82
							01/10/92	08:50	58.43	56.49	4081.94
							07/22/92	13:21	58.09	56.15	4082.28
							01/29/93	08:50	57.88	55.94	4082.49
							06/22/93	16:10	56.13	54.19	4084.24
							12/09/93	14:50	57.00	55.06	4083.37
							06/01/94	15:15	57.29	55.35	4083.08
							01/26/95	12:52	57.38	55.44	4082.99
							06/05/95	13:17	57.08	55.14	4083.29
0174	59773.6	59098.4	CM	D	4141.37	4139.51	01/09/91	17:20	59.30	57.44	4082.07
							04/18/91	14:25	59.30	57.44	4082.07
							07/14/91	15:29	60.42	58.56	4080.95
							01/09/92	13:15	59.33	57.47	4082.04
							07/20/92	13:48	59.00	57.14	4082.37
							01/31/93	10:46	58.95	57.09	4082.42
							06/22/93	16:13	57.10	55.24	4084.27

FORMATION OF COMPLETION CODE:
 CM - CEDAR MOUNTAIN LOWER MEMBER

FLOW RELATIONSHIP CODE:
 D - DOWN GRADIENT

TABLE SI.2. GROUND WATER ELEVATIONS
SITE: GRN01 GREEN RIVER
REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0174	59773.6	59098.4	CM	D	4141.37	4139.51	12/09/93	14:52	57.93	56.07	4083.44
							06/01/94	15:10	58.20	56.34	4083.17
							01/27/95	08:30	58.37	56.51	4083.00
							06/05/95	13:15	58.03	56.17	4083.34
0175	59638.3	59246.2	CM	D	4142.08	4139.48	01/11/91	11:00	59.63	57.03	4082.45
							04/18/91	12:45	60.01	57.41	4082.07
							07/14/91	12:49	61.03	58.43	4081.05
							01/09/92	10:40	59.95	57.35	4082.13
							07/20/92	11:45	59.51	56.91	4082.57
							01/30/93	08:50	59.37	56.77	4082.71
							06/22/93	16:17	57.25	54.65	4084.83
							12/09/93	14:55	58.38	55.78	4083.70
							06/01/94	15:03	57.60	55.00	4084.48
							01/27/95	10:27	58.72	56.12	4083.36
							06/05/95	13:11	58.47	55.87	4083.61
0176	59491.9	59396.2	CM	D	4142.67	4140.62	01/11/91	14:29	60.20	58.15	4082.47
							04/18/91	10:15	60.18	58.13	4082.49
							07/14/91	09:30	61.38	59.33	4081.29
							01/09/92	08:20	60.15	58.10	4082.52
							07/20/92	09:59	59.70	57.65	4082.97
							01/31/93	08:09	59.58	57.53	4083.09
							06/22/93	16:20	57.11	55.06	4085.56
							12/09/93	14:58	58.47	56.42	4084.20
							06/01/94	14:57	58.71	56.66	4083.96
							01/26/95	08:05	58.67	56.62	4084.00
							06/05/95	12:58	58.29	56.24	4084.38
0177	58983.9	58967.4	CM	U	4146.89	4144.18	01/11/91	17:04	61.92	59.21	4084.97
							04/21/91	11:20	61.73	59.02	4085.16
							07/16/91	11:02	62.97	60.26	4083.92
							01/12/92	14:15	61.68	58.97	4085.21
							07/22/92	15:08	61.76	59.05	4085.13
							01/27/93	08:45	61.25	58.54	4085.64
							06/22/93	13:17	59.24	56.53	4087.65
							12/09/93	16:00	59.28	56.57	4087.61
							06/01/94	15:38	59.77	57.06	4087.12
							01/29/95	07:57	59.81	57.10	4087.08
							06/05/95	13:31	59.03	56.32	4087.86
0178	58877.8	59160.1	CM	U	4156.05	4152.68	01/12/91	11:20	55.51	52.14	4100.54

FORMATION OF COMPLETION CODE:
CM - CEDAR MOUNTAIN LOWER MEMBER

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
U - UPGRADIENT

TABLE SI.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0178	58877.8	59160.1	CM	U	4156.05	4152.68	04/20/91	11:13	55.58	52.21	4100.47
							07/17/91	10:11	56.55	53.18	4099.50
							01/14/92	14:25	55.14	51.77	4100.91
							07/23/92	12:39	54.10	50.73	4101.95
							01/28/93	08:35	54.44	51.07	4101.61
							06/22/93	09:10	51.96	48.59	4104.09
							12/09/93	15:44	51.58	48.21	4104.47
							06/01/94	14:29	52.16	48.79	4103.89
							01/27/95	16:21	51.59	48.22	4104.46
							06/05/95	13:50	50.95	47.58	4105.10
0179	59162.8	59425.2	CM	U	4160.65	4157.96	01/12/91	17:10	78.70	76.01	4081.95
							04/21/91	09:00	78.63	75.94	4082.02
							07/17/91	08:25	79.77	77.08	4080.88
							01/14/92	12:05	78.42	75.73	4082.23
							07/23/92	11:07	78.12	75.43	4082.53
							01/27/93	12:40	78.05	75.36	4082.60
							06/22/93	13:11	75.90	73.21	4084.75
							12/09/93	15:41	76.99	74.30	4083.66
							06/01/94	14:22	77.37	74.68	4083.28
							01/25/95	14:35	77.40	74.71	4083.25
0180	59436.0	59803.6	CM	U	4158.39	4155.34	06/05/95	13:54	76.96	74.27	4083.69
							01/17/91	08:32	58.15	55.10	4100.24
							04/20/91	14:15	57.79	54.74	4100.60
							07/16/91	15:15	58.74	55.69	4099.65
							01/13/92	09:45	57.08	54.03	4101.31
							07/23/92	08:50	57.56	54.51	4100.83
							01/27/93	14:50	57.09	54.04	4101.30
							06/22/93	14:20	56.90	53.85	4101.49
							12/09/93	15:37	57.27	54.22	4101.12
							06/01/94	14:19	57.41	54.36	4100.98
0561	59838.7	58028.8	CM	C	4111.20	4108.70	01/28/95	12:50	57.71	54.66	4100.68
							06/05/95	13:59	57.44	54.39	4100.95
							06/04/86	11:00	25.41	22.91	4085.79
							09/06/86	10:00	26.90	24.40	4084.30
							02/25/87	08:00	28.57	26.07	4082.63
0562	59585.9	59014.3	CM	U	4147.70	4143.60	09/29/87	08:28	30.25	27.75	4080.95
							01/08/88	14:42	30.20	27.70	4081.00

FORMATION OF COMPLETION CODE:
 CM - CEDAR MOUNTAIN LOWER MEMBER

FLOW RELATIONSHIP CODE:
 U - UPGRADIENT
 C - CROSS GRADIENT

TABLE SI.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0562	59585.9	59014.3	CM	U	4147.70	4143.60	09/04/86	14:30	59.40	55.30	4088.30
							02/25/87	11:30	59.30	55.20	4088.40
							10/01/87	12:45	61.00	56.90	4086.70
							01/05/88	12:23	59.20	55.10	4088.50
0582	60427.0	57424.8	CB	D	4067.00	4065.50	09/11/86	14:10	FLOWING	FLOWING	-
							03/11/87	15:15	FLOWING	FLOWING	-
							09/30/87	15:37	DRY	DRY	-
							01/10/88	07:15	DRY	DRY	-
							03/11/89	09:00	FLOWING	FLOWING	-
							09/19/89	09:20	77.77	76.27	3989.23
							01/10/91	15:10	FLOWING	FLOWING	-
							04/18/91	07:40	FLOWING	FLOWING	-
							07/11/91	14:55	FLOWING	FLOWING	-
							01/08/92	09:48	FLOWING	FLOWING	-
							07/19/92	10:36	FLOWING	FLOWING	-
							06/22/93	18:14	FLOWING	FLOWING	-
							12/09/93	15:19	FLOWING	FLOWING	-
							06/01/94	13:55	FLOWING	FLOWING	-
							01/29/95	12:24	FLOWING	FLOWING	-
							06/05/95	12:41	FLOWING	FLOWING	-
0583	60462.5	57425.9	CD	D	4067.10	4065.60	09/10/86	15:30	14.70	13.20	4052.40
							03/12/87	13:05	16.15	14.65	4050.95
							09/30/87	11:00	17.50	16.00	4049.60
							01/11/88	13:30	16.15	14.65	4050.95
							03/12/89	09:00	15.75	14.25	4051.35
							09/19/89	07:16	16.65	15.15	4050.45
							01/11/91	07:55	16.62	15.12	4050.48
							04/21/91	16:20	15.85	14.35	4051.25
							07/12/91	09:30	16.82	15.32	4050.28
							01/08/92	09:14	16.69	15.19	4050.41
							07/19/92	11:30	17.04	15.54	4050.06
							06/22/93	18:15	16.79	15.29	4050.31
							12/09/93	15:20	17.26	15.76	4049.84
							06/01/94	13:58	16.92	15.42	4050.18
							01/29/95	12:24	16.92	15.42	4050.18
							06/05/95	12:42	16.87	15.37	4050.23
0584	60654.2	58236.8	CD	D	4073.60	4072.10	09/11/86	14:15	14.85	13.35	4058.75
							03/13/87	11:00	14.14	12.64	4059.46

FORMATION OF COMPLETION CODE:
 CM - CEDAR MOUNTAIN LOWER MEMBER
 CB - CEDAR MOUNTAIN BUCKHORN MEMBER
 CD - CEDAR MOUNTAIN UPPER MEMBER

FLOW RELATIONSHIP CODE:
 U - UPGRADIENT
 D - DOWN GRADIENT

TABLE S1.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0584	60654.2	58236.8	CD	D	4073.60	4072.10	10/06/87	09:15	15.36	13.86	4058.24
							01/12/88	14:33	14.00	12.50	4059.60
							09/20/89	14:29	11.42	9.92	4062.18
							01/10/91	07:55	18.83	17.33	4054.77
							04/21/91	14:45	16.73	15.23	4056.87
							07/14/91	17:35	17.14	15.64	4056.46
							01/09/92	15:30	16.72	15.22	4056.88
							07/19/92	15:51	16.72	15.22	4056.88
							06/22/93	13:35	16.99	15.49	4056.61
							12/09/93	15:12	17.42	15.92	4056.18
							06/01/94	14:53	17.45	15.95	4056.15
							01/29/95	12:29	17.52	16.02	4056.08
							06/05/95	12:51	17.54	16.04	4056.06
0585	60925.6	57423.5	CD	D	4069.10	4067.60	09/11/86	08:50	14.41	12.91	4054.69
							03/12/87	15:10	13.95	12.45	4055.15
							09/30/87	13:56	14.40	12.90	4054.70
							01/08/88	16:15	14.15	12.65	4054.95
							03/11/89	15:30	14.03	12.53	4055.07
							09/18/89	14:53	14.32	12.82	4054.78
							01/10/91	10:15	14.08	12.58	4055.02
							04/22/91	12:55	13.98	12.48	4055.12
							07/12/91	11:11	14.77	13.27	4054.33
							01/15/92	11:20	14.22	12.72	4054.88
							07/19/92	13:48	14.71	13.21	4054.39
							06/22/93	18:17	14.55	13.05	4054.55
							12/09/93	15:23	14.40	12.90	4054.70
							06/01/94	14:02	14.61	13.11	4054.49
							01/29/95	12:22	14.45	12.95	4054.65
							06/05/95	12:38	14.46	12.96	4054.64
0586	59171.8	58915.7	CB	U	4143.40	4142.40	09/10/86	09:00	57.85	56.85	4085.55
							03/11/87	13:00	55.85	54.85	4087.55
							10/02/87	09:30	56.54	55.54	4086.86
							01/06/88	16:10	58.75	57.75	4084.65
0587	59177.2	59540.5	CB	U	4169.40	4167.90	09/10/86	14:30	83.15	81.65	4086.25
							03/11/87	11:00	84.60	83.10	4084.80
							10/04/87	07:30	71.49	69.99	4097.91
							01/10/88	08:00	75.65	74.15	4093.75
0588	59445.0	57782.7	CB	U	4113.50	4112.20	09/10/86	16:20	30.43	29.13	4083.07

FORMATION OF COMPLETION CODE:
 CD - CEDAR MOUNTAIN UPPER MEMBER
 CB - CEDAR MOUNTAIN BUCKHORN MEMBER

FLOW RELATIONSHIP CODE:
 D - DOWN GRADIENT
 U - UPGRADIENT

TABLE S1.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0588	59445.0	57782.7	CB	U	4113.50	4112.20	03/11/87	08:30	27.34	26.04	4086.16
							09/30/87	08:01	28.09	26.79	4085.41
							01/08/88	08:00	26.00	24.70	4087.50
							03/31/89	07:45	30.25	28.95	4083.25
							09/17/89	14:11	36.50	35.20	4077.00
							01/08/91	14:00	33.90	32.60	4079.60
							04/17/91	08:00	34.00	32.70	4079.50
							07/10/91	08:55	34.58	33.28	4078.92
							01/15/92	08:30	33.10	31.80	4080.40
							07/23/92	14:23	33.59	32.29	4079.91
							06/22/93	17:58	31.64	30.34	4081.86
							12/09/93	15:30	31.35	30.05	4082.15
							06/01/94	14:12	32.70	31.40	4080.80
							06/05/95	12:21	33.10	31.80	4080.40
0806	60839.6	60243.9	CD	U	4084.40	4082.0	10/21/87	12:07	12.11	9.71	4072.29
							01/09/88	11:15	11.40	9.00	4073.00
							03/31/89	15:10	18.10	15.70	4066.30
							09/16/89	14:43	11.95	9.55	4072.45
							01/07/91	07:25	12.18	9.78	4072.22
							04/17/91	13:09	12.39	9.99	4072.01
							07/11/91	08:25	14.07	11.67	4070.33
							01/10/92	14:15	11.45	9.05	4072.95
							07/19/92	17:44	11.88	9.48	4072.52
							06/22/93	13:50	12.10	9.70	4072.30
							12/09/93	15:04	12.44	10.04	4071.96
							06/01/94	14:39	12.95	10.55	4071.45
							06/05/95	13:38	12.74	10.34	4071.66
0809	60371.1	58519.2	CD	D	4083.03	4080.3	10/21/87	09:20	23.93	21.20	4059.10
							01/05/88	09:50	16.70	13.97	4066.33
0810	60011.6	57868.6	CD	D	4101.37	4098.76	10/23/87	09:10	37.80	35.19	4063.57
							01/05/88	11:00	33.20	30.59	4068.17
							03/12/89	13:15	32.58	29.97	4068.79
							09/20/89	07:14	33.52	30.91	4067.85
							01/10/91	12:12	36.30	33.69	4065.07
							04/22/91	08:30	36.33	33.72	4065.04
							07/12/91	12:36	37.25	34.64	4064.12
							01/14/92	09:15	37.52	34.91	4063.85
							07/23/92	17:04	37.12	34.51	4064.25
							06/22/93	18:03	36.10	33.49	4065.27

FORMATION OF COMPLETION CODE:
 CB - CEDAR MOUNTAIN BUCKHORN MEMBER
 CD - CEDAR MOUNTAIN UPPER MEMBER

FLOW RELATIONSHIP CODE:
 U - UPGRADIENT
 D - DOWN GRADIENT

TABLE SI.2. GROUND WATER ELEVATIONS
SITE: GRN01 GREEN RIVER
REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0810	60011.6	57868.6	CD	D	4101.37	4098.76	12/09/93	15:27	35.30	32.69	4066.07
							06/01/94	14:07	34.61	32.00	4066.76
							01/29/95	12:33	35.50	32.89	4065.87
							06/05/95	12:32	34.90	32.29	4066.47
0811	60818.9	60300.0	CM	U	4085.39	4082.83	10/20/87	13:40	13.08	10.52	4072.31
							01/11/88	07:30	13.00	10.44	4072.39
							03/31/89	12:50	12.75	10.19	4072.64
							09/17/89	07:49	13.51	10.95	4071.88
							01/07/91	11:05	18.95	16.39	4066.44
							04/17/91	15:36	20.01	17.45	4065.38
							07/10/91	14:30	13.76	11.20	4071.63
							01/11/92	11:00	22.19	19.63	4063.20
							07/22/92	17:16	12.78	10.22	4072.61
							06/22/93	13:52	13.09	10.53	4072.30
							12/09/93	15:02	13.45	10.89	4071.94
							06/01/94	14:37	14.00	11.44	4071.39
							06/05/95	13:37	13.74	11.18	4071.65
0813	59622.2	58669.9	CM	U	4136.72	4135.10	10/05/87	12:15	51.80	50.18	4084.92
							01/06/88	14:18	49.90	48.28	4086.82
							03/29/89	08:00	50.30	48.68	4086.42
							09/20/89	09:25	51.14	49.52	4085.58
							01/08/91	10:30	53.65	52.03	4083.07
							04/20/91	07:40	53.81	52.19	4082.91
							07/12/91	15:45	54.88	53.26	4081.84
							01/12/92	09:15	53.68	52.06	4083.04
							07/22/92	11:34	53.62	52.00	4083.10
							01/28/93	14:00	53.20	51.58	4083.52
							06/22/93	13:26	51.61	49.99	4085.11
							12/09/93	15:49	52.40	50.78	4084.32
							06/01/94	15:32	52.73	51.11	4083.99
							06/05/95	13:27	52.39	50.77	4084.33
0816	59392.3	59003.8	CD	U	4143.91	4141.26	10/21/87	10:30	59.80	57.15	4084.11
							01/06/88	12:05	55.37	52.72	4088.54
0817	60794.8	60347.9	CB	U	4085.52	4083.31	10/20/87	08:30	DRY	DRY	-
							01/09/88	07:25	DRY	DRY	-
							03/30/89	14:30	FLOWING	FLOWING	-
							09/17/89	10:48	77.77	75.56	4007.75

FORMATION OF COMPLETION CODE:
CD - CEDAR MOUNTAIN UPPER MEMBER
CM - CEDAR MOUNTAIN LOWER MEMBER
CB - CEDAR MOUNTAIN BUCKHORN MEMBER

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
U - UPGRADIENT

TABLE SI.2. GROUND WATER ELEVATIONS
 SITE: GRN01 GREEN RIVER
 REPORT DATE: 06/29/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0817	60794.8	60347.9	CB	U	4085.52	4083.31	01/07/91	14:40	FLOWING	FLOWING	-
							04/17/91	18:40	FLOWING	FLOWING	-
							07/11/91	12:41	FLOWING	FLOWING	-
							01/10/92	13:01	FLOWING	FLOWING	-
							07/19/92	17:15	FLOWING	FLOWING	-
							12/09/93	15:01	FLOWING	FLOWING	-
							06/01/94	14:34	FLOWING	FLOWING	-
							06/05/95	13:35	FLOWING	FLOWING	-
0818	59145.1	59189.7	CB	U	4152.47	4150.58	10/19/87	12:40	66.23	64.34	4086.24
							01/05/88	14:40	65.60	63.71	4086.87
							03/30/89	08:45	67.97	66.08	4084.50
0819	60583.3	58230.8	CB	D	4074.88	4072.70	10/22/87	14:55	FLOWING	FLOWING	-
							01/04/88	13:00	DRY	DRY	-

FORMATION OF COMPLETION CODE:
 CB - CEDAR MOUNTAIN BUCKHORN MEMBER

FLOW RELATIONSHIP CODE:
 U - UPGRADIENT
 D - DOWN GRADIENT

DATA FILE: \DART\GRN01\GWL10001.DAT

FIELDS DISPLAYED WITH A DASH INDICATE THE DATA IS UNAVAILABLE

Table SI.3. Water Quality Sampling History - June 1986 through June 1994

[illegible]

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0171 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59535.5 FT
 EAST COORDINATE: 58723.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/28/90	0001	MG/L CaCO3		846.		-	-
	01/13/91	0001			829.		-	-
	04/19/91	0001			823.		-	-
	07/16/91	0001			847.		-	-
	01/15/92	0001			805		-	-
	07/22/92	0001			811		-	-
	01/30/93	0001			791		-	-
	06/24/93	0001			793		-	-
	12/14/93	0001			761		-	-
ALUMINUM	07/22/92	0001	MG/L		0.0962	*	0.05	-
	01/30/93	0001		<	0.05		0.05	-
	06/24/93	0001		<	0.05		0.05	-
	12/14/93	0001		<	0.05	E	0.05	-
	06/02/94	0001		<	0.05		0.05	-
AMMONIUM	08/28/90	0001	MG/L		0.71	J	0.1	-
	01/13/91	0001			0.64		0.01	-
	04/19/91	0001			0.7		0.1	-
	07/16/91	0001			0.27		0.03	-
	01/15/92	0001			0.6		0.1	-
	07/22/92	0001			0.528		0.1	-
	01/30/93	0001			0.31		0.1	-
	06/24/93	0001			0.6		0.1	-
	12/14/93	0001			0.56		0.10	-
ARSENIC	08/28/90	0001	MG/L	<	0.1		0.1	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.03	I	0.03	-
	07/16/91	0001		<	0.012	I	0.012	-
	01/15/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.005		0.005	-
	01/30/93	0001		<	0.005	W	0.005	-
	06/24/93	0001		<	0.08	IW	0.08	-
	12/14/93	0001		<	0.005		0.005	-
CADMIUM	08/28/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/19/91	0001		<	0.001		0.001	-
	07/16/91	0001		<	0.0046	I	0.0046	-
	01/15/92	0001		<	0.005	I	0.005	-
	07/22/92	0001		<	0.001	W	0.001	-
	01/30/93	0001		<	0.001		0.001	-
	06/24/93	0001		<	0.0005		0.0005	-
	12/14/93	0001		<	0.001	W	0.001	-
CALCIUM	08/28/90	0001	MG/L		187.		0.01	-
	01/13/91	0001			194.		0.5	-
	04/19/91	0001			199.		0.5	-
	07/16/91	0001			200		0.014	-
	01/15/92	0001			205.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0171 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59535.5 FT
 EAST COORDINATE: 58723.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	07/22/92	0001	MG/L		214		0.5	-
	01/30/93	0001			196		0.5	-
	06/24/93	0001			221.		1.0	-
	12/14/93	0001			237.		1.0	-
	06/02/94	0001			215		0.5	-
CHLORIDE	08/28/90	0001	MG/L		90.	H	1.	-
	01/13/91	0001			95.		0.5	-
	04/19/91	0001			96.		0.5	-
	07/16/91	0001			91		0.5	-
	01/15/92	0001			88.		1.	-
	07/22/92	0001			85.8		0.5	-
	01/30/93	0001			87.4		0.5	-
	06/24/93	0001			108.		1.	-
	12/14/93	0001			106.		0.50	-
	06/02/94	0001			116		0.5	-
CHROMIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.016	I	0.016	-
	01/15/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01		0.01	-
	01/30/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/14/93	0001		<	0.01		0.01	-
	06/02/94	0001		<	0.01		0.01	-
COBALT	06/24/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/16/91	0001	MG/L		12		1.	-
	06/02/94	0001			28		1	-
DISSOLVED OXYGEN	01/30/93	0001	MG/L		0.0		-	-
	06/24/93	0001			0.1		-	-
	12/14/93	0001			0.41		-	-
GROSS ALPHA	08/28/90	0001	PCI/L		0.		1.	20.0
	01/13/91	0001			127.		1.	49.4
	04/19/91	0001			0.0		1.	54.8
	07/16/91	0001			0		1.	56
	01/15/92	0001			0.0		1.	34.9
	07/22/92	0001			27.3		46.9	33.1
	01/30/93	0001			40.7		46.1	35.2
	06/24/93	0001			0		1	44
	12/14/93	0001			77.0		49.6	42.7
	06/02/94	0001			0.0	N	22.5	9.2
GROSS BETA	08/28/90	0001	PCI/L		0.		0.5	14.3
	01/13/91	0001			141.		0.5	29.5
	04/19/91	0001			0.0		0.5	27.4
	07/16/91	0001			4		0.5	29
	01/15/92	0001			15.0		0.5	27.7
	07/22/92	0001			17.9		35.9	22.5
	01/30/93	0001			37.7		58.5	36.7

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0171 POC MONITOR WELL (DOWN GRADIENT)
NORTH COORDINATE: 59535.5 FT
EAST COORDINATE: 58723.8 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	06/24/93	0001	PCI/L		0		0.5	41
	12/14/93	0001			37.1		51.8	33.2
IRON	08/28/90	0001	MG/L		1.05		0.03	-
	01/13/91	0001			0.91		0.03	-
	04/19/91	0001			0.85		0.03	-
	07/16/91	0001			0.73		0.005	-
	01/15/92	0001			0.67		0.03	-
	07/22/92	0001			0.779		0.03	-
	01/30/93	0001			0.709		0.03	-
	06/24/93	0001			0.62		0.03	-
	12/14/93	0001			0.37		0.03	-
	06/02/94	0001			0.45		0.03	-
LEAD	08/28/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.005		0.005	-
	07/16/91	0001		<	0.0021		0.0021	-
	01/15/92	0001		<	0.03	I	0.03	-
	07/22/92	0001		<	0.003		0.003	-
	01/30/93	0001		<	0.03	I	0.03	-
	06/24/93	0001		<	0.003	W	0.003	-
	12/14/93	0001		<	0.003		0.003	-
	06/02/94	0001		<	0.003		0.003	-
MAGNESIUM	08/28/90	0001	MG/L		98.7		0.001	-
	01/13/91	0001			102.		0.5	-
	04/19/91	0001			103.		0.5	-
	07/16/91	0001			96		0.028	-
	01/15/92	0001			107.		0.5	-
	07/22/92	0001			108		0.1	-
	01/30/93	0001			104		0.1	-
	06/24/93	0001			117.		0.5	-
	12/14/93	0001			127.		0.5	-
	06/02/94	0001			120		0.1	-
MANGANESE	01/30/93	0001	MG/L		0.138		0.01	-
	06/24/93	0001			0.13		0.01	-
	12/14/93	0001			0.16	E	0.01	-
	06/02/94	0001			0.16		0.01	-
MOLYBDENUM	08/28/90	0001	MG/L		0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01		0.01	-
	01/30/93	0001		<	0.01		0.01	-
	06/24/93	0001			0.01		0.01	-
	12/14/93	0001		<	0.01		0.01	-
	06/02/94	0001		<	0.01		0.01	-
NET GROSS ALPHA *	08/28/90	0001	PCI/L		-9.60		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0171 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59535.5 FT
 EAST COORDINATE: 58723.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	01/13/91	0001	PCI/L		123.57		-	-
	04/19/91	0001			-2.74		-	-
	07/16/91	0001			-2.47		-	-
	01/15/92	0001			-3.43		-	-
	07/22/92	0001			25.93		-	-
	01/30/93	0001			39.33		-	-
	06/24/93	0001			-2.74		-	-
	12/14/93	0001			72.88		-	-
	06/02/94	0001			-3.43		-	-
NICKEL	08/28/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/19/91	0001		<	0.04		0.04	-
	07/16/91	0001		<	0.014	I	0.014	-
	01/15/92	0001		<	0.04		0.04	-
	07/22/92	0001		<	0.04		0.04	-
	01/30/93	0001		<	0.04		0.04	-
	06/24/93	0001		<	0.04		0.04	-
	12/14/93	0001		<	0.04		0.04	-
NITRATE	08/28/90	0001	MG/L		1.2	HJ	1.	-
	01/13/91	0001			1.8		1.	-
	04/19/91	0001			1.3		1.	-
	07/16/91	0001			5.8	J	0.22	-
	01/15/92	0001			3.6		1.	-
	07/22/92	0001			4.74		1	-
	01/30/93	0001			3.8		1	-
	06/24/93	0001			6.6		1.0	-
	12/14/93	0001			4.6		1.0	-
PH	08/28/90	0001	SU		6.96		-	-
	01/13/91	0001			6.65		-	-
	04/19/91	0001			6.77		-	-
	07/16/91	0001			6.94		-	-
	01/15/92	0001			6.93		-	-
	07/22/92	0001			6.83		-	-
	01/30/93	0001			6.84		-	-
	06/24/93	0001			6.81		-	-
	12/14/93	0001			6.48		-	-
PHOSPHATE	07/22/92	0001	MG/L	<	0.1		0.1	-
	01/30/93	0001			0.1		0.1	-
	06/24/93	0001			0.1		0.1	-
	12/14/93	0001			0.23		0.10	-
POTASSIUM	08/28/90	0001	MG/L		6.0		0.01	-
	01/13/91	0001			6.1		0.01	-
	04/19/91	0001			6.5		0.1	-
	07/16/91	0001			6.4		0.5	-
	01/15/92	0001			6.0		0.01	-
	07/22/92	0001			7.28		0.1	-
	01/30/93	0001			7.27		0.1	-
	06/24/93	0001			6.73		0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

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FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	12/14/93 06/02/94	0001 0001	MG/L		8.00 7.0		0.10 0.1	- -
RADIUM-226	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	PCI/L		1.1 1.8 1.5 0.4 1.4 1.1 0.7 2 1.9 1.0	J	1. 1. 1. 1. 1. 0.3 0.8 1 0.3 0.1	0.4 0.7 0.5 0.2 0.5 0.4 0.6 0.7 0.4 0.3
RADIUM-226 + RADIUM-228	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	PCI/L		4.30 1.80 2.40 1.40 1.40 2.90 3.90 5.00 2.20 1.00		- - - - - - - - - -	- - - - - - - - - -
RADIUM-228	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	PCI/L		3.2 0.0 0.9 1.0 0.0 1.8 3.2 3 0.3 0.0	J J J	1. 1. 1. 1. 1. 4.5 2.5 1 0.7 6.0	1.9 1.9 1.7 0.8 2.1 2.8 1.8 1.4 0.4 2.9
REDOX POTENTIAL	01/30/93 06/24/93 12/14/93	0001 0001 0001	mVOLTS		156.7 81. -191		- - -	- - -
SELENIUM	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		< 0.05 < 0.03 < 0.03 < 0.0022 < 0.005 < 0.005 < 0.005 < 0.005 < 0.05 < 0.015 < 0.005	I I W I JW	0.05 0.03 0.03 0.0022 0.005 0.005 0.005 0.05 0.005 0.005	- - - - - - - - - -
SILICA - SiO2	01/30/93 06/24/93 12/14/93	0001 0001 0001	MG/L		11 10.9 11.0	E	0.5 0.1 0.10	- - -

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
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TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
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 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	06/02/94	0001	MG/L		11.0		0.1	-
SODIUM	08/28/90	0001	MG/L		1320.		0.002	-
	01/13/91	0001			1480.		5.	-
	04/19/91	0001			1380.		50.	-
	07/16/91	0001			1200		0.027	-
	01/15/92	0001			1360.		20.	-
	07/22/92	0001			1340		1	-
	01/30/93	0001			1370		1	-
	06/24/93	0001			1430.		5.	-
	12/14/93	0001			1540.		5.	-
	06/02/94	0001			1450		1	-
SPECIFIC CONDUCTANCE	08/28/90	0001	UMHO/CM		4620.		-	-
	01/13/91	0001			6090.		-	-
	04/19/91	0001			6120.		-	-
	07/16/91	0001			5940.		-	-
	01/15/92	0001			4900		-	-
	07/22/92	0001			5560		-	-
	01/30/93	0001			5010		-	-
	06/24/93	0001			5540		-	-
	12/14/93	0001			5510		-	-
SULFATE	08/28/90	0001	MG/L		2620.		10.	-
	01/13/91	0001			2180.		10.	-
	04/19/91	0001			2850.		10.	-
	07/16/91	0001			2700		10.	-
	01/15/92	0001			2660.		10.	-
	07/22/92	0001			2840		1	-
	01/30/93	0001			2820		1	-
	06/24/93	0001			2850.		60.	-
	12/14/93	0001			3070.	I	38.	-
	06/02/94	0001			3210		1	-
SULFIDE	01/30/93	0001	MG/L		1.4		1	-
	06/24/93	0001			2.6		0.1	-
	12/14/93	0001			1.8		1.0	-
TEMPERATURE	08/28/90	0001	C - DEGREE		13.4		-	-
	01/13/91	0001			14.7		-	-
	04/19/91	0001			16.9		-	-
	07/16/91	0001			17.5		-	-
	01/15/92	0001			13.2		-	-
	07/22/92	0001			18.8		-	-
	01/30/93	0001			14.9		-	-
	06/24/93	0001			17.3		-	-
	12/14/93	0001			14.3		-	-
TOTAL DISSOLVED SOLIDS	08/28/90	0001	MG/L		4850.	H	10.	-
	01/13/91	0001			5230.		10.	-
	04/19/91	0001			5040.		10.	-
	07/16/91	0001			5000		10.	-
	01/15/92	0001			5130.		10.	-
	07/22/92	0001			5050		10	-
	01/30/93	0001			5080		10	-
	06/24/93	0001			5320.		10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0171 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59535.5 FT
 EAST COORDINATE: 58723.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	12/14/93 06/02/94	0001 0001	MG/L		5680. 5810		10. 10	- -
TOTAL KJELDAHL NITROGEN	01/15/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93	0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		18. 18. 11. 13 12. 12.3 12.9 16. 19.6	 * N	1. 1. 1. 1. 1. 1 1 1. 1.0	- - - - - - - - -
TURBIDITY	12/14/93	0001	NTU		20		-	-
URANIUM	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		0.014 0.005 0.004 0.0036 0.005 0.002 0.002 0.004 0.006 0.005	 J	0.001 0.001 0.001 0.0003 0.001 0.001 0.001 0.001 0.001 0.001	- - - - - - - - - -
VANADIUM	08/28/90 01/13/91 04/19/91 07/16/91 01/15/92 07/22/92 01/30/93 06/24/93 12/14/93 06/02/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L	< < < < < < < < < <	0.01 0.01 0.01 0.011 0.01 0.0165 0.01 0.01 0.01 0.01	 I	0.01 0.01 0.01 0.011 0.01 0.01 0.01 0.01 0.01 0.01	- - - - - - - - - -

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/28/90	0001	MG/L CAC03		675.		-	-
	01/13/91	0001			647.		-	-
	04/19/91	0001			645.		-	-
	07/15/91	0001			646.	L	-	-
	01/13/92	0001			565		-	-
	07/21/92	0001			464		-	-
	01/30/93	0001			234		-	-
	06/26/93	0001			430		-	-
	12/10/93	0001			490		-	-
ALUMINUM	07/21/92	0001	MG/L		0.133	*	0.05	-
	01/30/93	0001			0.053		0.05	-
	06/26/93	0001			0.05		0.05	-
	12/10/93	0001		<	0.05	E	0.05	-
	06/06/94	0001		<	0.05		0.05	-
AMMONIUM	08/28/90	0001	MG/L		0.73	J	0.1	-
	01/13/91	0001			0.56		0.01	-
	04/19/91	0001			0.7		0.1	-
	07/15/91	0001			0.15	L	0.03	-
	01/13/92	0001			0.3		0.1	-
	07/21/92	0001			0.384		0.1	-
	01/30/93	0001			0.14		0.1	-
	06/26/93	0001			0.2		0.1	-
	12/10/93	0001			0.14		0.10	-
ARSENIC	08/28/90	0001	MG/L	<	0.1		0.1	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.05	I	0.05	-
	07/15/91	0001		<	0.012	IL	0.012	-
	01/13/92	0001		<	0.01		0.01	-
	07/21/92	0001		<	0.005		0.005	-
	01/30/93	0001		<	0.005	W	0.005	-
	06/26/93	0001		<	0.08	IW	0.08	-
	12/10/93	0001		<	0.005		0.005	-
	06/06/94	0001		<	0.005	JW	0.005	-
CADMIUM	08/28/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/19/91	0001		<	0.003	I	0.003	-
	07/15/91	0001		<	0.0046	IL	0.0046	-
	01/13/92	0001		<	0.001		0.001	-
	07/21/92	0001		<	0.001	W	0.001	-
	01/30/93	0001		<	0.001		0.001	-
	06/26/93	0001		<	0.0005		0.0005	-
	12/10/93	0001		<	0.001	W	0.001	-
	06/06/94	0001		<	0.001		0.001	-
CALCIUM	08/28/90	0001	MG/L		151.		0.01	-
	01/13/91	0001			149.		0.5	-
	04/19/91	0001			150.		0.5	-
	07/15/91	0001			150	L	0.014	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	01/13/92	0001	MG/L		282.		0.5	-
	07/21/92	0001			225		0.5	-
	01/30/93	0001			362		0.5	-
	06/26/93	0001			250.		1.0	-
	12/10/93	0001			234.		1.0	-
	06/06/94	0001			204		0.5	-
CHLORIDE	08/28/90	0001	MG/L		112.	H	1.	-
	01/13/91	0001			114.		0.5	-
	04/19/91	0001			115.		0.5	-
	07/15/91	0001			110	L	0.5	-
	01/13/92	0001			220.		2.	-
	07/21/92	0001			322		0.5	-
	01/30/93	0001			358		0.5	-
	06/26/93	0001			222.		2.	-
	12/10/93	0001			185.		0.50	-
	06/06/94	0001			151		0.5	-
CHROMIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/15/91	0001		<	0.016	IL	0.016	-
	01/13/92	0001		<	0.01		0.01	-
	07/21/92	0001		<	0.01		0.01	-
	01/30/93	0001		<	0.01		0.01	-
	06/26/93	0001		<	0.01		0.01	-
	12/10/93	0001		<	0.01		0.01	-
	06/06/94	0001		<	0.01		0.01	-
COBALT	06/26/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/15/91	0001	MG/L		6.2	L	1.	-
	06/06/94	0001			7		1	-
DISSOLVED OXYGEN	01/30/93	0001	MG/L		0.8		-	-
	06/26/93	0001			0.7		-	-
	12/10/93	0001			0.79		-	-
GROSS ALPHA	08/28/90	0001	PCI/L		70.4		1.	45.3
	01/13/91	0001			137.		1.	67.7
	04/19/91	0001			0.0		1.	71.6
	07/15/91	0001			110	L	1.	90
	01/13/92	0001			0.0		1.	57.9
	07/21/92	0001			0.0		78.1	45.4
	01/30/93	0001			61.3		69.4	53.1
	06/26/93	0001			0		1	36
	12/10/93	0001			53.3		74.9	54.6
	06/06/94	0001			45.5	JN	30.5	17.7
GROSS BETA	08/28/90	0001	PCI/L		0.		0.5	25.6
	01/13/91	0001			156.		0.5	38.8
	04/19/91	0001			0.0		0.5	42.2
	07/15/91	0001			24	L	0.5	52
	01/13/92	0001			41.0		0.5	37.1

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
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TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	07/21/92 01/30/93 06/26/93 12/10/93	0001 0001 0001 0001	PCI/L		48.9 33.0 0 47.8		59.8 91.2 0.5 73.0	38.6 55.9 45 46.4
IRON	08/28/90 01/13/91 04/19/91 07/15/91 01/13/92 07/21/92 01/30/93 06/26/93 12/10/93 06/06/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		0.10 0.17 0.08 0.012 0.03 0.03 0.03 0.03 0.03 0.03	JL	0.03 0.03 0.03 0.005 0.03 0.03 0.03 0.03 0.03 0.03	- - - - - - - - - -
LEAD	08/28/90 01/13/91 04/19/91 07/15/91 01/13/92 07/21/92 01/30/93 06/26/93 12/10/93 06/06/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L	<	0.03 0.03 0.005 0.011 0.03 0.003 0.03 0.003 0.003 0.003	I I IL I W	0.03 0.03 0.005 0.011 0.03 0.003 0.03 0.003 0.003 0.003	- - - - - - - - - -
MAGNESIUM	08/28/90 01/13/91 04/19/91 07/15/91 01/13/92 07/21/92 01/30/93 06/26/93 12/10/93 06/06/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		79.4 75.8 77.0 72 228. 189 310 162. 147. 125	L	0.001 0.5 0.5 0.028 0.5 0.1 0.1 0.1 0.5 0.1	- - - - - - - - - -
MANGANESE	01/30/93 06/26/93 12/10/93 06/06/94	0001 0001 0001 0001	MG/L		1.68 0.47 0.30 0.20	E	0.01 0.01 0.01 0.01	- - - -
MOLYBDENUM	08/28/90 01/13/91 04/19/91 07/15/91 01/13/92 07/21/92 01/30/93 06/26/93 12/10/93 06/06/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		0.05 0.05 0.04 0.049 0.03 0.0206 0.012 0.03 0.05 0.04	L	0.01 0.01 0.01 0.0057 0.01 0.01 0.01 0.01 0.01 0.01	- - - - - - - - - -
NET GROSS ALPHA *	08/28/90	0001	PCI/L		30.61		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
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W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	01/13/91	0001	PCI/L		100.64		-	-
	04/19/91	0001			-28.81		-	-
	07/15/91	0001			84.62		-	-
	01/13/92	0001			-10.29		-	-
	07/21/92	0001			-4.12		-	-
	01/30/93	0001			60.61		-	-
	06/26/93	0001			-6.17		-	-
	12/10/93	0001			37.52		-	-
	06/06/94	0001			24.23		-	-
NICKEL	08/28/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/19/91	0001		<	0.04		0.04	-
	07/15/91	0001		<	0.014	IL	0.014	-
	01/13/92	0001		<	0.04		0.04	-
	07/21/92	0001		<	0.04		0.04	-
	01/30/93	0001		<	0.04		0.04	-
	06/26/93	0001		<	0.04		0.04	-
	12/10/93	0001		<	0.04		0.04	-
NITRATE	08/28/90	0001	MG/L		47.1	HJ	1.	-
	01/13/91	0001			54.5		1.	-
	04/19/91	0001			40.7		1.	-
	07/15/91	0001			44	L	0.22	-
	01/13/92	0001			56.5		4.	-
	07/21/92	0001			39.3		1	-
	01/30/93	0001			82.8		1	-
	06/26/93	0001			31.9		5.0	-
	12/10/93	0001			60.6		1.0	-
PH	08/28/90	0001	SU		7.77		-	-
	01/13/91	0001			7.13		-	-
	04/19/91	0001			7.21		-	-
	07/15/91	0001			7.42	L	-	-
	01/13/92	0001			7.08		-	-
	07/21/92	0001			7.08		-	-
	01/30/93	0001			6.55		-	-
	06/26/93	0001			6.78		-	-
	12/10/93	0001			6.67		-	-
PHOSPHATE	07/21/92	0001	MG/L	<	0.1		0.1	-
	01/30/93	0001		<	0.1		0.1	-
	06/26/93	0001		<	0.1		0.1	-
	12/10/93	0001		<	0.10		0.10	-
POTASSIUM	08/28/90	0001	MG/L		5.2		0.01	-
	01/13/91	0001			5.0		0.01	-
	04/19/91	0001			5.5		0.01	-
	07/15/91	0001			5.8	L	0.5	-
	01/13/92	0001			5.0		0.01	-
	07/21/92	0001			6.25		0.1	-
	01/30/93	0001			5.99		0.1	-
	06/26/93	0001			5.30		0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
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TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	12/10/93	0001	MG/L		7.19		0.10	-
	06/06/94	0001			6.9		0.1	-
RADIUM-226	08/28/90	0001	PCI/L		0.4		1.	0.3
	01/13/91	0001			0.7	J	1.	0.4
	04/19/91	0001			0.2		1.	0.2
	07/15/91	0001			0.1	L	1.	0.2
	01/13/92	0001			0.7		1.	0.4
	07/21/92	0001			1.5		0.3	0.5
	01/30/93	0001			2.3		0.8	0.8
	06/26/93	0001			2.2		1	0.6
	12/10/93	0001			1.4		0.3	0.3
	06/06/94	0001			0.6		0.1	0.2
RADIUM-226 + RADIUM-228	08/28/90	0001	PCI/L		7.60		-	-
	01/13/91	0001			1.20		-	-
	04/19/91	0001			0.40		-	-
	07/15/91	0001			0.40		-	-
	01/13/92	0001			6.50		-	-
	07/21/92	0001			5.40		-	-
	01/30/93	0001			6.90		-	-
	06/26/93	0001			3.00		-	-
	12/10/93	0001			1.90		-	-
	06/06/94	0001			4.50		-	-
RADIUM-228	08/28/90	0001	PCI/L		7.2	J	1.	2.2
	01/13/91	0001			0.5	J	1.	1.3
	04/19/91	0001			0.2	J	1.	1.6
	07/15/91	0001			0.3	L	1.	0.8
	01/13/92	0001			5.8		1.	2.4
	07/21/92	0001			3.9		3.5	2.4
	01/30/93	0001			4.6		2.5	1.9
	06/26/93	0001			0.8		1	1.9
	12/10/93	0001			0.5		0.7	0.4
	06/06/94	0001			3.9		8.2	4.4
REDOX POTENTIAL	01/30/93	0001	mVOLTS		463.1		-	-
	06/26/93	0001			193		-	-
	12/10/93	0001			-191		-	-
SELENIUM	08/28/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.05	I	0.05	-
	07/15/91	0001		<	0.011	IL	0.011	-
	01/13/92	0001		<	0.04		0.03	-
	07/21/92	0001		<	0.005		0.005	-
	01/30/93	0001		<	0.131	I	0.05	-
	06/26/93	0001		<	0.02	I	0.02	-
	12/10/93	0001		<	0.034		0.005	-
	06/06/94	0001		<	0.005		0.005	-
SILICA - SiO2	01/30/93	0001	MG/L		8.38		0.5	-
	06/26/93	0001			8.0		0.1	-
	12/10/93	0001			8.70	E	0.10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
NORTH COORDINATE: 59676.3 FT
EAST COORDINATE: 58869.3 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	06/06/94	0001	MG/L		8.3		0.1	-
SODIUM	08/28/90	0001	MG/L		2230.		0.002	-
	01/13/91	0001			2200.		5.	-
	04/19/91	0001			2220.		50.	-
	07/15/91	0001			1900	L	0.027	-
	01/13/92	0001			2050.		20.	-
	07/21/92	0001			1970		1	-
	01/30/93	0001			1340		1	-
	06/26/93	0001			1930.		5.	-
	12/10/93	0001			2090.		5.	-
	06/06/94	0001			2130		1	-
SPECIFIC CONDUCTANCE	08/28/90	0001	UMHO/CM		7000.		-	-
	01/13/91	0001			8590.		-	-
	04/19/91	0001			8570.		-	-
	07/15/91	0001			8450.	L	-	-
	01/13/92	0001			7080		-	-
	07/21/92	0001			7720		-	-
	01/30/93	0001			6130		-	-
	06/26/93	0001			7580		-	-
	12/10/93	0001			7080		-	-
SULFATE	08/28/90	0001	MG/L		4360.		0.1	-
	01/13/91	0001			3640.		10.	-
	04/19/91	0001			4480.		10.	-
	07/15/91	0001			4400	L	10.	-
	01/13/92	0001			4710.		10.	-
	07/21/92	0001			4480		1	-
	01/30/93	0001			4280		1	-
	06/26/93	0001			4300.		100.	-
	12/10/93	0001			4110.	I	76.	-
	06/06/94	0001			4760		1	-
SULFIDE	01/30/93	0001	MG/L	<	1		1	-
	06/26/93	0001		<	0.1		0.1	-
	12/10/93	0001		<	1.0		1.0	-
TEMPERATURE	08/28/90	0001	C - DEGREE		14.5		-	-
	01/13/91	0001			14.3		-	-
	04/19/91	0001			17.9		-	-
	07/15/91	0001			18.7	L	-	-
	01/13/92	0001			12.2		-	-
	07/21/92	0001			13.5		-	-
	01/30/93	0001			14.2		-	-
	06/26/93	0001			20.2		-	-
	12/10/93	0001			14.8		-	-
TOTAL DISSOLVED SOLIDS	08/28/90	0001	MG/L		7220.	H	10.	-
	01/13/91	0001			7260.		10.	-
	04/19/91	0001			7230.		10.	-
	07/15/91	0001			6900	L	10.	-
	01/13/92	0001			8010.		10.	-
	07/21/92	0001			7400		10	-
	01/30/93	0001			7240		10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0172 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59676.3 FT
 EAST COORDINATE: 58869.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	06/26/93	0001	MG/L		7260.		10.	-
	12/10/93	0001			7420.		10.	-
	06/06/94	0001			7910		10	-
TOTAL KJELDAHL NITROGEN	01/13/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/28/90	0001	MG/L		15.		1.	-
	01/13/91	0001			9.		1.	-
	04/19/91	0001			6.		1.	-
	07/15/91	0001			6.6	L	1.	-
	01/13/92	0001			6.		1.	-
	07/21/92	0001			7	*	1	-
	01/30/93	0001			8.1	N	1	-
	06/26/93	0001			7.		1.	-
	12/10/93	0001			7.6	J	1.0	-
TURBIDITY	12/10/93	0001	NTU		0		-	-
URANIUM	08/28/90	0001	MG/L		0.058		0.001	-
	01/13/91	0001			0.053		0.001	-
	04/19/91	0001			0.042		0.001	-
	07/15/91	0001			0.0370	L	0.0003	-
	01/13/92	0001			0.015		0.001	-
	07/21/92	0001			0.006		0.001	-
	01/30/93	0001			0.001		0.001	-
	06/26/93	0001			0.009		0.001	-
	12/10/93	0001			0.023		0.001	-
VANADIUM	06/06/94	0001			0.031		0.001	-
	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/15/91	0001		<	0.011	IL	0.011	-
	01/13/92	0001		<	0.01		0.01	-
	07/21/92	0001			0.0209		0.01	-
	01/30/93	0001		<	0.01		0.01	-
	06/26/93	0001		<	0.01		0.01	-
	12/10/93	0001		<	0.01		0.01	-
	06/06/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/28/90	0001	MG/L CaCO3		856.		-	-
	01/13/91	0001			856.		-	-
	04/19/91	0001			848.		-	-
	07/15/91	0001			860.		-	-
	01/10/92	0001			861		-	-
	07/22/92	0001			855	L	-	-
	01/29/93	0001			848		-	-
	06/24/93	0001			827		-	-
	12/11/93	0001			814		-	-
ALUMINUM	07/22/92	0001	MG/L		0.101	*L	0.05	-
	01/29/93	0001		<	0.05		0.05	-
	06/24/93	0001		<	0.05		0.05	-
	12/11/93	0001		<	0.05	E	0.05	-
	06/02/94	0001		<	0.05		0.05	-
AMMONIUM	08/28/90	0001	MG/L		0.9	J	0.1	-
	01/13/91	0001			0.75		0.01	-
	04/19/91	0001			1.0		0.1	-
	07/15/91	0001			0.24		0.03	-
	01/10/92	0001			0.9		0.1	-
	07/22/92	0001			0.691	L	0.1	-
	01/29/93	0001			0.5		0.1	-
	06/24/93	0001			0.8		0.1	-
	12/11/93	0001			0.79		0.10	-
ARSENIC	08/28/90	0001	MG/L	<	0.1		0.1	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.03	I	0.03	-
	07/15/91	0001		<	0.0023		0.0023	-
	01/10/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.005	L	0.005	-
	01/29/93	0001		<	0.005	W	0.005	-
	06/24/93	0001		<	0.08	IW	0.08	-
	12/11/93	0001		<	0.009	S	0.005	-
	06/02/94	0001		<	0.005	JW	0.005	-
CADMIUM	08/28/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/19/91	0001		<	0.001		0.001	-
	07/15/91	0001		<	0.0046	I	0.0046	-
	01/10/92	0001		<	0.001		0.001	-
	07/22/92	0001		<	0.001	LW	0.001	-
	01/29/93	0001		<	0.001		0.001	-
	06/24/93	0001		<	0.0005		0.0005	-
	12/11/93	0001		<	0.001	W	0.001	-
	06/02/94	0001		<	0.001		0.001	-
CALCIUM	08/28/90	0001	MG/L		117.		0.01	-
	01/13/91	0001			114.		0.5	-
	04/19/91	0001			116.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
NORTH COORDINATE: 59820.3 FT
EAST COORDINATE: 59004.4 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	07/15/91	0001	MG/L		120		0.014	-
	01/10/92	0001			124.		0.5	-
	07/22/92	0001			134	L	0.5	-
	01/29/93	0001			121		0.5	-
	06/24/93	0001			138.		1.0	-
	12/11/93	0001			141.		1.0	-
	06/02/94	0001			144		0.5	-
CHLORIDE	08/28/90	0001	MG/L		127.	H	1.	-
	01/13/91	0001			127.		0.5	-
	04/19/91	0001			128.		0.5	-
	07/15/91	0001			120		0.5	-
	01/10/92	0001			147.		1.	-
	07/22/92	0001			125	L	0.5	-
	01/29/93	0001			130		0.5	-
	06/24/93	0001			144.		1.	-
	12/11/93	0001			183.		0.50	-
	06/02/94	0001			153		0.5	-
CHROMIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/15/91	0001		<	0.016	I	0.016	-
	01/10/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
	01/29/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/11/93	0001		<	0.01		0.01	-
	06/02/94	0001		<	0.01		0.01	-
COBALT	06/24/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/15/91	0001	MG/L		12		1.	-
	06/02/94	0001			14		1	-
DISSOLVED OXYGEN	01/29/93	0001	MG/L		0.0		-	-
	06/24/93	0001			0.0		-	-
	12/11/93	0001			0.02		-	-
GROSS ALPHA	08/28/90	0001	PCI/L		0.		1.	27.7
	01/13/91	0001			54.9		1.	36.7
	04/19/91	0001			0.0		1.	48.7
	07/15/91	0001			0		1.	62
	01/10/92	0001			32.5		1.	58.4
	07/22/92	0001			39.4	L	46.9	35.2
	01/29/93	0001			43.4		57.2	43.4
	06/24/93	0001			0		1	42
	12/11/93	0001			0.0		38.0	21.1
	06/02/94	0001			12.8	N	23.4	11.2
GROSS BETA	08/28/90	0001	PCI/L		0.		0.5	20.7
	01/13/91	0001			96.8		0.5	27.2
	04/19/91	0001			0.0		0.5	27.0
	07/15/91	0001			4		0.5	42

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	01/10/92	0001	PCI/L		18.4		0.5	41.6
	07/22/92	0001			27.2	L	35.9	23.0
	01/29/93	0001			101.		76.8	50.7
	06/24/93	0001			0		0.5	49
	12/11/93	0001			55.7		51.4	34.0
IRON	08/28/90	0001	MG/L		0.03		0.03	-
	01/13/91	0001			0.05		0.03	-
	04/19/91	0001		<	0.03		0.03	-
	07/15/91	0001			0.094	J	0.005	-
	01/10/92	0001		<	0.03		0.03	-
	07/22/92	0001		<	0.03	L	0.03	-
	01/29/93	0001		<	0.03		0.03	-
	06/24/93	0001		<	0.03		0.03	-
	12/11/93	0001		<	0.03		0.03	-
	06/02/94	0001		<	0.03		0.03	-
LEAD	08/28/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.005		0.005	-
	07/15/91	0001		<	0.011	I	0.011	-
	01/10/92	0001		<	0.03	I	0.03	-
	07/22/92	0001		<	0.003	L	0.003	-
	01/29/93	0001		<	0.03	I	0.03	-
	06/24/93	0001		<	0.003	W	0.003	-
	12/11/93	0001		<	0.003		0.003	-
	06/02/94	0001		<	0.003		0.003	-
MAGNESIUM	08/28/90	0001	MG/L		66.0		0.001	-
	01/13/91	0001			63.6		0.5	-
	04/19/91	0001			65.3		0.5	-
	07/15/91	0001			60		0.028	-
	01/10/92	0001			69.4		0.5	-
	07/22/92	0001			70.8	L	0.1	-
	01/29/93	0001			65.4		0.1	-
	06/24/93	0001			74.0		0.5	-
	12/11/93	0001			80.0		0.5	-
	06/02/94	0001			76.8		0.1	-
MANGANESE	01/29/93	0001	MG/L		0.0701		0.01	-
	06/24/93	0001			0.07		0.01	-
	12/11/93	0001			0.08	E	0.01	-
	06/02/94	0001			0.09		0.01	-
MOLYBDENUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/15/91	0001		<	0.011	I	0.011	-
	01/10/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
	01/29/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/11/93	0001			0.01		0.01	-
					0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	06/02/94	0001	MG/L		0.01		0.01	-
NET GROSS ALPHA *	08/28/90	0001	PCI/L		-2.06		-	-
	01/13/91	0001			54.56		-	-
	04/19/91	0001			-1.37		-	-
	07/15/91	0001			-0.27		-	-
	01/10/92	0001			31.81		-	-
	07/22/92	0001			39.06		-	-
	01/29/93	0001			42.71		-	-
	06/24/93	0001			-1.37		-	-
	12/11/93	0001			-3.43		-	-
	06/02/94	0001			12.46		-	-
NICKEL	08/28/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/19/91	0001		<	0.04		0.04	-
	07/15/91	0001			0.015		0.007	-
	01/10/92	0001		<	0.04		0.04	-
	07/22/92	0001		<	0.04	L	0.04	-
	01/29/93	0001		<	0.04		0.04	-
	06/24/93	0001		<	0.04		0.04	-
	12/11/93	0001		<	0.04		0.04	-
	06/02/94	0001		<	0.04		0.04	-
NITRATE	08/28/90	0001	MG/L		2.3	HJ	1.	-
	01/13/91	0001			1.3		1.	-
	04/19/91	0001		<	1.0		1.	-
	07/15/91	0001			5.3		0.22	-
	01/10/92	0001		<	1.0		1.	-
	07/22/92	0001			1.52	L	1	-
	01/29/93	0001		<	1		1	-
	06/24/93	0001		<	2.0	I	2.0	-
	12/11/93	0001			1.0		1.0	-
PH	08/28/90	0001	SU		7.16		-	-
	01/13/91	0001			6.94		-	-
	04/19/91	0001			7.02		-	-
	07/15/91	0001			7.04		-	-
	01/10/92	0001			7.05		-	-
	07/22/92	0001			6.99	L	-	-
	01/29/93	0001			7.05		-	-
	06/24/93	0001			6.82		-	-
	12/11/93	0001			6.92		-	-
PHOSPHATE	07/22/92	0001	MG/L	<	0.1	L	0.1	-
	01/29/93	0001		<	0.1		0.1	-
	06/24/93	0001		<	0.1		0.1	-
	12/11/93	0001		<	0.10		0.10	-
POTASSIUM	08/28/90	0001	MG/L		4.2		0.01	-
	01/13/91	0001			4.3		0.01	-
	04/19/91	0001			4.6		0.01	-
	07/15/91	0001			4.5		0.5	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	01/10/92	0001	MG/L		4.2		0.01	-
	07/22/92	0001			5.06	L	0.1	-
	01/29/93	0001			5.06		0.1	-
	06/24/93	0001			6.77		0.01	-
	12/11/93	0001			5.87		0.10	-
	06/02/94	0001			5.3		0.1	-
RADIUM-226	08/28/90	0001	PCI/L		0.5		1.	0.3
	01/13/91	0001			2.6	J	1.	1.0
	04/19/91	0001			1.4		1.	0.4
	07/15/91	0001			0.4		1.	0.2
	01/10/92	0001			1.7		1.	0.6
	07/22/92	0001			1.8	L	0.3	0.5
	01/29/93	0001			1.4		1.1	0.8
	06/24/93	0001			2.2		1	0.7
	12/11/93	0001			1.7		0.3	0.4
	06/02/94	0001			1.2		0.2	0.4
RADIUM-226 + RADIUM-228	08/28/90	0001	PCI/L		6.30		-	-
	01/13/91	0001			2.60		-	-
	04/19/91	0001			1.60		-	-
	07/15/91	0001			0.70		-	-
	01/10/92	0001			5.10		-	-
	07/22/92	0001			7.80		-	-
	01/29/93	0001			3.90		-	-
	06/24/93	0001			4.30		-	-
	12/11/93	0001			2.40		-	-
	06/02/94	0001			1.40		-	-
RADIUM-228	08/28/90	0001	PCI/L		5.8	J	1.	2.2
	01/13/91	0001			0.0	J	1.	2.3
	04/19/91	0001			0.2	J	1.	1.6
	07/15/91	0001			0.3		1.	0.9
	01/10/92	0001			3.4		1.	2.2
	07/22/92	0001			6.0	L	3.5	2.5
	01/29/93	0001			2.5		3.2	2.1
	06/24/93	0001			2.1		1	1.5
	12/11/93	0001			0.7		0.7	0.4
	06/02/94	0001			0.2		6.3	2.2
REDOX POTENTIAL	01/29/93	0001	mVOLTS		37.0		-	-
	06/24/93	0001			27		-	-
	12/11/93	0001			-275		-	-
SELENIUM	08/28/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/19/91	0001		<	0.05	I	0.05	-
	07/15/91	0001		<	0.011	I	0.011	-
	01/10/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.01	IL	0.01	-
	01/29/93	0001		<	0.05	I	0.05	-
	06/24/93	0001		<	0.05	I	0.05	-
	12/11/93	0001		<	0.007		0.005	-
	06/02/94	0001		<	0.005	JW	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SiO2	01/29/93	0001	MG/L		9.47		0.5	-
	06/24/93	0001			9.8		0.1	-
	12/11/93	0001			9.74	E	0.10	-
	06/02/94	0001			9.8		0.1	-
SODIUM	08/28/90	0001	MG/L		1860.		0.002	-
	01/13/91	0001			1930.		5.	-
	04/19/91	0001			1930.		50.	-
	07/15/91	0001			1600		0.027	-
	01/10/92	0001			1860.		20.	-
	07/22/92	0001			1980	L	1	-
	01/29/93	0001			1860		1	-
	06/24/93	0001			1860.		5.	-
	12/11/93	0001			1950.		5.	-
	06/02/94	0001			1830		1	-
SPECIFIC CONDUCTANCE	08/28/90	0001	UMHO/CM		6100.		-	-
	01/13/91	0001			7640.		-	-
	04/19/91	0001			7620.		-	-
	07/15/91	0001			7430.		-	-
	01/10/92	0001			6280		-	-
	07/22/92	0001			6920	L	-	-
	01/29/93	0001			6080		-	-
	06/24/93	0001			6710		-	-
	12/11/93	0001			6340		-	-
SULFATE	08/28/90	0001	MG/L		3490.		0.1	-
	01/13/91	0001			2820.		10.	-
	04/19/91	0001			3540.		10.	-
	07/15/91	0001			3400		10.	-
	01/10/92	0001			3740.		10.	-
	07/22/92	0001			3650	L	1	-
	01/29/93	0001			3460		1	-
	06/24/93	0001			3430.		60.	-
	12/11/93	0001			3180.	I	38.	-
SULFIDE	06/02/94	0001			3520		1	-
	01/29/93	0001	MG/L		8		1	-
	06/24/93	0001			9.8		0.1	-
TEMPERATURE	12/11/93	0001			12.7		1.0	-
	08/28/90	0001	C - DEGREE		13.0		-	-
	01/13/91	0001			15.0		-	-
	04/19/91	0001			16.1		-	-
	07/15/91	0001			17.0		-	-
	01/10/92	0001			14.3		-	-
	07/22/92	0001			18.3	L	-	-
	01/29/93	0001			14.4		-	-
	06/24/93	0001			17.6		-	-
	12/11/93	0001			15.0		-	-
TOTAL DISSOLVED SOLIDS	08/28/90	0001	MG/L		6090.	H	10.	-
	01/13/91	0001			6250.		10.	-
	04/19/91	0001			6100.		10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0173 POC MONITOR WELL (DOWN GRADIENT)
 NORTH COORDINATE: 59820.3 FT
 EAST COORDINATE: 59004.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	07/15/91	0001	MG/L		5900		10.	-
	01/10/92	0001			6180.		10.	-
	07/22/92	0001			6160	L	10	-
	01/29/93	0001			6190		10	-
	06/24/93	0001			6250.		10.	-
	12/11/93	0001			6200.		10.	-
	06/02/94	0001			6320		10	-
TOTAL KJELDAHL NITROGEN	01/10/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/28/90	0001	MG/L		11.		1.	-
	01/13/91	0001			11.		1.	-
	04/19/91	0001			11.		1.	-
	07/15/91	0001			12		1.	-
	01/10/92	0001			9.		1.	-
	07/22/92	0001			13.4	*L	1	-
	01/29/93	0001			12.9	N	1	-
	06/24/93	0001			12.		1.	-
	12/11/93	0001			12.5	J	1.0	-
TURBIDITY	12/11/93	0001	NTU		4		-	-
URANIUM	08/28/90	0001	MG/L		0.003		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/19/91	0001			0.002		0.001	-
	07/15/91	0001			0.0004		0.0003	-
	01/10/92	0001			0.001		0.001	-
	07/22/92	0001		<	0.001	L	0.001	-
	01/29/93	0001			0.001		0.001	-
	06/24/93	0001			0.002		0.001	-
	12/11/93	0001			0.005	J	0.001	-
	06/02/94	0001		<	0.001		0.001	-
VANADIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/19/91	0001		<	0.01		0.01	-
	07/15/91	0001		<	0.011	I	0.011	-
	01/10/92	0001		<	0.01		0.01	-
	07/22/92	0001			0.0219	L	0.01	-
	01/29/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/11/93	0001		<	0.01		0.01	-
	06/02/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/28/90	0001	MG/L CACO3		904.		-	-
	01/13/91	0001			907.		-	-
	04/18/91	0001			901.		-	-
	07/14/91	0001			898.		-	-
	01/09/92	0001			907		-	-
	07/20/92	0001			892		-	-
	01/31/93	0001			889		-	-
	06/24/93	0001			887		-	-
	12/12/93	0001			870		-	-
ALUMINUM	07/20/92	0001	MG/L		0.0762	*	0.05	-
	01/31/93	0001		<	0.05		0.05	-
	06/24/93	0001		<	0.05		0.05	-
	12/12/93	0001		<	0.05	E	0.05	-
	06/04/94	0001		<	0.05		0.05	-
AMMONIUM	08/28/90	0001	MG/L		0.9	J	0.1	-
	01/13/91	0001			0.86		0.01	-
	04/18/91	0001			1.1		0.1	-
	07/14/91	0001			0.38		0.03	-
	01/09/92	0001			0.9		0.1	-
	07/20/92	0001			0.732		0.1	-
	01/31/93	0001			0.56		0.1	-
	06/24/93	0001			0.9		0.1	-
	12/12/93	0001			0.90		0.10	-
ARSENIC	08/28/90	0001	MG/L	<	0.1		0.1	-
	01/13/91	0001		<	0.05	I	0.05	-
	04/18/91	0001		<	0.05	I	0.05	-
	07/14/91	0001		<	0.0023		0.0023	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.005		0.005	-
	01/31/93	0001		<	0.005	W	0.005	-
	06/24/93	0001		<	0.08	I	0.08	-
	12/12/93	0001		<	0.005		0.005	-
	06/04/94	0001		<	0.005	JW	0.005	-
CADMIUM	08/28/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/18/91	0001		<	0.001		0.001	-
	07/14/91	0001		<	0.0046	I	0.0046	-
	01/09/92	0001		<	0.001		0.001	-
	07/20/92	0001		<	0.001	W	0.001	-
	01/31/93	0001		<	0.001	W	0.001	-
	06/24/93	0001		<	0.0005		0.0005	-
	12/12/93	0001		<	0.001		0.001	-
CALCIUM	06/04/94	0001		<	0.001		0.001	-
	08/28/90	0001	MG/L		75.3		0.01	-
	01/13/91	0001			72.6		0.5	-
	04/18/91	0001			73.8		0.5	-
	07/14/91	0001			75		0.014	-
	01/09/92	0001			73.3		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	07/20/92	0001	MG/L		77.4		0.5	-
	01/31/93	0001			72.6		0.5	-
	06/24/93	0001			80.1		1.0	-
	12/12/93	0001			90.1		1.0	-
	06/04/94	0001			85.5		0.5	-
CHLORIDE	08/28/90	0001	MG/L		114.	H	1.	-
	01/13/91	0001			109.		0.5	-
	04/18/91	0001			124.		0.5	-
	07/14/91	0001			110		0.5	-
	01/09/92	0001			153.		1.	-
	07/20/92	0001			111		0.5	-
	01/31/93	0001			106		0.5	-
	06/24/93	0001			142.		1.	-
	12/12/93	0001			148.		0.50	-
	06/04/94	0001			127		0.5	-
CHROMIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.016	I	0.016	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.01		0.01	-
	01/31/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	06/04/94	0001		<	0.01		0.01	-
COBALT	06/24/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/14/91	0001	MG/L		7.9		1.	-
	06/04/94	0001			15		1	-
DISSOLVED OXYGEN	01/31/93	0001	MG/L		0.0		-	-
	06/24/93	0001			0.0		-	-
	12/12/93	0001			0.01		-	-
GROSS ALPHA	08/28/90	0001	PCI/L		0.		1.	31.0
	01/13/91	0001			36.7		1.	36.4
	04/18/91	0001			0.0		1.	49.4
	07/14/91	0001			0		1.	52
	01/09/92	0001			6.5		1.	61.1
	07/20/92	0001			6.1		46.9	29.1
	01/31/93	0001			0.0		66.7	38.7
	06/23/93	0001			16		1	82
	12/12/93	0001			57.0		51.8	41.0
	06/04/94	0001			0.0	N	26.6	9.7
GROSS BETA	08/28/90	0001	PCI/L		0.		0.5	20.4
	01/13/91	0001			72.5		0.5	23.3
	04/18/91	0001			0.0		0.5	27.2
	07/14/91	0001			5		0.5	38
	01/09/92	0001			9.2		0.5	40.1
	07/20/92	0001			41.5		35.9	23.9
	01/31/93	0001			0.0		83.8	48.5

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	06/23/93	0001	PCI/L		0		0.5	42
	12/12/93	0001			86.5		52.2	36.3
IRON	08/28/90	0001	MG/L		0.03		0.03	-
	01/13/91	0001			0.03		0.03	-
	04/18/91	0001		<	0.03		0.03	-
	07/14/91	0001			0.067	J	0.005	-
	01/09/92	0001		<	0.03		0.03	-
	07/20/92	0001		<	0.03		0.03	-
	01/31/93	0001		<	0.03		0.03	-
	06/24/93	0001		<	0.03		0.03	-
	12/12/93	0001		<	0.03		0.03	-
	06/04/94	0001		<	0.03		0.03	-
LEAD	08/28/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.005		0.005	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.03	I	0.03	-
	07/20/92	0001		<	0.003		0.003	-
	01/31/93	0001		<	0.03	I	0.03	-
	06/24/93	0001		<	0.003	W	0.003	-
	12/12/93	0001		<	0.003		0.003	-
	06/04/94	0001		<	0.003		0.003	-
MAGNESIUM	08/28/90	0001	MG/L		39.9		0.001	-
	01/13/91	0001			40.3		0.1	-
	04/18/91	0001			41.4		0.1	-
	07/14/91	0001			38		0.028	-
	01/09/92	0001			40.3		0.1	-
	07/20/92	0001			42.2		0.1	-
	01/31/93	0001			39.8		0.1	-
	06/24/93	0001			44.7		0.1	-
	12/12/93	0001			47.9		0.10	-
	06/04/94	0001			46.4		0.1	-
MANGANESE	01/31/93	0001	MG/L		0.0304		0.01	-
	06/24/93	0001			0.03		0.01	-
	12/12/93	0001			0.04	E	0.01	-
	06/04/94	0001			0.04		0.01	-
MOLYBDENUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.01		0.01	-
	01/31/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	06/04/94	0001		<	0.01		0.01	-
NET GROSS ALPHA *	08/28/90	0001	PCI/L		-6.86		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	01/13/91	0001	PCI/L		36.36		-	-
	04/18/91	0001			-0.34		-	-
	07/14/91	0001			-0.10		-	-
	01/09/92	0001			5.81		-	-
	07/20/92	0001			5.76		-	-
	01/31/93	0001			-0.34		-	-
	06/23/93	0001			15.66		-	-
	12/12/93	0001			56.66		-	-
	06/04/94	0001			-0.34		-	-
NICKEL	08/28/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/18/91	0001		<	0.04		0.04	-
	07/14/91	0001		<	0.014	I	0.014	-
	01/09/92	0001		<	0.04		0.04	-
	07/20/92	0001		<	0.04		0.04	-
	01/31/93	0001		<	0.04		0.04	-
	06/24/93	0001		<	0.04		0.04	-
	12/12/93	0001		<	0.04		0.04	-
NITRATE	08/28/90	0001	MG/L		2.6	HJ	1.	-
	01/13/91	0001		<	1.		1.	-
	04/18/91	0001		<	1.0		1.	-
	07/14/91	0001			4.1	J	0.22	-
	01/09/92	0001		<	1.0		1.	-
	07/20/92	0001			1.02		1	-
	01/31/93	0001		<	1		1	-
	06/24/93	0001		<	2.0	I	2.0	-
	12/12/93	0001		<	1.0		1.0	-
PH	08/28/90	0001	SU		7.31		-	-
	01/13/91	0001			7.16		-	-
	04/18/91	0001			7.16		-	-
	07/14/91	0001			7.23		-	-
	01/09/92	0001			7.21		-	-
	07/20/92	0001			7.18		-	-
	01/31/93	0001			7.20		-	-
	06/24/93	0001			6.95		-	-
	12/12/93	0001			6.73		-	-
PHOSPHATE	07/20/92	0001	MG/L		0.816		0.1	-
	01/31/93	0001		<	0.1		0.1	-
	06/24/93	0001		<	0.1		0.1	-
	12/12/93	0001		<	0.10		0.10	-
POTASSIUM	08/28/90	0001	MG/L		4.1		0.01	-
	01/13/91	0001			4.0		0.01	-
	04/18/91	0001			4.3		0.01	-
	07/14/91	0001			4.4		0.5	-
	01/09/92	0001			3.8		0.01	-
	07/20/92	0001			4.83		0.1	-
	01/31/93	0001			4.64		0.1	-
	06/24/93	0001			4.67		0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	12/12/93	0001	MG/L		5.30		0.10	-
	06/04/94	0001			4.9		0.1	-
RADIUM-226	08/28/90	0001	PCI/L		1.6		1.	0.5
	01/13/91	0001			0.7	J	1.	0.6
	04/18/91	0001			0.8		1.	0.3
	07/14/91	0001			0.1		1.	0.2
	01/09/92	0001			0.5		1.	0.4
	07/20/92	0001			1.1		0.3	0.4
	01/31/93	0001			0.6		0.8	0.6
	06/23/93	0001			1.1		1	0.6
	12/12/93	0001			0.8		0.3	0.3
	06/04/94	0001			0.3		0.1	0.2
RADIUM-226 + RADIUM-228	08/28/90	0001	PCI/L		4.20		-	-
	01/13/91	0001			1.30		-	-
	04/18/91	0001			1.40		-	-
	07/14/91	0001			0.20		-	-
	01/09/92	0001			0.60		-	-
	07/20/92	0001			1.10		-	-
	01/31/93	0001			3.50		-	-
	06/23/93	0001			2.20		-	-
	12/12/93	0001			0.90		-	-
	06/04/94	0001			2.20		-	-
RADIUM-228	08/28/90	0001	PCI/L		2.6	J	1.	1.9
	01/13/91	0001			0.6	J	1.	2.7
	04/18/91	0001			0.6	J	1.	1.6
	07/14/91	0001			0.1		1.	0.9
	01/09/92	0001			0.1		1.	1.8
	07/20/92	0001			0.0		4.5	2.6
	01/31/93	0001			2.9		2.5	1.7
	06/23/93	0001			1.1		1	1.6
	12/12/93	0001			0.1		0.7	0.4
	06/04/94	0001			1.9		5.8	1.9
REDOX POTENTIAL	01/31/93	0001	mVOLTS		39.0		-	-
	06/24/93	0001			10		-	-
	12/12/93	0001			-294		-	-
SELENIUM	08/28/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.05	I	0.05	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.005		0.005	-
	07/20/92	0001		<	0.01	I	0.01	-
	01/31/93	0001		<	0.05	I	0.05	-
	06/24/93	0001		<	0.02	IW	0.02	-
	12/12/93	0001			0.008		0.005	-
	06/04/94	0001		<	0.005	JW	0.005	-
SILICA - SiO2	01/31/93	0001	MG/L		9.53		0.5	-
	06/24/93	0001			9.8		0.1	-
	12/12/93	0001			9.76	E	0.10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SI02	06/04/94	0001	MG/L		10.2		0.1	-
SODIUM	08/28/90	0001	MG/L		1920.		0.002	-
	01/13/91	0001			1770.		5.	-
	04/18/91	0001			1900.		50.	-
	07/14/91	0001			1700		0.027	-
	01/09/92	0001			1840.		20.	-
	07/20/92	0001			1860		1	-
	01/31/93	0001			1840		1	-
	06/24/93	0001			1920.		5.	-
	12/12/93	0001			1930.		5.	-
	06/04/94	0001			1880		1	-
SPECIFIC CONDUCTANCE	08/28/90	0001	UMHO/CM		6000.		-	-
	01/13/91	0001			7330.		-	-
	04/18/91	0001			7410.		-	-
	07/14/91	0001			7280.		-	-
	01/09/92	0001			6030		-	-
	07/20/92	0001			6760		-	-
	01/31/93	0001			5800		-	-
	06/24/93	0001			6570		-	-
	12/12/93	0001			6260		-	-
SULFATE	08/28/90	0001	MG/L		3190.		0.1	-
	01/13/91	0001			2300.		10.	-
	04/18/91	0001			3300.		10.	-
	07/14/91	0001			3200		10.	-
	01/09/92	0001			3410.		10.	-
	07/20/92	0001			3280		1	-
	01/31/93	0001			3180		1	-
	06/24/93	0001			3200.		60.	-
	12/12/93	0001			3450.	I	19.	-
	06/04/94	0001			3330		1	-
SULFIDE	01/31/93	0001	MG/L		16.4		1	-
	06/24/93	0001			17.1		0.1	-
	12/12/93	0001			12.6		1.0	-
TEMPERATURE	08/28/90	0001	C - DEGREE		13.2		-	-
	01/13/91	0001			14.9		-	-
	04/18/91	0001			16.5		-	-
	07/14/91	0001			17.2		-	-
	01/09/92	0001			14.5		-	-
	07/20/92	0001			18.9		-	-
	01/31/93	0001			14.4		-	-
	06/24/93	0001			18.0		-	-
	12/12/93	0001			14.5		-	-
TOTAL DISSOLVED SOLIDS	08/28/90	0001	MG/L		5790.	H	10.	-
	01/13/91	0001			5800.		10.	-
	04/18/91	0001			5790.		10.	-
	07/14/91	0001			5600		10.	-
	01/09/92	0001			5790.		10.	-
	07/20/92	0001			5800		10	-
	01/31/93	0001			5900		10	-
	06/24/93	0001			5870.		10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0174 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59773.6 FT
 EAST COORDINATE: 59098.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	12/12/93	0001	MG/L		6080.		10.	-
	06/04/94	0001			6050		10	-
TOTAL KJELDAHL NITROGEN	01/09/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/28/90	0001	MG/L		26.		1.	-
	01/13/91	0001			14.		1.	-
	04/18/91	0001			9.		1.	-
	07/14/91	0001			9.0		1.	-
	01/09/92	0001			7.		1.	-
	07/20/92	0001			9	*	1	-
	01/31/93	0001			10.7	N	1	-
	06/24/93	0001			10.		1.	-
	12/12/93	0001			10.6	J	1.0	-
TURBIDITY	12/12/93	0001	NTU		1		-	-
URANIUM	08/28/90	0001	MG/L		0.010		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/18/91	0001		<	0.001		0.001	-
	07/14/91	0001		<	0.0003		0.0003	-
	01/09/92	0001			0.001		0.001	-
	07/20/92	0001		<	0.001		0.001	-
	01/31/93	0001		<	0.001		0.001	-
	06/23/93	0001		<	0.001		0.001	-
	12/12/93	0001		<	0.001	J	0.001	-
	06/04/94	0001		<	0.001		0.001	-
VANADIUM	08/28/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.01		0.01	-
	01/31/93	0001		<	0.01		0.01	-
	06/24/93	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	06/04/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/29/90	0001	MG/L CaCO3		934.		-	-
	04/18/91	0001			888.	L	-	-
	07/14/91	0001			925.	L	-	-
	01/09/92	0001			897	L	-	-
	07/20/92	0001			862	L	-	-
	01/30/93	0001			840	L	-	-
	06/23/93	0001			807	L	-	-
	12/12/93	0001			790	L	-	-
ALUMINUM	07/20/92	0001	MG/L		0.0828	*L	0.05	-
	01/30/93	0001		<	0.05	L	0.05	-
	06/23/93	0001		<	0.05	L	0.05	-
	12/12/93	0001		<	0.05	EL	0.05	-
	06/04/94	0001		<	0.05	L	0.05	-
AMMONIUM	08/29/90	0001	MG/L		0.48	J	0.1	-
	04/18/91	0001			0.6	L	0.1	-
	07/14/91	0001			0.21	L	0.03	-
	01/09/92	0001			0.5	L	0.1	-
	07/20/92	0001			0.422	L	0.1	-
	01/30/93	0001			0.27	L	0.1	-
	06/23/93	0001			0.5	L	0.1	-
	12/12/93	0001			0.42	L	0.10	-
ARSENIC	08/29/90	0001	MG/L	<	0.05		0.05	-
	04/18/91	0001		<	0.05	IL	0.05	-
	07/14/91	0001		<	0.0023	L	0.0023	-
	01/09/92	0001		<	0.01	L	0.01	-
	07/20/92	0001		<	0.005	L	0.005	-
	01/30/93	0001		<	0.005	LW	0.005	-
	06/23/93	0001		<	0.08	IL	0.08	-
	12/12/93	0001		<	0.005	L	0.005	-
	06/04/94	0001		<	0.005	JLW	0.005	-
CADMIUM	08/29/90	0001	MG/L	<	0.001		0.001	-
	04/18/91	0001		<	0.001	L	0.001	-
	07/14/91	0001		<	0.0046	IL	0.0046	-
	01/09/92	0001		<	0.001	L	0.001	-
	07/20/92	0001		<	0.001	LW	0.001	-
	01/30/93	0001		<	0.001	L	0.001	-
	06/23/93	0001		<	0.0005	L	0.0005	-
	12/12/93	0001		<	0.001	LW	0.001	-
	06/04/94	0001		<	0.001	L	0.001	-
CALCIUM	08/29/90	0001	MG/L		200.		0.01	-
	04/18/91	0001			191.	L	0.5	-
	07/14/91	0001			190	L	0.014	-
	01/09/92	0001			182.	L	0.5	-
	07/20/92	0001			183	L	0.5	-
	01/30/93	0001			193	L	0.5	-
	06/23/93	0001			230.	L	1.0	-
	12/12/93	0001			226.	L	1.0	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	06/04/94	0001	MG/L		213	L	0.5	-
CHLORIDE	08/29/90	0001	MG/L		120.	H	1.	-
	04/18/91	0001			127.	L	0.5	-
	07/14/91	0001			120	L	0.5	-
	01/09/92	0001			120.	L	1.	-
	07/20/92	0001			129	L	0.5	-
	01/30/93	0001			142	L	0.5	-
	06/23/93	0001			163.	L	1.	-
	12/12/93	0001			164.	L	0.50	-
	06/04/94	0001			165	L	0.5	-
CHROMIUM	08/29/90	0001	MG/L	<	0.01		0.01	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/14/91	0001		<	0.016	IL	0.016	-
	01/09/92	0001		<	0.01	L	0.01	-
	07/20/92	0001		<	0.01	L	0.01	-
	01/30/93	0001		<	0.01	L	0.01	-
	06/23/93	0001		<	0.01	L	0.01	-
	12/12/93	0001		<	0.01	L	0.01	-
	06/04/94	0001		<	0.01	L	0.01	-
COBALT	06/23/93	0001	MG/L	<	0.03	L	0.03	-
DISSOLVED ORGANIC CARBON	07/14/91	0001	MG/L		12	L	1.	-
	06/04/94	0001			12	L	1	-
DISSOLVED OXYGEN	06/23/93	0001	MG/L		2.1	L	-	-
	12/12/93	0001			5.5	L	-	-
GROSS ALPHA	08/29/90	0001	PCI/L		12.1		1.	35.8
	04/18/91	0001			0.0	L	1.	56.1
	07/14/91	0001			0	L	1.	65
	01/09/92	0001			0.0	L	1.	57.0
	07/20/92	0001			15.2	L	46.9	30.9
	01/30/93	0001			18.1	L	66.7	43.5
	06/23/93	0001			43	L	1	49
	12/12/93	0001			56.8	L	51.6	40.9
	06/04/94	0001			20.4	LN	22.9	10.3
GROSS BETA	08/29/90	0001	PCI/L		3.8		0.5	23.4
	04/18/91	0001			0.0	L	0.5	27.8
	07/14/91	0001			21	L	0.5	43
	01/09/92	0001			7.7	L	0.5	40.0
	07/20/92	0001			23.6	L	35.9	22.8
	01/30/93	0001			0.0	L	83.6	46.8
	06/23/93	0001			0	L	0.5	49
	12/12/93	0001			20.9	L	53.6	33.3
IRON	08/29/90	0001	MG/L		2.01		0.03	-
	04/18/91	0001			0.14	L	0.03	-
	07/14/91	0001			1.5	L	0.005	-
	01/09/92	0001			2.47	L	0.03	-
	07/20/92	0001			1.73	L	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	01/30/93	0001	MG/L		0.262	L	0.03	-
	06/23/93	0001			0.64	L	0.03	-
	12/12/93	0001			0.04	L	0.03	-
	06/04/94	0001		<	0.03	L	0.03	-
LEAD	08/29/90	0001	MG/L	<	0.03		0.03	-
	04/18/91	0001		<	0.005	L	0.005	-
	07/14/91	0001		<	0.011	IL	0.011	-
	01/09/92	0001		<	0.03	IL	0.03	-
	07/20/92	0001		<	0.003	L	0.003	-
	01/30/93	0001		<	0.03	IL	0.03	-
	06/23/93	0001		<	0.003	LW	0.003	-
	12/12/93	0001		<	0.003	L	0.003	-
	06/04/94	0001		<	0.003	L	0.003	-
MAGNESIUM	08/29/90	0001	MG/L		113.		0.001	-
	04/18/91	0001			108.	L	0.5	-
	07/14/91	0001			98	L	0.028	-
	01/09/92	0001			104.	L	0.5	-
	07/20/92	0001			100	L	0.1	-
	01/30/93	0001			105	L	0.1	-
	06/23/93	0001			121.	L	0.5	-
	12/12/93	0001			120.	L	0.5	-
	06/04/94	0001			106	L	0.1	-
MANGANESE	01/30/93	0001	MG/L		0.0814	L	0.01	-
	06/23/93	0001			0.14	L	0.01	-
	12/12/93	0001			0.09	EL	0.01	-
	06/04/94	0001			0.08	L	0.01	-
MOLYBDENUM	08/29/90	0001	MG/L	<	0.01		0.01	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/14/91	0001		<	0.011	IL	0.011	-
	01/09/92	0001		<	0.01	L	0.01	-
	07/20/92	0001		<	0.01	L	0.01	-
	01/30/93	0001			0.0104	L	0.01	-
	06/23/93	0001			0.02	L	0.01	-
	12/12/93	0001			0.04	L	0.01	-
	06/04/94	0001			0.02	L	0.01	-
NET GROSS ALPHA *	08/29/90	0001	PCI/L		1.81		-	-
	04/18/91	0001			-2.06		-	-
	07/14/91	0001			-2.33		-	-
	01/09/92	0001			-2.74		-	-
	07/20/92	0001			14.86		-	-
	01/30/93	0001			16.73		-	-
	06/23/93	0001			39.57		-	-
	12/12/93	0001			42.39		-	-
	06/04/94	0001			5.31		-	-
NICKEL	08/29/90	0001	MG/L	<	0.04		0.04	-
	04/18/91	0001		<	0.04	L	0.04	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	07/14/91	0001	MG/L	<	0.014	IL	0.014	-
	01/09/92	0001		<	0.04	L	0.04	-
	07/20/92	0001		<	0.04	L	0.04	-
	01/30/93	0001		<	0.04	L	0.04	-
	06/23/93	0001		<	0.04	L	0.04	-
	12/12/93	0001		<	0.04	L	0.04	-
	06/04/94	0001		<	0.04	L	0.04	-
NITRATE	08/29/90	0001	MG/L		1.4	HJ	1.	-
	04/18/91	0001		<	1.0	L	1.	-
	07/14/91	0001			3.8	JL	0.22	-
	01/09/92	0001		<	1.0	L	1.	-
	07/20/92	0001			1.07	L	1	-
	01/30/93	0001		<	1	L	1	-
	06/23/93	0001		<	2.0	IL	2.0	-
	12/12/93	0001		<	1.0	L	1.0	-
PH	08/29/90	0001	SU		7.19		-	-
	04/18/91	0001			6.86	L	-	-
	07/14/91	0001			7.14	L	-	-
	01/09/92	0001			6.96	L	-	-
	07/20/92	0001			7.01	L	-	-
	01/30/93	0001			6.96	L	-	-
	06/23/93	0001			6.80	L	-	-
	12/12/93	0001			6.82	L	-	-
PHOSPHATE	07/20/92	0001	MG/L		3.34	L	0.1	-
	01/30/93	0001			0.12	L	0.1	-
	06/23/93	0001			0.4	L	0.1	-
	12/12/93	0001			0.13	L	0.10	-
POTASSIUM	08/29/90	0001	MG/L		6.7		0.01	-
	04/18/91	0001			6.0	L	0.01	-
	07/14/91	0001			6.3	L	0.5	-
	01/09/92	0001			5.3	L	0.01	-
	07/20/92	0001			6.08	L	0.1	-
	01/30/93	0001			6.85	L	0.1	-
	06/23/93	0001			4.10	L	0.01	-
	12/12/93	0001			7.22	L	0.10	-
	06/04/94	0001			6.4	L	0.1	-
RADIUM-226	08/29/90	0001	PCI/L		1.0		1.	0.4
	04/18/91	0001			1.2	L	1.	0.4
	07/14/91	0001			0.3	L	1.	0.2
	01/09/92	0001			0.9	L	1.	0.5
	07/20/92	0001			2.5	L	0.3	0.6
	01/30/93	0001			2.2	L	0.8	0.8
	06/23/93	0001			3.7	L	1	0.8
	12/12/93	0001			3.2	L	0.3	0.5
	06/04/94	0001			3.2	L	0.1	0.5
RADIUM-226 + RADIUM-228	08/29/90	0001	PCI/L		4.60		-	-
	04/18/91	0001			2.50		-	-
	07/14/91	0001			1.80		-	-
	01/09/92	0001			2.80		-	-
	07/20/92	0001			3.20		-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228	01/30/93	0001	PCI/L		3.00		-	-
	06/23/93	0001			7.40		-	-
	12/12/93	0001			3.90		-	-
	06/04/94	0001			6.30		-	-
RADIUM-228	08/29/90	0001	PCI/L		3.6	J	1.	1.6
	04/18/91	0001			1.3	JL	1.	1.7
	07/14/91	0001			1.5	L	1.	1.0
	01/09/92	0001			1.9	L	1.	1.9
	07/20/92	0001			0.7	L	4.5	2.7
	01/30/93	0001			0.8	L	3.6	2.2
	06/23/93	0001			3.7	L	1	1.3
	12/12/93	0001			0.7	L	0.7	0.4
	06/04/94	0001			3.1	L	8.4	3.2
REDOX POTENTIAL	01/30/93	0001	mVOLTS		212.9	L	-	-
	06/23/93	0001			200	L	-	-
	12/12/93	0001			-109	L	-	-
SELENIUM	08/29/90	0001	MG/L	<	0.03		0.03	-
	04/18/91	0001		<	0.03	IL	0.03	-
	07/14/91	0001		<	0.011	IL	0.011	-
	01/09/92	0001		<	0.005	L	0.005	-
	07/20/92	0001		<	0.01	IL	0.01	-
	01/30/93	0001		<	0.05	IL	0.05	-
	06/23/93	0001		<	0.02	ILW	0.02	-
	12/12/93	0001			0.006	L	0.005	-
	06/04/94	0001		<	0.005	JLW	0.005	-
SILICA - SiO2	01/30/93	0001	MG/L		11.1	L	0.5	-
	06/23/93	0001			11.8	L	0.1	-
	12/12/93	0001			10.4	EL	0.10	-
	06/04/94	0001			10.2	L	0.1	-
SODIUM	08/29/90	0001	MG/L		1710.		0.002	-
	04/18/91	0001			1790.	L	50.	-
	07/14/91	0001			1600	L	0.027	-
	01/09/92	0001			1770.	L	20.	-
	07/20/92	0001			1720	L	1	-
	01/30/93	0001			1760	L	1	-
	06/23/93	0001			1800.	L	5.	-
	12/12/93	0001			1900.	L	5.	-
	06/04/94	0001			1710	L	1	-
SPECIFIC CONDUCTANCE	08/29/90	0001	UMHO/CM		6000.		-	-
	04/18/91	0001			7350.	L	-	-
	07/14/91	0001			7200.	L	-	-
	01/09/92	0001			5800	L	-	-
	07/20/92	0001			7760	L	-	-
	01/30/93	0001			5440	L	-	-
	06/23/93	0001			7580	L	-	-
	12/12/93	0001			5460	L	-	-
SULFATE	08/29/90	0001	MG/L		3470.		0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	04/18/91	0001	MG/L		3570.	L	10.	-
	07/14/91	0001			3500	L	10.	-
	01/09/92	0001			3660.	L	10.	-
	07/20/92	0001			3630	L	1	-
	01/30/93	0001			3620	L	1	-
	06/23/93	0001			3550.	L	80.	-
	12/12/93	0001			3600.	IL	19.	-
	06/04/94	0001			3560	L	1	-
SULFIDE	01/30/93	0001	MG/L		1.1	L	1	-
	06/23/93	0001			1.7	L	0.1	-
	12/12/93	0001		<	1.0	L	1.0	-
TEMPERATURE	08/29/90	0001	C - DEGREE		13.2		-	-
	04/18/91	0001			17.9	L	-	-
	07/14/91	0001			22.3	L	-	-
	01/09/92	0001			11.7	L	-	-
	07/20/92	0001			14.2	L	-	-
	01/30/93	0001			10.8	L	-	-
	06/23/93	0001			23.8	L	-	-
	12/12/93	0001			9.7	L	-	-
TOTAL DISSOLVED SOLIDS	08/29/90	0001	MG/L		6030.	H	10.	-
	04/18/91	0001			6140.	L	10.	-
	07/14/91	0001			6100	L	10.	-
	01/09/92	0001			6180.	L	10.	-
	07/20/92	0001			6160	L	10	-
	01/30/93	0001			6400	L	10	-
	06/23/93	0001			6420.	HL	10.	-
	12/12/93	0001			6300.	L	10.	-
	06/04/94	0001			6380	L	10	-
TOTAL KJELDAHL NITROGEN	01/09/92	0001	MG/L	<	2.	IL	2.	-
TOTAL ORGANIC CARBON	08/29/90	0001	MG/L		50.		1.	-
	04/18/91	0001			11.	L	1.	-
	07/14/91	0001			18	L	1.	-
	01/09/92	0001			11.	L	1.	-
	07/20/92	0001			13.3	*L	1	-
	01/30/93	0001			14.5	LN	1	-
	06/23/93	0001			12.	L	1.	-
	12/12/93	0001			11.7	JL	1.0	-
TURBIDITY	12/12/93	0001	NTU		33	L	-	-
URANIUM	08/29/90	0001	MG/L		0.015		0.001	-
	04/18/91	0001			0.003	L	0.001	-
	07/14/91	0001			0.0034	L	0.0003	-
	01/09/92	0001			0.004	L	0.001	-
	07/20/92	0001		<	0.001	L	0.001	-
	01/30/93	0001			0.002	L	0.001	-
	06/23/93	0001			0.005	L	0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0175 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59638.3 FT
 EAST COORDINATE: 59246.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	12/12/93	0001	MG/L		0.021	L	0.001	-
	06/04/94	0001			0.022	L	0.001	-
VANADIUM	08/29/90	0001	MG/L	<	0.01		0.01	-
	04/18/91	0001			0.03	L	0.01	-
	07/14/91	0001		<	0.011	IL	0.011	-
	01/09/92	0001		<	0.01	L	0.01	-
	07/20/92	0001			0.0479	L	0.01	-
	01/30/93	0001		<	0.01	L	0.01	-
	06/23/93	0001		<	0.01	L	0.01	-
	12/12/93	0001		<	0.01	L	0.01	-
	06/04/94	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/29/90	0001	MG/L CACO3		522.		-	-
	01/13/91	0001			659.		-	-
	04/18/91	0001			483.		-	-
	07/14/91	0001			509.		-	-
	01/09/92	0001			502		-	-
	01/31/93	0001			590		-	-
	06/23/93	0001			608		-	-
ALUMINUM	07/20/92	0001	MG/L		0.147	*	0.05	-
	01/31/93	0001		<	0.05		0.05	-
	06/23/93	0001		<	0.05		0.05	-
	01/17/94	0001		<	0.05	EL	0.05	-
	06/08/94	0001		<	0.05		0.05	-
AMMONIUM	08/29/90	0001	MG/L		0.2	J	0.1	-
	01/13/91	0001			0.19	J	0.01	-
	04/18/91	0001			0.1		0.1	-
	07/14/91	0001			0.080		0.03	-
	01/09/92	0001		<	0.1		0.1	-
	07/20/92	0001		<	0.1		0.1	-
	01/31/93	0001		<	0.1		0.1	-
	06/23/93	0001		<	0.1		0.1	-
	01/07/94	0001		<	0.10	L	0.10	-
ARSENIC	08/29/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.03	I	0.03	-
	07/14/91	0001		<	0.012	I	0.012	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.005		0.005	-
	01/31/93	0001		<	0.005	W	0.005	-
	06/23/93	0001		<	0.08	IW	0.08	-
	01/17/94	0001		<	0.005	LW	0.005	-
	06/08/94	0001		<	0.005	JW	0.005	-
CADMIUM	08/29/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/18/91	0001		<	0.001		0.001	-
	07/14/91	0001		<	0.0046	I	0.0046	-
	01/09/92	0001		<	0.001		0.001	-
	07/20/92	0001		<	0.001	W	0.001	-
	01/31/93	0001		<	0.001	W	0.001	-
	06/23/93	0001		<	0.0005		0.0005	-
	01/17/94	0001		<	0.001	LW	0.001	-
	06/08/94	0001		<	0.001		0.001	-
CALCIUM	08/29/90	0001	MG/L		446.		0.01	-
	01/13/91	0001			509.		0.01	-
	04/18/91	0001			484.		0.5	-
	07/14/91	0001			460		0.014	-
	01/09/92	0001			466.		0.5	-
	07/20/92	0001			395		0.5	-
	01/31/93	0001			366		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	06/23/93	0001	MG/L		407.		1.0	-
	01/17/94	0001			416.	L	1.0	-
	06/08/94	0001			390		0.5	-
CHLORIDE	08/29/90	0001	MG/L		548.	H	1.	-
	01/13/91	0001			606.		0.5	-
	04/18/91	0001			599.		1.	-
	07/14/91	0001			740		0.5	-
	01/09/92	0001			556.		8.	-
	07/20/92	0001			450		0.5	-
	01/31/93	0001			370		0.5	-
	06/23/93	0001			352.		2.	-
	01/07/94	0001			512.	L	0.50	-
	06/08/94	0001			435		0.5	-
CHROMIUM	08/29/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.016	I	0.016	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001		<	0.01		0.01	-
	01/31/93	0001		<	0.01		0.01	-
	06/23/93	0001			0.01		0.01	-
	01/17/94	0001			0.01	L	0.01	-
	06/08/94	0001		<	0.01		0.01	-
COBALT	06/23/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/14/91	0001	MG/L	<	1.0		1.	-
	06/08/94	0001			9		1	-
DISSOLVED OXYGEN	01/31/93	0001	MG/L		0.9		-	-
	06/23/93	0001			1.1		-	-
GROSS ALPHA	08/29/90	0001	PCI/L		49.6		1.	42.9
	01/13/91	0001			184.		1.	70.8
	04/18/91	0001			0.0		1.	81.3
	07/14/91	0001			2		1.	72
	01/09/92	0001			24.8		1.	81.1
	07/20/92	0001			132.		70.3	63.7
	01/31/93	0001			102.		68.3	58.9
	06/23/93	0001			98		1	94
	01/07/94	0001			49.4	L	56.6	38.5
	06/08/94	0001			134.0	JN	29.8	24.0
GROSS BETA	08/29/90	0001	PCI/L		2.6		0.5	27.0
	01/13/91	0001			253.		0.5	46.3
	04/18/91	0001			47.2		0.5	45.3
	07/14/91	0001			15		0.5	38
	01/09/92	0001			29.3		0.5	52.3
	07/20/92	0001			72.9		53.8	36.4
	01/31/93	0001			94.9		87.4	56.6
	06/23/93	0001			8		0.5	44
	01/07/94	0001			116.	L	79.4	53.9

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	08/29/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03		0.03	-
	04/18/91	0001		<	0.03		0.03	-
	07/14/91	0001		<	0.010	I	0.01	-
	01/09/92	0001		<	0.03		0.03	-
	07/20/92	0001		<	0.03		0.03	-
	01/31/93	0001		<	0.03		0.03	-
	06/23/93	0001		<	0.2	I	0.2	-
	01/17/94	0001		<	0.03	L	0.03	-
	06/08/94	0001		<	0.03		0.03	-
LEAD	08/29/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.03	I	0.03	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.03	I	0.03	-
	07/20/92	0001		<	0.003		0.003	-
	01/31/93	0001		<	0.03	I	0.03	-
	06/23/93	0001		<	0.003	W	0.003	-
	01/17/94	0001		<	0.003	L	0.003	-
	06/08/94	0001		<	0.003		0.003	-
MAGNESIUM	08/29/90	0001	MG/L		299.		0.001	-
	01/13/91	0001			377.		0.5	-
	04/18/91	0001			351.		0.5	-
	07/14/91	0001			300		0.028	-
	01/09/92	0001			328.		0.5	-
	07/20/92	0001			251		0.1	-
	01/31/93	0001			212		0.1	-
	06/23/93	0001			218.		0.1	-
	01/17/94	0001			237.	L	0.5	-
	06/08/94	0001			229		0.1	-
MANGANESE	01/31/93	0001	MG/L		0.108		0.01	-
	06/23/93	0001			0.14		0.01	-
	01/17/94	0001			0.11	EL	0.01	-
	06/08/94	0001			0.11		0.01	-
MOLYBDENUM	08/29/90	0001	MG/L		0.06		0.01	-
	01/13/91	0001			0.04		0.01	-
	04/18/91	0001			0.08		0.01	-
	07/14/91	0001			0.11		0.0057	-
	01/09/92	0001			0.11		0.01	-
	07/20/92	0001			0.134		0.01	-
	01/31/93	0001			0.118		0.01	-
	06/23/93	0001			0.11		0.01	-
	01/17/94	0001			0.11	EL	0.01	-
	06/08/94	0001			0.08		0.01	-
NET GROSS ALPHA *	08/29/90	0001	PCI/L		1.58		-	-
	01/13/91	0001			157.93		-	-
	04/18/91	0001			-27.44		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	07/14/91	0001	PCI/L		-31.48		-	-
	01/09/92	0001			-18.42		-	-
	07/20/92	0001			85.35		-	-
	01/31/93	0001			54.67		-	-
	06/23/93	0001			52.72		-	-
	01/07/94	0001			14.41		-	-
	06/08/94	0001			83.24		-	-
NICKEL	08/29/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/18/91	0001		<	0.04		0.04	-
	07/14/91	0001		<	0.014	I	0.014	-
	01/09/92	0001		<	0.04		0.04	-
	07/20/92	0001		<	0.04		0.04	-
	01/31/93	0001		<	0.04		0.04	-
	06/23/93	0001		<	0.04		0.04	-
	01/17/94	0001		<	0.04	L	0.04	-
	06/08/94	0001		<	0.04		0.04	-
NITRATE	08/29/90	0001	MG/L		232.	HJ	1.	-
	01/13/91	0001			293.		1.	-
	04/18/91	0001			251.		1.	-
	07/14/91	0001			290		0.22	-
	01/09/92	0001			290.		15.	-
	07/20/92	0001			199		1	-
	01/31/93	0001			129		1	-
	06/23/93	0001			120.		20.	-
	01/07/94	0001			195.	L	1.0	-
PH	08/29/90	0001	SU		6.96		-	-
	01/13/91	0001			6.72		-	-
	04/18/91	0001			6.66		-	-
	07/14/91	0001			6.76		-	-
	01/09/92	0001			6.74		-	-
	07/20/92	0001			6.80		-	-
	01/31/93	0001			6.95		-	-
	06/23/93	0001			6.67		-	-
PHOSPHATE	07/20/92	0001	MG/L	<	0.1		0.1	-
	01/31/93	0001		<	0.1		0.1	-
	06/23/93	0001		<	0.1		0.1	-
	01/07/94	0001			0.25	L	0.10	-
POTASSIUM	08/29/90	0001	MG/L		17.9		0.01	-
	01/13/91	0001			24.		5.	-
	04/18/91	0001			21.		5.	-
	07/14/91	0001			22		0.5	-
	01/09/92	0001			18.		5.	-
	07/20/92	0001			20		0.1	-
	01/31/93	0001			18.3		0.1	-
	06/23/93	0001			12.4		0.01	-
	01/17/94	0001			18.	L	5.	-
	06/08/94	0001			19.2		0.1	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	08/29/90	0001	PCI/L		1.2		1.	0.5
	01/13/91	0001			2.1	J	1.	0.6
	04/18/91	0001			0.7		1.	0.3
	07/14/91	0001			0.2		1.	0.2
	01/09/92	0001			1.3		1.	0.5
	07/20/92	0001			1.3		0.3	0.4
	01/31/93	0001			1.4		0.8	0.7
	06/23/93	0001			2.2		1	0.7
	01/07/94	0001			1.3	L	0.1	0.2
	06/08/94	0001			1.0		0.1	0.2
RADIUM-226 + RADIUM-228	08/29/90	0001	PCI/L		2.80		-	-
	01/13/91	0001			2.10		-	-
	04/18/91	0001			0.70		-	-
	07/14/91	0001			1.60		-	-
	01/09/92	0001			3.30		-	-
	07/20/92	0001			7.70		-	-
	01/31/93	0001			2.30		-	-
	06/23/93	0001			2.20		-	-
	01/07/94	0001			1.50		-	-
	06/08/94	0001			2.50		-	-
RADIUM-228	08/29/90	0001	PCI/L		1.6	J	1.	1.5
	01/13/91	0001			0.0	J	1.	1.8
	04/18/91	0001			0.0	J	1.	1.9
	07/14/91	0001			1.4		1.	1.4
	01/09/92	0001			2.0		1.	1.9
	07/20/92	0001			6.4		4.5	3.1
	01/31/93	0001			0.9		3.6	2.2
	06/23/93	0001			0		1	1.3
	01/07/94	0001			0.2	L	1.0	0.6
	06/08/94	0001			1.5		5.2	1.8
REDOX POTENTIAL	01/31/93	0001	mVOLTS		468.1		-	-
	06/23/93	0001			401		-	-
SELENIUM	08/29/90	0001	MG/L		0.400		0.005	-
	01/13/91	0001			0.23		0.05	-
	04/18/91	0001			0.440		0.005	-
	07/14/91	0001			0.38		0.0022	-
	01/09/92	0001			0.4		0.1	-
	07/20/92	0001			0.333	S	0.005	-
	01/31/93	0001			0.219	IS	0.05	-
	06/23/93	0001			0.15	I	0.02	-
	01/17/94	0001			0.101	L	0.005	-
	06/08/94	0001			0.281	S	0.005	-
SILICA - SiO2	01/31/93	0001	MG/L		10.5		0.5	-
	06/23/93	0001			10.2		0.1	-
	01/07/94	0001			11.4	L	0.10	-
	06/08/94	0001			10.6		0.1	-
SODIUM	08/29/90	0001	MG/L		1580.		0.002	-
	01/13/91	0001			1470.		5.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	04/18/91	0001	MG/L		1560.		50.	-
	07/14/91	0001			1400		0.027	-
	01/09/92	0001			1510.		20.	-
	07/20/92	0001			1630		1	-
	01/31/93	0001			1620		1	-
	06/23/93	0001			1730.		5.	-
	01/17/94	0001			1620.	L	5.	-
	06/08/94	0001			1550		1	-
SPECIFIC CONDUCTANCE	08/29/90	0001	UMHO/CM		7100.		-	-
	01/13/91	0001			8580.		-	-
	04/18/91	0001			8530.		-	-
	07/14/91	0001			8320.		-	-
	01/09/92	0001			6830		-	-
	07/20/92	0001			7490		-	-
	01/31/93	0001			6360		-	-
	06/23/93	0001			7280		-	-
SULFATE	08/29/90	0001	MG/L		4190.		0.1	-
	01/13/91	0001			3440.		10.	-
	04/18/91	0001			4180.		10.	-
	07/14/91	0001			4300		10.	-
	01/09/92	0001			4120.		10.	-
	07/20/92	0001			4150		1	-
	01/31/93	0001			3930		1	-
	06/23/93	0001			3820.		80.	-
	01/07/94	0001			3800.	IL	16.	-
	06/08/94	0001			4000		1	-
SULFIDE	01/31/93	0001	MG/L		1.1		1	-
	06/23/93	0001		<	0.1		0.1	-
	01/07/94	0001		<	1.0	L	1.0	-
TEMPERATURE	08/29/90	0001	C - DEGREE		14.4		-	-
	01/13/91	0001			15.0		-	-
	04/18/91	0001			16.3		-	-
	07/14/91	0001			18.3		-	-
	01/09/92	0001			13.3		-	-
	07/20/92	0001			19.6		-	-
	01/31/93	0001			14.1		-	-
	06/23/93	0001			18.6		-	-
TOTAL DISSOLVED SOLIDS	08/29/90	0001	MG/L		7540.	H	10.	-
	01/13/91	0001			8180.		10.	-
	04/18/91	0001			8070.		10.	-
	07/14/91	0001			6900		10.	-
	01/09/92	0001			10400.		10.	-
	07/20/92	0001			6870		10	-
	01/31/93	0001			7280		10	-
	06/23/93	0001			7220.	H	10.	-
	01/07/94	0001			7270.	HL	10.	-
	06/08/94	0001			7330		10	-
TOTAL KJELDAHL NITROGEN	01/09/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/29/90	0001	MG/L		16.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0176 POC MONITOR WELL (CROSS GRADIENT)
 NORTH COORDINATE: 59491.9 FT
 EAST COORDINATE: 59396.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	01/13/91	0001	MG/L		26.		1.	-
	04/18/91	0001			4.		1.	-
	07/14/91	0001			1.1		1.	-
	01/09/92	0001			4.		1.	-
	07/20/92	0001			7.1	*	1	-
	01/31/93	0001			9.5	N	1	-
	06/23/93	0001			10.		1.	-
	01/07/94	0001			60.7	L	1.0	-
URANIUM	08/29/90	0001	MG/L		0.070		0.001	-
	01/13/91	0001			0.038		0.001	-
	04/18/91	0001			0.040		0.001	-
	07/14/91	0001			0.0488		0.0003	-
	01/09/92	0001			0.063		0.001	-
	07/20/92	0001			0.068		0.001	-
	01/31/93	0001			0.069		0.001	-
	06/23/93	0001			0.066		0.001	-
	01/07/94	0001			0.051	L	0.001	-
	06/08/94	0001			0.074		0.001	-
VANADIUM	08/29/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.01		0.01	-
	07/20/92	0001			0.0927		0.01	-
	01/31/93	0001		<	0.01		0.01	-
	06/23/93	0001		<	0.01		0.01	-
	01/17/94	0001			0.02	L	0.01	-
	06/08/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/23/90	0001	MG/L CACO3		642.		-	-
	01/13/91	0001			680.		-	-
	04/21/91	0001			608.		-	-
	07/16/91	0001			835.	L	-	-
	01/12/92	0001			615		-	-
	07/22/92	0001			634	L	-	-
	01/27/93	0001			628		-	-
	06/23/93	0001			612		-	-
ALUMINUM	07/22/92	0001	MG/L		0.227	*L	0.05	-
	01/27/93	0001		<	0.05		0.05	-
	06/23/93	0001			0.06		0.05	-
	06/07/94	0001		<	0.05		0.05	-
AMMONIUM	08/23/90	0001	MG/L		0.23	J	0.1	-
	01/13/91	0001			0.33		0.01	-
	04/21/91	0001			0.4		0.1	-
	07/16/91	0001		<	0.030	L	0.03	-
	01/12/92	0001			0.3		0.1	-
	07/22/92	0001			0.144	L	0.1	-
	01/27/93	0001			0.13		0.1	-
	06/23/93	0001			0.2		0.1	-
ARSENIC	08/23/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	G	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-
	07/16/91	0001		<	0.012	IL	0.012	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.005	L	0.005	-
	01/27/93	0001		<	0.005		0.005	-
	06/23/93	0001		<	0.03	I	0.03	-
CADMIUM	08/23/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/16/91	0001		<	0.0046	IL	0.0046	-
	01/12/92	0001		<	0.001		0.001	-
	07/22/92	0001		<	0.001	LW	0.001	-
	01/27/93	0001		<	0.001		0.001	-
	06/23/93	0001		<	0.0005		0.0005	-
CALCIUM	08/23/90	0001	MG/L		5.24		0.01	-
	01/13/91	0001			4.9		0.1	-
	04/21/91	0001			4.7		0.1	-
	07/16/91	0001			4.2	L	0.014	-
	01/12/92	0001			4.9		0.1	-
	07/22/92	0001			5.13	L	0.5	-
	01/27/93	0001			4.16		0.5	-
	06/23/93	0001			4.8		0.1	-
	06/07/94	0001			4.8		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- G - PH > 9, POSSIBLE GROUT CONTAMINATION
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	08/23/90	0001	MG/L		64.	H	1.	-
	01/13/91	0001			81.		0.5	-
	04/21/91	0001			77.		0.5	-
	07/16/91	0001			69	L	0.5	-
	01/12/92	0001			67.		1.	-
	07/22/92	0001			62.2	L	0.5	-
	01/27/93	0001			58.5		0.5	-
	06/23/93	0001			67.		1.	-
	06/07/94	0001			54.8		0.5	-
CHROMIUM	08/23/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.016	IL	0.016	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/23/93	0001		<	0.01		0.01	-
	06/07/94	0001		<	0.01		0.01	-
COBALT	06/23/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/16/91	0001	MG/L	<	1.0	L	1.	-
	06/07/94	0001			3		1	-
DISSOLVED OXYGEN	01/27/93	0001	MG/L		1.1		-	-
	06/23/93	0001			0.1		-	-
GROSS ALPHA	08/23/90	0001	PCI/L		35.6	J	1.	18.3
	01/13/91	0001			0.0		1.	10.8
	04/21/91	0001			0.0		1.	21.8
	07/16/91	0001			15	L	1.	14
	01/12/92	0001			3.9		1.	18.9
	07/22/92	0001			9.1	L	20.1	13.7
	01/27/93	0001			12.0		22.6	16.1
	06/23/93	0001			0		1	22
	06/07/94	0001			6.3	N	9.5	4.0
GROSS BETA	08/23/90	0001	PCI/L		5.2	J	0.5	7.8
	01/13/91	0001			8.7		0.5	8.9
	04/21/91	0001			0.0		0.5	11.5
	07/16/91	0001			2.6	L	0.5	8.8
	01/12/92	0001			8.0		0.5	11.4
	07/22/92	0001			17.8	L	15.4	10.2
	01/27/93	0001			0.0		31.3	17.5
	06/23/93	0001			3		0.5	14
IRON	08/23/90	0001	MG/L		0.34		0.03	-
	01/13/91	0001		<	0.03		0.03	-
	04/21/91	0001		<	0.03		0.03	-
	07/16/91	0001			0.042	JL	0.005	-
	01/12/92	0001			0.09		0.03	-
	07/22/92	0001			0.0475	L	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE S1.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	01/27/93	0001	MG/L	<	0.03		0.03	-
	06/23/93	0001		<	0.03		0.03	-
	06/07/94	0001		<	0.03		0.03	-
LEAD	08/23/90	0001	MG/L	<	0.005	J	0.01	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.005		0.005	-
	07/16/91	0001		<	0.0021	L	0.0021	-
	01/12/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.003	L	0.003	-
	01/27/93	0001			0.0033	W	0.003	-
	06/23/93	0001		<	0.003	W	0.003	-
	06/07/94	0001		<	0.003		0.003	-
MAGNESIUM	08/23/90	0001	MG/L		1.78		0.001	-
	01/13/91	0001			1.4		0.1	-
	04/21/91	0001			1.3		0.1	-
	07/16/91	0001			1.1	L	0.028	-
	01/12/92	0001			1.4		0.1	-
	07/22/92	0001			1.34	L	0.1	-
	01/27/93	0001			1.14		0.1	-
	06/23/93	0001			1.4		0.1	-
	06/07/94	0001			1.3		0.1	-
MANGANESE	01/27/93	0001	MG/L		0.0105		0.01	-
	06/23/93	0001		<	0.01		0.01	-
	06/07/94	0001		<	0.01		0.01	-
MOLYBDENUM	08/23/90	0001	MG/L		0.06		0.01	-
	01/13/91	0001			0.09		0.01	-
	04/21/91	0001			0.10		0.01	-
	07/16/91	0001			0.071	L	0.0057	-
	01/12/92	0001			0.10		0.01	-
	07/22/92	0001			0.0707	L	0.01	-
	01/27/93	0001			0.0659		0.01	-
	06/23/93	0001			0.06		0.01	-
	06/07/94	0001			0.06		0.01	-
NET GROSS ALPHA *	08/23/90	0001	PCI/L		35.26		-	-
	01/13/91	0001			-1.37		-	-
	04/21/91	0001			-0.34		-	-
	07/16/91	0001			13.90		-	-
	01/12/92	0001			1.84		-	-
	07/22/92	0001			7.04		-	-
	01/27/93	0001			11.31		-	-
	06/23/93	0001			-1.37		-	-
	06/07/94	0001			5.61		-	-
NICKEL	08/23/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/21/91	0001		<	0.04		0.04	-
	07/16/91	0001		<	0.014	IL	0.014	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	01/12/92	0001	MG/L	<	0.04		0.04	-
	07/22/92	0001		<	0.04	L	0.04	-
	01/27/93	0001		<	0.04		0.04	-
	06/23/93	0001		<	0.04		0.04	-
	06/07/94	0001		<	0.04		0.04	-
NITRATE	08/23/90	0001	MG/L		1.2	HJ	1.	-
	01/13/91	0001			1.3		1.	-
	04/21/91	0001			1.3		1.	-
	07/16/91	0001			2.0	L	0.22	-
	01/12/92	0001		<	1.0		1.	-
	07/22/92	0001			4	L	1	-
	01/27/93	0001		<	1		1	-
	06/23/93	0001			2.9		1.0	-
PH	08/23/90	0001	SU		8.40		-	-
	01/13/91	0001			8.31		-	-
	04/21/91	0001			8.37		-	-
	07/16/91	0001			8.30	L	-	-
	01/12/92	0001			8.66		-	-
	07/22/92	0001			8.34	L	-	-
	01/27/93	0001			8.55		-	-
	06/23/93	0001			8.15		-	-
PHOSPHATE	07/22/92	0001	MG/L	<	0.1	L	0.1	-
	01/27/93	0001			0.12		0.1	-
	06/23/93	0001			0.2		0.1	-
POTASSIUM	08/23/90	0001	MG/L		1.89		0.01	-
	01/13/91	0001			1.20		0.01	-
	04/21/91	0001			1.26		0.01	-
	07/16/91	0001			1.4	L	0.5	-
	01/12/92	0001			1.00		0.01	-
	07/22/92	0001			1.24	L	0.1	-
	01/27/93	0001			1.13		0.1	-
	06/23/93	0001			0.96		0.01	-
	06/07/94	0001			1.2		0.1	-
RADIUM-226	08/23/90	0001	PCI/L		0.1		1.	0.1
	01/13/91	0001			0.1	J	1.	0.2
	04/21/91	0001			0.1		1.	0.1
	07/16/91	0001			0.1	L	1.	0.1
	01/12/92	0001			0.1		1.	0.3
	07/22/92	0001			0.2	L	0.3	0.2
	01/27/93	0001			0.0		1.1	0.6
	06/23/93	0001			0		1	0.5
	06/07/94	0001			0.1		0.1	0.1
RADIUM-226 + RADIUM-228	08/23/90	0001	PCI/L		0.10		-	-
	01/13/91	0001			0.90		-	-
	04/21/91	0001			1.80		-	-
	07/16/91	0001			0.30		-	-
	01/12/92	0001			1.40		-	-
	07/22/92	0001			3.60		-	-
	01/27/93	0001			0.90		-	-
	06/23/93	0001			0.00		-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228	06/07/94	0001	PCI/L		1.20		-	-
RADIUM-228	08/23/90	0001	PCI/L		0.0		1.	1.4
	01/13/91	0001			0.8	J	1.	1.1
	04/21/91	0001			1.7	J	1.	1.3
	07/16/91	0001			0.2	L	1.	0.8
	01/12/92	0001			1.3		1.	2.2
	07/22/92	0001			3.4	L	3.5	2.3
	01/27/93	0001			0.9		3.2	2.0
	06/23/93	0001			0		1	1.4
	06/07/94	0001			1.1		6.2	2.6
REDOX POTENTIAL	01/27/93	0001	mVOLTS		454.2		-	-
	06/23/93	0001			406		-	-
SELENIUM	08/23/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-
	07/16/91	0001		<	0.0022	L	0.0022	-
	01/12/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.005	L	0.005	-
	01/27/93	0001		<	0.005	W	0.005	-
	06/23/93	0001		<	0.02	I	0.02	-
	06/07/94	0001		<	0.005	JW	0.005	-
SILICA - SiO2	01/27/93	0001	MG/L		9.11		0.5	-
	06/23/93	0001			9.9		0.1	-
	06/07/94	0001			9.7		0.1	-
SODIUM	08/23/90	0001	MG/L		750.		0.002	-
	01/13/91	0001			810.	J	5.	-
	04/21/91	0001			771.		5.	-
	07/16/91	0001			690	L	0.027	-
	01/12/92	0001			822.		5.	-
	07/22/92	0001			723	L	1	-
	01/27/93	0001			797		1	-
	06/23/93	0001			800.		5.	-
	06/07/94	0001			799		1	-
SPECIFIC CONDUCTANCE	08/23/90	0001	UMHO/CM		2450.		-	-
	01/13/91	0001			3280.		-	-
	04/21/91	0001			3370.		-	-
	07/16/91	0001			3080.	L	-	-
	01/12/92	0001			2650		-	-
	07/22/92	0001			2850	L	-	-
	01/27/93	0001			2480		-	-
	06/23/93	0001			2930		-	-
SULFATE	08/23/90	0001	MG/L		835.		0.1	-
	01/13/91	0001			881.		10.	-
	04/21/91	0001			1040.		10.	-
	07/16/91	0001			870	L	10.	-
	01/12/92	0001			975.		10.	-
	07/22/92	0001			914	L	1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	01/27/93	0001	MG/L		899		1	-
	06/23/93	0001			974.		10.	-
	06/07/94	0001			980		1	-
SULFIDE	01/27/93	0001	MG/L	<	1		1	-
	06/23/93	0001			0.4		0.1	-
TEMPERATURE	08/23/90	0001	C - DEGREE		13.1		-	-
	01/13/91	0001			15.2		-	-
	04/21/91	0001			17.5		-	-
	07/16/91	0001			19.0	L	-	-
	01/12/92	0001			13.7		-	-
	07/22/92	0001			19.4	L	-	-
	01/27/93	0001			14.0		-	-
	06/23/93	0001			19.8		-	-
TOTAL DISSOLVED SOLIDS	08/23/90	0001	MG/L		2130.	H	10.	-
	01/13/91	0001			2260.		10.	-
	04/21/91	0001			2270.		10.	-
	07/16/91	0001			2000	L	10.	-
	01/12/92	0001			2240.		10.	-
	07/22/92	0001			2090	L	10	-
	01/27/93	0001			2120		10	-
	06/23/93	0001			2210.	H	10.	-
	06/07/94	0001			2230		10	-
TOTAL KJELDAHL NITROGEN	01/12/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/23/90	0001	MG/L		10.		1.	-
	01/13/91	0001			65.		1.	-
	04/21/91	0001			12.		1.	-
	07/16/91	0001			1.1	L	1.	-
	01/12/92	0001			6.		1.	-
	07/22/92	0001			2.6	*L	1	-
	01/27/93	0001			4	N	1	-
	06/23/93	0001			3.		1.	-
URANIUM	08/23/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001			0.002		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/16/91	0001			0.0016	L	0.0003	-
	01/12/92	0001			0.003		0.001	-
	07/22/92	0001			0.003	L	0.001	-
	01/27/93	0001			0.001		0.001	-
	06/23/93	0001			0.002		0.001	-
	06/07/94	0001			0.001		0.001	-
VANADIUM	08/23/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.011	IL	0.011	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001			0.0113	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0177 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58983.9 FT
 EAST COORDINATE: 58967.4 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	01/27/93	0001	MG/L	<	0.01		0.01	-
	06/23/93	0001		<	0.01		0.01	-
	06/07/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/24/90	0001	MG/L CaCO3		643.		-	-
	01/13/91	0001			619.		-	-
	04/20/91	0001			640.	L	-	-
	07/17/91	0001			635.	L	-	-
	01/14/92	0001			560	L	-	-
	07/23/92	0001			561	L	-	-
	01/28/93	0001			554	L	-	-
	06/22/93	0001			548	L	-	-
	12/13/93	0001			522	L	-	-
ALUMINUM	07/23/92	0001	MG/L		0.26	*L	0.05	-
	01/28/93	0001		<	0.05	L	0.05	-
	06/22/93	0001		<	0.05	L	0.05	-
	12/13/93	0001			0.25	EL	0.05	-
	06/05/94	0001		<	0.05	L	0.05	-
AMMONIUM	08/24/90	0001	MG/L		0.27	J	0.1	-
	01/13/91	0001			0.28	J	0.01	-
	04/20/91	0001			0.3	L	0.1	-
	07/17/91	0001			0.10	L	0.03	-
	01/14/92	0001			0.2	L	0.1	-
	07/23/92	0001		<	0.1	L	0.1	-
	01/28/93	0001			0.18	L	0.1	-
	06/22/93	0001			0.1	L	0.1	-
	12/13/93	0001			0.18	L	0.10	-
ARSENIC	08/24/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.03	IL	0.03	-
	07/17/91	0001		<	0.012	IL	0.012	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001			0.0077	L	0.005	-
	01/28/93	0001			0.0062	LW	0.005	-
	06/22/93	0001		<	0.03	IL	0.03	-
	12/13/93	0001			0.011	L	0.005	-
	06/05/94	0001			0.007	JLW	0.005	-
CADMIUM	08/24/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/20/91	0001		<	0.001	L	0.001	-
	07/17/91	0001		<	0.0046	IL	0.0046	-
	01/14/92	0001		<	0.001	L	0.001	-
	07/23/92	0001		<	0.001	LW	0.001	-
	01/28/93	0001		<	0.001	L	0.001	-
	06/22/93	0001		<	0.0005	L	0.0005	-
	12/13/93	0001		<	0.001	LW	0.001	-
	06/05/94	0001		<	0.001	L	0.001	-
CALCIUM	08/24/90	0001	MG/L		5.51		0.01	-
	01/13/91	0001			4.7		0.1	-
	04/20/91	0001			4.4	L	0.1	-
	07/17/91	0001			4.8	L	0.014	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	01/14/92	0001	MG/L		5.5	L	0.1	-
	07/23/92	0001			6.57	L	0.5	-
	01/28/93	0001			5.66	L	0.5	-
	06/22/93	0001			6.4	L	0.1	-
	12/13/93	0001			6.62	L	0.10	-
	06/05/94	0001			6.5	L	0.5	-
CHLORIDE	08/24/90	0001	MG/L		62.	H	1.	-
	01/13/91	0001			60.		0.5	-
	04/20/91	0001			62.	L	0.5	-
	07/17/91	0001			66	L	0.5	-
	01/14/92	0001			64.	L	1.	-
	07/23/92	0001			61.2	L	0.5	-
	01/28/93	0001			63.6	L	0.5	-
	06/22/93	0001			65.	L	1.	-
	12/13/93	0001			65.7	L	0.50	-
	06/05/94	0001			64.5	L	0.5	-
CHROMIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01	L	0.01	-
	07/17/91	0001		<	0.016	IL	0.016	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.01	L	0.01	-
	01/28/93	0001		<	0.01	L	0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	12/13/93	0001		<	0.01	L	0.01	-
	06/05/94	0001		<	0.01	L	0.01	-
COBALT	06/22/93	0001	MG/L	<	0.03	L	0.03	-
DISSOLVED ORGANIC CARBON	07/17/91	0001	MG/L	<	1.0	L	1.	-
	06/05/94	0001			1	L	1	-
DISSOLVED OXYGEN	01/28/93	0001	MG/L		3.0	L	-	-
	06/22/93	0001			1.4	L	-	-
	12/13/93	0001			3.6	L	-	-
GROSS ALPHA	08/24/90	0001	PCI/L		23.3	J	1.	19.9
	01/13/91	0001			0.0		1.	8.7
	04/20/91	0001			0.0	L	1.	22.1
	07/17/91	0001			22	L	1.	27
	01/14/92	0001			4.6	L	1.	22.1
	07/23/92	0001			19.7	L	23.4	17.6
	01/28/93	0001			23.8	L	24.2	19.4
	06/22/93	0001			26	L	1	30
	12/13/93	0001			14.4	L	24.7	17.4
	06/05/94	0001			11.4	JLN	10.2	5.5
GROSS BETA	08/24/90	0001	PCI/L		4.2	J	0.5	7.9
	01/13/91	0001			11.3		0.5	8.5
	04/20/91	0001			0.0	L	0.5	11.7
	07/17/91	0001			2	L	0.5	17

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	01/14/92	0001	PCI/L		12.5	L	0.5	13.5
	07/23/92	0001			32.9	L	17.9	12.6
	01/28/93	0001			12.0	L	32.0	19.7
	06/22/93	0001			0	L	0.5	14
	12/13/93	0001			21.3	L	25.4	16.5
IRON	08/24/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001			0.03		0.03	-
	04/20/91	0001			0.03	L	0.03	-
	07/17/91	0001			0.015	JL	0.005	-
	01/14/92	0001			0.03	L	0.03	-
	07/23/92	0001		<	0.03	L	0.03	-
	01/28/93	0001		<	0.03	L	0.03	-
	06/22/93	0001		<	0.03	L	0.03	-
	12/13/93	0001			0.10	L	0.03	-
	06/05/94	0001		<	0.03	L	0.03	-
LEAD	08/24/90	0001	MG/L	<	0.005	J	0.01	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.005	L	0.005	-
	07/17/91	0001		<	0.0021	L	0.0021	-
	01/14/92	0001		<	0.005	L	0.005	-
	07/23/92	0001		<	0.003	L	0.003	-
	01/28/93	0001		<	0.003	LW	0.003	-
	06/22/93	0001		<	0.003	LW	0.003	-
	12/13/93	0001		<	0.003	L	0.003	-
	06/05/94	0001		<	0.003	L	0.003	-
MAGNESIUM	08/24/90	0001	MG/L		1.46		0.001	-
	01/13/91	0001			1.2		0.1	-
	04/20/91	0001			1.1	L	0.1	-
	07/17/91	0001			1.2	L	0.028	-
	01/14/92	0001			1.5	L	0.1	-
	07/23/92	0001			1.52	L	0.1	-
	01/28/93	0001			1.44	L	0.1	-
	06/22/93	0001			1.7	L	0.1	-
	12/13/93	0001			1.72	L	0.10	-
	06/05/94	0001			1.6	L	0.1	-
MANGANESE	01/28/93	0001	MG/L		0.0101	L	0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	12/13/93	0001			0.01	EL	0.01	-
	06/05/94	0001			0.01	L	0.01	-
MOLYBDENUM	08/24/90	0001	MG/L		0.05		0.01	-
	01/13/91	0001			0.05		0.01	-
	04/20/91	0001			0.04	L	0.01	-
	07/17/91	0001			0.043	L	0.0057	-
	01/14/92	0001			0.04	L	0.01	-
	07/23/92	0001			0.0432	L	0.01	-
	01/28/93	0001			0.0414	L	0.01	-
	06/22/93	0001			0.04	L	0.01	-
	12/13/93	0001			0.04	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
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TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	06/05/94	0001	MG/L		0.04	L	0.01	-
NET GROSS ALPHA •	08/24/90	0001	PCI/L		22.61		-	-
	01/13/91	0001			-0.34		-	-
	04/20/91	0001			-0.34		-	-
	07/17/91	0001			21.31		-	-
	01/14/92	0001			3.23		-	-
	07/23/92	0001			16.27		-	-
	01/28/93	0001			22.43		-	-
	06/22/93	0001			25.31		-	-
	12/13/93	0001			14.06		-	-
	06/05/94	0001			10.03		-	-
NICKEL	08/24/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/20/91	0001		<	0.04	L	0.04	-
	07/17/91	0001		<	0.014	IL	0.014	-
	01/14/92	0001		<	0.04	L	0.04	-
	07/23/92	0001		<	0.04	L	0.04	-
	01/28/93	0001		<	0.04	L	0.04	-
	06/22/93	0001		<	0.04	L	0.04	-
	12/13/93	0001		<	0.04	L	0.04	-
	06/05/94	0001		<	0.04	L	0.04	-
NITRATE	08/24/90	0001	MG/L		1.6	HJ	1.	-
	01/13/91	0001			1.3		1.	-
	04/20/91	0001		<	1.0	L	1.	-
	07/17/91	0001			8.0	L	0.22	-
	01/14/92	0001			1.4	L	1.	-
	07/23/92	0001			3.33	L	1	-
	01/28/93	0001			1.9	L	1	-
	06/22/93	0001			1.5	L	1.0	-
	12/13/93	0001			1.8	L	1.0	-
PH	08/24/90	0001	SU		8.40		-	-
	01/13/91	0001			8.27		-	-
	04/20/91	0001			8.31	L	-	-
	07/17/91	0001			8.35	L	-	-
	01/14/92	0001			8.33	L	-	-
	07/23/92	0001			8.25	L	-	-
	01/28/93	0001			8.37	L	-	-
	06/22/93	0001			8.00	L	-	-
	12/13/93	0001			7.95	L	-	-
PHOSPHATE	07/23/92	0001	MG/L	<	0.1	L	0.1	-
	01/28/93	0001			0.33	L	0.1	-
	06/22/93	0001			0.1	L	0.1	-
	12/13/93	0001			0.51	L	0.10	-
POTASSIUM	08/24/90	0001	MG/L		1.20		0.01	-
	01/13/91	0001			1.12		0.01	-
	04/20/91	0001			1.21	L	0.01	-
	07/17/91	0001			1.4	L	0.5	-

• NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	01/14/92	0001	MG/L		1.14	L	0.01	-
	07/23/92	0001			1.35	L	0.1	-
	01/28/93	0001			1.37	L	0.1	-
	06/22/93	0001			1.14	L	0.01	-
	12/13/93	0001			1.72	EL	0.10	-
	06/05/94	0001			1.4	L	0.1	-
RADIUM-226	08/24/90	0001	PCI/L		0.1		1.	0.2
	01/13/91	0001			0.2	J	1.	0.2
	04/20/91	0001			0.1	L	1.	0.1
	07/17/91	0001			0.0	L	1.	0.1
	01/14/92	0001			0.3	L	1.	0.3
	07/23/92	0001			0.3	L	0.3	0.3
	01/28/93	0001			0.0	L	1.1	0.6
	06/22/93	0001			0	L	1	0.5
	12/13/93	0001			0.0	L	0.3	0.2
	06/05/94	0001			0.1	L	0.1	0.2
RADIUM-226 + RADIUM-228	08/24/90	0001	PCI/L		0.90		-	-
	01/13/91	0001			1.60		-	-
	04/20/91	0001			0.10		-	-
	07/17/91	0001			0.00		-	-
	01/14/92	0001			0.30		-	-
	07/23/92	0001			7.80		-	-
	01/28/93	0001			0.00		-	-
	06/22/93	0001			1.30		-	-
	12/13/93	0001			0.10		-	-
	06/05/94	0001			0.10		-	-
RADIUM-228	08/24/90	0001	PCI/L		0.8		1.	2.1
	01/13/91	0001			1.4	J	1.	1.2
	04/20/91	0001			0.0	L	1.	1.1
	07/17/91	0001			0.0	L	1.	0.9
	01/14/92	0001			0.0	L	1.	2.1
	07/23/92	0001			7.5	L	3.5	2.6
	01/28/93	0001			0.0	L	3.2	1.8
	06/22/93	0001			1.3	L	1	1.7
	12/13/93	0001			0.1	L	0.7	0.4
	06/05/94	0001			0.0	L	7.9	3.8
REDOX POTENTIAL	01/28/93	0001	mVOLTS		463.0	L	-	-
	06/22/93	0001			335	L	-	-
	12/13/93	0001			-168	L	-	-
SELENIUM	08/24/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/20/91	0001			0.025	L	0.005	-
	07/17/91	0001		<	0.0022	L	0.0022	-
	01/14/92	0001		<	0.005	L	0.005	-
	07/23/92	0001		<	0.005	L	0.005	-
	01/28/93	0001		<	0.005	LW	0.005	-
	06/22/93	0001		<	0.02	ILW	0.02	-
	12/13/93	0001		<	0.005	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
 EAST COORDINATE: 59160.1 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	06/05/94	0001	MG/L	<	0.005	JLW	0.005	-
SILICA - SiO2	01/28/93	0001	MG/L		9.24	L	0.5	-
	06/22/93	0001			9.8	L	0.1	-
	12/13/93	0001			10.8	EL	0.10	-
	06/05/94	0001			10.1	L	0.1	-
SODIUM	08/24/90	0001	MG/L		823.		0.002	-
	01/13/91	0001			790.	J	5.	-
	04/20/91	0001			765.	L	5.	-
	07/17/91	0001			740	L	0.027	-
	01/14/92	0001			859.	L	5.	-
	07/23/92	0001			802	L	1	-
	01/28/93	0001			891	L	1	-
	06/22/93	0001			909.	L	5.	-
	12/13/93	0001			949.	L	5.	-
	06/05/94	0001			902	L	1	-
SPECIFIC CONDUCTANCE	08/24/90	0001	UMHO/CM		2650.		-	-
	01/13/91	0001			3180.		-	-
	04/20/91	0001			3100.	L	-	-
	07/17/91	0001			3130.	L	-	-
	01/14/92	0001			2810	L	-	-
	07/23/92	0001			3290	L	-	-
	01/28/93	0001			2860	L	-	-
	06/22/93	0001			3370	L	-	-
	12/13/93	0001			2940	L	-	-
SULFATE	08/24/90	0001	MG/L		1020.		0.1	-
	01/13/91	0001			815.		10.	-
	04/20/91	0001			911.	L	10.	-
	07/17/91	0001			950	L	10.	-
	01/14/92	0001			1230.	L	10.	-
	07/23/92	0001			1180	L	1	-
	01/28/93	0001			1160	L	1	-
	06/22/93	0001			1200.	L	30.	-
	12/13/93	0001			1290.	IL	10.	-
	06/05/94	0001			1250	L	1	-
SULFIDE	01/28/93	0001	MG/L	<	1	L	1	-
	06/22/93	0001			2.7	L	0.1	-
	12/13/93	0001		<	1.0	L	1.0	-
TEMPERATURE	08/24/90	0001	C - DEGREE		14.3		-	-
	01/13/91	0001			12.5		-	-
	04/20/91	0001			18.8	L	-	-
	07/17/91	0001			21.0	L	-	-
	01/14/92	0001			14.7	L	-	-
	07/23/92	0001			20.1	L	-	-
	01/28/93	0001			14.3	L	-	-
	06/22/93	0001			20.7	L	-	-
	12/13/93	0001			12.0	L	-	-
TOTAL DISSOLVED SOLIDS	08/24/90	0001	MG/L		2220.	H	10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:

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 LOCATION: 0178 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 58877.8 FT
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 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	01/13/91	0001	MG/L		2220.		10.	-
	04/20/91	0001			2120.	L	10.	-
	07/17/91	0001			2200	L	10.	-
	01/14/92	0001			2470.	L	10.	-
	07/23/92	0001			2450	L	10	-
	01/28/93	0001			2480	L	10	-
	06/22/93	0001			2580.	HL	10.	-
	12/13/93	0001			2700.	L	10.	-
	06/05/94	0001			2600	L	10	-
TOTAL KJELDAHL NITROGEN	01/14/92	0001	MG/L	<	2.	IL	2.	-
TOTAL ORGANIC CARBON	08/24/90	0001	MG/L		16.		1.	-
	01/13/91	0001			55.		1.	-
	04/20/91	0001			8.	L	1.	-
	07/17/91	0001			1.1	L	1.	-
	01/14/92	0001			4.	L	1.	-
	07/23/92	0001			3.4	*L	1	-
	01/28/93	0001			4.1	LN	1	-
	06/22/93	0001			2.	L	1.	-
	12/13/93	0001			3.0	JL	1.0	-
TURBIDITY	12/13/93	0001	NTU		64	L	-	-
URANIUM	08/24/90	0001	MG/L		0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/20/91	0001		<	0.001	L	0.001	-
	07/17/91	0001			0.0010	L	0.0003	-
	01/14/92	0001			0.002	L	0.001	-
	07/23/92	0001			0.005	L	0.001	-
	01/28/93	0001			0.002	L	0.001	-
	06/22/93	0001			0.001	L	0.001	-
	12/13/93	0001		<	0.001	JL	0.001	-
	06/05/94	0001			0.002	L	0.001	-
VANADIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01	L	0.01	-
	07/17/91	0001		<	0.011	IL	0.011	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001			0.0105	L	0.01	-
	01/28/93	0001		<	0.01	L	0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	12/13/93	0001		<	0.01	L	0.01	-
	06/05/94	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

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- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
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- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59162.8 FT
 EAST COORDINATE: 59425.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/24/90	0001	MG/L CaCO3		574.		-	-
	01/13/91	0001			461.		-	-
	04/21/91	0001			493.		-	-
	07/17/91	0001			483.		-	-
	01/14/92	0001			428		-	-
	07/23/92	0001			390		-	-
	01/27/93	0001			428		-	-
	06/25/93	0001			336		-	-
	01/07/94	0001			375		-	-
ALUMINUM	07/23/92	0001	MG/L		0.181	*	0.05	-
	01/27/93	0001		<	0.05		0.05	-
	06/25/93	0001		<	0.05		0.05	-
	01/07/94	0001		<	0.05		0.05	-
	06/08/94	0001		<	0.05		0.05	-
AMMONIUM	08/24/90	0001	MG/L		0.1	J	0.1	-
	01/13/91	0001			0.04	J	0.01	-
	04/21/91	0001		<	0.1		0.1	-
	07/17/91	0001			0.22		0.03	-
	01/14/92	0001		<	0.1		0.1	-
	07/23/92	0001		<	0.1		0.1	-
	01/27/93	0001		<	0.1		0.1	-
	06/25/93	0001		<	0.1		0.1	-
	01/07/94	0001		<	0.10		0.10	-
ARSENIC	08/24/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-
	07/17/91	0001		<	0.0023		0.0023	-
	01/14/92	0001		<	0.01		0.01	-
	07/23/92	0001		<	0.005		0.005	-
	01/27/93	0001		<	0.005	W	0.005	-
	06/25/93	0001		<	0.03	IW	0.03	-
	01/07/94	0001		<	0.005		0.005	-
	06/08/94	0001		<	0.005	JW	0.005	-
CADMIUM	08/24/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/17/91	0001		<	0.0046	I	0.0046	-
	01/14/92	0001		<	0.005	I	0.005	-
	07/23/92	0001		<	0.001	W	0.001	-
	01/27/93	0001		<	0.001	W	0.001	-
	06/25/93	0001		<	0.0005		0.0005	-
	01/07/94	0001		<	0.001		0.001	-
	06/08/94	0001		<	0.001		0.001	-
CALCIUM	08/24/90	0001	MG/L		429.		0.01	-
	01/13/91	0001			431.		0.5	-
	04/21/91	0001			438.		0.5	-
	07/17/91	0001			430		0.014	-
	01/14/92	0001			451.		0.5	-
	07/23/92	0001			454		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
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TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
NORTH COORDINATE: 59162.8 FT
EAST COORDINATE: 59425.2 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	01/27/93	0001	MG/L		420		0.5	-
	06/25/93	0001			560.		1.0	-
	01/07/94	0001			512.		1.0	-
	06/08/94	0001			453		0.5	-
CHLORIDE	08/24/90	0001	MG/L		226.	H	1.	-
	01/13/91	0001			220.		0.5	-
	04/21/91	0001			220.		0.5	-
	07/17/91	0001			230		0.5	-
	01/14/92	0001			235.		3.	-
	07/23/92	0001			307		0.5	-
	01/27/93	0001			287		0.5	-
	06/25/93	0001			489.		3.	-
	01/07/94	0001			466.		0.50	-
	06/08/94	0001			413		0.5	-
CHROMIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/17/91	0001		<	0.016	I	0.016	-
	01/14/92	0001		<	0.01		0.01	-
	07/23/92	0001		<	0.01		0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/25/93	0001		<	0.02		0.01	-
	01/07/94	0001		<	0.01		0.01	-
	06/08/94	0001		<	0.01		0.01	-
COBALT	06/25/93	0001	MG/L	<	0.03		0.03	-
DISSOLVED ORGANIC CARBON	07/17/91	0001	MG/L		13		1.	-
	06/08/94	0001			9		1	-
DISSOLVED OXYGEN	01/27/93	0001	MG/L		0.0		-	-
	06/25/93	0001			3.3		-	-
	01/07/94	0001		<	0.6		-	-
GROSS ALPHA	08/24/90	0001	PCI/L		327.	J	1.	87.6
	01/13/91	0001			157.		1.	48.7
	04/21/91	0001			133.		1.	71.3
	07/17/91	0001			210		1.	60
	01/14/92	0001			117.		1.	59.8
	07/23/92	0001			106.		68.2	58.7
	01/27/93	0001			122.		59.4	57.9
	06/25/93	0001			81		1	47
	01/07/94	0001			89.6		38.0	30.6
	06/08/94	0001			223.0	JN	23.2	26.1
GROSS BETA	08/24/90	0001	PCI/L		81.2	J	0.5	29.3
	01/13/91	0001			106.		0.5	25.6
	04/21/91	0001			17.2		0.5	29.5
	07/17/91	0001			66		0.5	30
	01/14/92	0001			70.5		0.5	31.0
	07/23/92	0001			79.1		61.1	41.1
	01/27/93	0001			39.4		78.1	48.5

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

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PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	06/25/93 01/07/94	0001 0001	PCI/L		0 36.5		0.5 41.1	48 25.5
IRON	08/24/90 01/13/91 04/21/91 07/17/91 01/14/92 07/23/92 01/27/93 06/25/93 01/07/94 06/08/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L	< < < < < < < < < <	0.03 0.03 0.03 0.010 0.03 0.03 0.03 0.03 0.03 0.03	I	0.03 0.03 0.03 0.01 0.03 0.03 0.03 0.03 0.03 0.03	- - - - - - - - - -
LEAD	08/24/90 01/13/91 04/21/91 07/17/91 01/14/92 07/23/92 01/27/93 06/25/93 01/07/94 06/08/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L	< < < < < < < < < <	0.005 0.03 0.03 0.0042 0.03 0.003 0.03 0.003 0.003 0.003	J I I I I I I W W	0.01 0.03 0.03 0.0042 0.03 0.003 0.03 0.003 0.003 0.003	- - - - - - - - - -
MAGNESIUM	08/24/90 01/13/91 04/21/91 07/17/91 01/14/92 07/23/92 01/27/93 06/25/93 01/07/94 06/08/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		204. 201. 205. 180 206. 196 190 234. 233. 206		0.001 0.5 0.5 0.028 0.5 0.1 0.1 0.5 0.5 0.1	- - - - - - - - - -
MANGANESE	01/27/93 06/25/93 01/07/94 06/08/94	0001 0001 0001 0001	MG/L	<	0.0962 0.01 0.04 0.35	E	0.01 0.01 0.01 0.01	- - - -
MOLYBDENUM	08/24/90 01/13/91 04/21/91 07/17/91 01/14/92 07/23/92 01/27/93 06/25/93 01/07/94 06/08/94	0001 0001 0001 0001 0001 0001 0001 0001 0001 0001	MG/L		0.03 0.04 0.04 0.045 0.03 0.0281 0.0349 0.02 0.03 0.03	E	0.01 0.01 0.01 0.0057 0.01 0.01 0.01 0.01 0.01 0.01	- - - - - - - - - -
NET GROSS ALPHA *	08/24/90	0001	PCI/L		169.91		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59162.8 FT
 EAST COORDINATE: 59425.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA •	01/13/91	0001	PCI/L		11.57		-	-
	04/21/91	0001			-6.94		-	-
	07/17/91	0001			62.51		-	-
	01/14/92	0001			7.24		-	-
	07/23/92	0001			9.27		-	-
	01/27/93	0001			1.26		-	-
	06/25/93	0001			1.42		-	-
	01/07/94	0001			3.16		-	-
	06/08/94	0001			85.11		-	-
NICKEL	08/24/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/21/91	0001		<	0.04		0.04	-
	07/17/91	0001			0.021		0.007	-
	01/14/92	0001		<	0.04		0.04	-
	07/23/92	0001		<	0.04		0.04	-
	01/27/93	0001		<	0.04		0.04	-
	06/25/93	0001		<	0.04		0.04	-
	01/07/94	0001		<	0.04		0.04	-
NITRATE	08/24/90	0001	MG/L		79.8	HJ	1.	-
	01/13/91	0001			65.5		1.	-
	04/21/91	0001			58.9		1.	-
	07/17/91	0001			75		0.22	-
	01/14/92	0001			100.		6.	-
	07/23/92	0001			134		1	-
	01/27/93	0001			110		1	-
	06/25/93	0001			173.		15.	-
	01/07/94	0001			171.		1.0	-
PH	08/24/90	0001	SU		6.92		-	-
	01/13/91	0001			6.75		-	-
	04/21/91	0001			6.76		-	-
	07/17/91	0001			6.77		-	-
	01/14/92	0001			6.72		-	-
	07/23/92	0001			6.77		-	-
	01/27/93	0001			6.88		-	-
	06/25/93	0001			6.68		-	-
	01/07/94	0001			6.68		-	-
PHOSPHATE	07/23/92	0001	MG/L	<	0.1		0.1	-
	01/27/93	0001		<	0.1		0.1	-
	06/25/93	0001		<	0.1		0.1	-
	01/07/94	0001		<	0.10		0.10	-
POTASSIUM	08/24/90	0001	MG/L		7.9		0.01	-
	01/13/91	0001			6.		5.	-
	04/21/91	0001			8.7		0.01	-
	07/17/91	0001			8.9		0.5	-
	01/14/92	0001			8.0		0.01	-
	07/23/92	0001			8.85		0.1	-
	01/27/93	0001			9.36		0.1	-
	06/25/93	0001			8.98		0.01	-
	01/07/94	0001			10.3		0.10	-

• NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59162.8 FT
 EAST COORDINATE: 59425.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	06/08/94	0001	MG/L		9.9		0.1	-
RADIUM-226	08/24/90	0001	PCI/L		2.1		1.	0.5
	01/13/91	0001			3.2	J	1.	0.2
	04/21/91	0001			2.9		1.	0.5
	07/17/91	0001			0.9		1.	0.4
	01/14/92	0001			4.2		1.	0.8
	07/23/92	0001			4.0		0.3	0.7
	01/27/93	0001			3.5		1.1	1.0
	06/25/93	0001			5.2		1	0.9
	01/07/94	0001			3.3		0.1	0.3
	06/08/94	0001			2.9		0.1	0.3
RADIUM-226 + RADIUM-228	08/24/90	0001	PCI/L		2.10		-	-
	01/13/91	0001			5.30		-	-
	04/21/91	0001			4.30		-	-
	07/17/91	0001			0.90		-	-
	01/14/92	0001			4.60		-	-
	07/23/92	0001			4.00		-	-
	01/27/93	0001			3.50		-	-
	06/25/93	0001			5.50		-	-
	01/07/94	0001			4.00		-	-
	06/08/94	0001			3.70		-	-
RADIUM-228	08/24/90	0001	PCI/L		0.0		1.	2.2
	01/13/91	0001			2.1	J	1.	1.6
	04/21/91	0001			1.4	J	1.	1.3
	07/17/91	0001			0.0		1.	0.9
	01/14/92	0001			0.4		1.	2.2
	07/23/92	0001			0.0		3.5	2.0
	01/27/93	0001			0.0		3.2	1.9
	06/25/93	0001			0.3		1	1.4
	01/07/94	0001			0.7		0.7	0.5
	06/08/94	0001			0.8		6.1	2.2
REDOX POTENTIAL	01/27/93	0001	mVOLTS		479.8		-	-
	06/25/93	0001			440		-	-
	01/07/94	0001			269		-	-
SELENIUM	08/24/90	0001	MG/L		0.280		0.005	-
	01/13/91	0001			0.15	J	0.03	-
	04/21/91	0001			0.200		0.005	-
	07/17/91	0001			0.16		0.0022	-
	01/14/92	0001			0.5		0.5	-
	07/23/92	0001			0.5575	S	0.005	-
	01/27/93	0001			0.559	IS	0.1	-
	06/25/93	0001			0.65	IS	0.12	-
	01/07/94	0001			0.448	S	0.005	-
	06/08/94	0001			0.420	S	0.005	-
SILICA - SiO2	01/27/93	0001	MG/L		9.03		0.5	-
	06/25/93	0001			9.3		0.1	-
	01/07/94	0001			10.5		0.10	-
	06/08/94	0001			9.5		0.1	-
SODIUM	08/24/90	0001	MG/L		1310.		0.002	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS).

OTHER PARAMETER VALUE FLAGS:

- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59162.8 FT
 EAST COORDINATE: 59425.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	01/13/91	0001	MG/L		1410.	J	5.	-
	04/21/91	0001			1380.		50.	-
	07/17/91	0001			1200		0.027	-
	01/14/92	0001			1330.		20.	-
	07/23/92	0001			1070		1	-
	01/27/93	0001			1430		1	-
	06/25/93	0001			1160.		5.	-
	01/07/94	0001			1160.		5.	-
	06/08/94	0001			1130		1	-
SPECIFIC CONDUCTANCE	08/24/90	0001	UMHO/CM		5200.		-	-
	01/13/91	0001			7060.		-	-
	04/21/91	0001			7020.		-	-
	07/17/91	0001			6950.		-	-
	01/14/92	0001			5750		-	-
	07/23/92	0001			6410		-	-
	01/27/93	0001			5440		-	-
	06/25/93	0001			5450		-	-
	01/07/94	0001			5690		-	-
SULFATE	08/24/90	0001	MG/L		3730.		0.1	-
	01/13/91	0001			2860.		10.	-
	04/21/91	0001			3870.		10.	-
	07/17/91	0001			3900		10.	-
	01/14/92	0001			3620.		10.	-
	07/23/92	0001			3520		1	-
	01/27/93	0001			3460		1	-
	06/25/93	0001			3060.		150.	-
	01/07/94	0001			3170.	I	8.	-
	06/08/94	0001			3360		1	-
SULFIDE	01/27/93	0001	MG/L	<	1		1	-
	06/25/93	0001			0.2		0.1	-
	01/07/94	0001		<	1.0		1.0	-
TEMPERATURE	08/24/90	0001	C - DEGREE		12.7		-	-
	01/13/91	0001			14.1		-	-
	04/21/91	0001			17.0		-	-
	07/17/91	0001			17.4		-	-
	01/14/92	0001			14.4		-	-
	07/23/92	0001			21.5		-	-
	01/27/93	0001			14.7		-	-
	06/25/93	0001			18.8		-	-
	01/07/94	0001			15.0		-	-
TOTAL DISSOLVED SOLIDS	08/24/90	0001	MG/L		6150.	H	10.	-
	01/13/91	0001			6630.		10.	-
	04/21/91	0001			6490.		10.	-
	07/17/91	0001			6000		10.	-
	01/14/92	0001			6300.		10.	-
	07/23/92	0001			5900		10	-
	01/27/93	0001			6130		10	-
	06/25/93	0001			6120.		10.	-
	01/07/94	0001			6100.		10.	-
	06/08/94	0001			6120		10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0179 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59162.8 FT
 EAST COORDINATE: 59425.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL KJELDAHL NITROGEN	01/14/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/24/90	0001	MG/L		21.		1.	-
	01/13/91	0001			27.		1.	-
	04/21/91	0001			12.		1.	-
	07/17/91	0001			14		1.	-
	01/14/92	0001			9.		1.	-
	07/23/92	0001			8	*	1	-
	01/27/93	0001			7.5	N	1	-
	06/25/93	0001			8.		1.	-
	01/07/94	0001			12.1	J	1.0	-
URANIUM	08/24/90	0001	MG/L		0.229		0.001	-
	01/13/91	0001			0.212		0.001	-
	04/21/91	0001			0.204		0.001	-
	07/17/91	0001			0.215		0.0003	-
	01/14/92	0001			0.160		0.001	-
	07/23/92	0001			0.141		0.001	-
	01/27/93	0001			0.176		0.001	-
	06/25/93	0001			0.116		0.001	-
	01/07/94	0001			0.126		0.001	-
	06/08/94	0001			0.201		0.001	-
VANADIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/17/91	0001		<	0.011	I	0.011	-
	01/14/92	0001		<	0.01		0.01	-
	07/23/92	0001			0.0298		0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/25/93	0001			0.02		0.01	-
	01/07/94	0001		<	0.01		0.01	-
	06/08/94	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59436.0 FT
 EAST COORDINATE: 59803.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	08/24/90	0001	MG/L CaCO3		926.		-	-
	01/13/91	0001			917.		-	-
	04/20/91	0001			920.		-	-
	07/16/91	0001			933.		-	-
	01/13/92	0001			770		-	-
	07/23/92	0001			931		-	-
	01/27/93	0001			905		-	-
	06/22/93	0001			908	L	-	-
ALUMINUM	07/23/92	0001	MG/L		0.18	*	0.05	-
	01/27/93	0001		<	0.05		0.05	-
	06/22/93	0001		<	0.05	L	0.05	-
	06/05/94	0001		<	0.05	L	0.05	-
AMMONIUM	08/24/90	0001	MG/L		0.8	J	0.1	-
	01/13/91	0001			0.80		0.01	-
	04/20/91	0001			1.0		0.1	-
	07/16/91	0001			0.36		0.03	-
	01/13/92	0001			0.8		0.1	-
	07/23/92	0001			0.721		0.1	-
	01/27/93	0001			0.55		0.1	-
	06/22/93	0001			0.8	L	0.1	-
ARSENIC	08/24/90	0001	MG/L	<	0.1		0.1	-
	01/13/91	0001		<	0.05	I	0.05	-
	04/20/91	0001		<	0.05	I	0.05	-
	07/16/91	0001		<	0.0023		0.0023	-
	01/13/92	0001		<	0.01		0.01	-
	07/23/92	0001		<	0.005		0.005	-
	01/27/93	0001		<	0.005	W	0.005	-
	06/22/93	0001		<	0.03	ILW	0.03	-
CADMIUM	08/24/90	0001	MG/L	<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/20/91	0001		<	0.001		0.001	-
	07/16/91	0001		<	0.0046	I	0.0046	-
	01/13/92	0001		<	0.001		0.001	-
	07/23/92	0001		<	0.001	W	0.001	-
	01/27/93	0001		<	0.001	W	0.001	-
	06/22/93	0001		<	0.0005	L	0.0005	-
CALCIUM	08/24/90	0001	MG/L		70.9		0.01	-
	01/13/91	0001			69.1		0.5	-
	04/20/91	0001			67.9		0.5	-
	07/16/91	0001			68		0.014	-
	01/13/92	0001			66.1		0.5	-
	07/23/92	0001			70.2		0.5	-
	01/27/93	0001			65		0.5	-
	06/22/93	0001			66.4	L	1.0	-
CHLORIDE	08/24/90	0001	MG/L		153.	H	1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59436.0 FT
 EAST COORDINATE: 59803.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	01/13/91	0001	MG/L		163.		0.5	-
	04/20/91	0001			153.		0.5	-
	07/16/91	0001			170		0.5	-
	01/13/92	0001			158.		1.	-
	07/23/92	0001			149		0.5	-
	01/27/93	0001			148		0.5	-
	06/22/93	0001			150.	L	1.	-
	06/05/94	0001			144	L	0.5	-
CHROMIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.016	I	0.016	-
	01/13/92	0001		<	0.01		0.01	-
	07/23/92	0001		<	0.01		0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	06/05/94	0001		<	0.01	L	0.01	-
COBALT	06/22/93	0001	MG/L	<	0.03	L	0.03	-
DISSOLVED ORGANIC CARBON	07/16/91	0001	MG/L	<	1.0		1.	-
	06/05/94	0001			6	L	1	-
DISSOLVED OXYGEN	01/27/93	0001	MG/L		0.1		-	-
	06/22/93	0001			0.0	L	-	-
GROSS ALPHA	08/24/90	0001	PCI/L		88.5	J	1.	59.3
	01/13/91	0001			5.0		1.	27.8
	04/20/91	0001			0.0		1.	53.8
	07/16/91	0001			0		1.	39
	01/13/92	0001			42.0		1.	64.4
	07/23/92	0001			39.8		68.2	48.2
	01/27/93	0001			22.1		58.2	39.6
	06/22/93	0001			0	L	1	33
	06/05/94	0001			9.7	LN	22.5	8.7
GROSS BETA	08/24/90	0001	PCI/L		17.7	J	0.5	25.2
	01/13/91	0001			37.8		0.5	22.7
	04/20/91	0001			8.6		0.5	29.1
	07/16/91	0001			0		0.5	34
	01/13/92	0001			34.7		0.5	45.9
	07/23/92	0001			45.0		61.1	39.1
	01/27/93	0001			8.8		77.0	46.3
	06/22/93	0001			0	L	0.5	44
IRON	08/24/90	0001	MG/L		0.13		0.03	-
	01/13/91	0001			0.28		0.03	-
	04/20/91	0001			0.04		0.03	-
	07/16/91	0001		<	0.010	I	0.01	-
	01/13/92	0001			0.04		0.03	-
	07/23/92	0001			0.0368		0.03	-
	01/27/93	0001			0.0453		0.03	-
	06/22/93	0001		<	0.03	L	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)

NORTH COORDINATE: 59436.0 FT

EAST COORDINATE: 59803.6 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)

HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	06/05/94	0001	MG/L	<	0.03	L	0.03	-
LEAD	08/24/90	0001	MG/L	<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.03	I	0.03	-
	07/16/91	0001		<	0.011	I	0.011	-
	01/13/92	0001		<	0.03	I	0.03	-
	07/23/92	0001		<	0.003		0.003	-
	01/27/93	0001		<	0.03	I	0.03	-
	06/22/93	0001		<	0.003	LW	0.003	-
	06/05/94	0001		<	0.003	L	0.003	-
MAGNESIUM	08/24/90	0001	MG/L		22.9		0.001	-
	01/13/91	0001			23.0		0.1	-
	04/20/91	0001			23.3		0.1	-
	07/16/91	0001			21		0.028	-
	01/13/92	0001			22.7		0.1	-
	07/23/92	0001			22.3		0.1	-
	01/27/93	0001			21.9		0.1	-
	06/22/93	0001			21.8	L	0.1	-
	06/05/94	0001			21.5	L	0.1	-
MANGANESE	01/27/93	0001	MG/L		0.0584		0.01	-
	06/22/93	0001			0.05	L	0.01	-
	06/05/94	0001			0.05	L	0.01	-
MOLYBDENUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.011	I	0.011	-
	01/13/92	0001		<	0.01		0.01	-
	07/23/92	0001		<	0.01		0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	06/05/94	0001		<	0.01	L	0.01	-
NET GROSS ALPHA *	08/24/90	0001	PCI/L		85.07		-	-
	01/13/91	0001			4.66		-	-
	04/20/91	0001			-0.34		-	-
	07/16/91	0001			-0.10		-	-
	01/13/92	0001			41.66		-	-
	07/23/92	0001			34.31		-	-
	01/27/93	0001			21.41		-	-
	06/22/93	0001			-0.34		-	-
	06/05/94	0001			9.36		-	-
NICKEL	08/24/90	0001	MG/L	<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/20/91	0001		<	0.04		0.04	-
	07/16/91	0001		<	0.014	I	0.014	-
	01/13/92	0001		<	0.04		0.04	-
	07/23/92	0001		<	0.04		0.04	-
	01/27/93	0001		<	0.04		0.04	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59436.0 FT
 EAST COORDINATE: 59803.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	06/22/93	0001	MG/L	<	0.04	L	0.04	-
	06/05/94	0001		<	0.04	L	0.04	-
NITRATE	08/24/90	0001	MG/L		1.0	HJ	1.	-
	01/13/91	0001		<	1.		1.	-
	04/20/91	0001		<	1.0		1.	-
	07/16/91	0001			11		0.22	-
	01/13/92	0001		<	1.0		1.	-
	07/23/92	0001			2.11		1	-
	01/27/93	0001		<	1		1	-
	06/22/93	0001			1.1	L	1.0	-
PH	08/24/90	0001	SU		7.83		-	-
	01/13/91	0001			7.22		-	-
	04/20/91	0001			7.19		-	-
	07/16/91	0001			7.21		-	-
	01/13/92	0001			7.44		-	-
	07/23/92	0001			7.24		-	-
	01/27/93	0001			7.33		-	-
	06/22/93	0001			6.97	L	-	-
PHOSPHATE	07/23/92	0001	MG/L	<	0.1		0.1	-
	01/27/93	0001			0.16		0.1	-
	06/22/93	0001			0.2	L	0.1	-
POTASSIUM	08/24/90	0001	MG/L		3.4		0.01	-
	01/13/91	0001			3.6		0.01	-
	04/20/91	0001			3.8		0.01	-
	07/16/91	0001			4.3		0.5	-
	01/13/92	0001			3.3		0.01	-
	07/23/92	0001			4		0.1	-
	01/27/93	0001			4.14		0.1	-
	06/22/93	0001			3.38	L	0.01	-
	06/05/94	0001			4.1	L	0.1	-
RADIUM-226	08/24/90	0001	PCI/L		1.9		1.	0.4
	01/13/91	0001			1.8	J	1.	0.2
	04/20/91	0001			2.5		1.	0.5
	07/16/91	0001			0.9		1.	0.4
	01/13/92	0001			1.6		1.	0.5
	07/23/92	0001			2.8		0.3	0.6
	01/27/93	0001			2.0		1.1	0.9
	06/22/93	0001			2.4	L	1	0.7
	06/05/94	0001			1.6	L	0.1	0.4
RADIUM-226 + RADIUM-228	08/24/90	0001	PCI/L		7.80		-	-
	01/13/91	0001			4.90		-	-
	04/20/91	0001			4.10		-	-
	07/16/91	0001			1.60		-	-
	01/13/92	0001			4.50		-	-
	07/23/92	0001			5.70		-	-
	01/27/93	0001			2.00		-	-
	06/22/93	0001			2.40		-	-
	06/05/94	0001			3.30		-	-
RADIUM-228	08/24/90	0001	PCI/L		5.9		1.	2.4

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59436.0 FT
 EAST COORDINATE: 59803.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	01/13/91	0001	PCI/L		3.1	J	1.	1.7
	04/20/91	0001			1.6	J	1.	1.3
	07/16/91	0001			0.7		1.	1.2
	01/13/92	0001			2.9		1.	2.1
	07/23/92	0001			2.9		3.5	2.3
	01/27/93	0001			0.0		3.2	1.9
	06/22/93	0001			0	L	1	3
	06/05/94	0001			1.7	L	6.4	2.2
REDOX POTENTIAL	01/27/93	0001	mVOLTS		116.4		-	-
	06/22/93	0001			-51	L	-	-
SELENIUM	08/24/90	0001	MG/L	<	0.05		0.05	-
	01/13/91	0001		<	0.05	I	0.05	-
	04/20/91	0001		<	0.03	I	0.03	-
	07/16/91	0001		<	0.022	I	0.022	-
	01/13/92	0001		<	0.005		0.005	-
	07/23/92	0001		<	0.01	I	0.01	-
	01/27/93	0001		<	0.05	I	0.05	-
	06/22/93	0001		<	0.02	IL	0.02	-
	06/05/94	0001		<	0.008	L	0.008	-
SILICA - SiO2	01/27/93	0001	MG/L		8.86		0.5	-
	06/22/93	0001			8.9	L	0.1	-
	06/05/94	0001			9.1	L	0.1	-
SODIUM	08/24/90	0001	MG/L		2100.		0.002	-
	01/13/91	0001			2150.	J	5.	-
	04/20/91	0001			2060.		50.	-
	07/16/91	0001			1800		0.027	-
	01/13/92	0001			2070.		20.	-
	07/23/92	0001			1870		1	-
	01/27/93	0001			1990		1	-
	06/22/93	0001			2040.	L	5.	-
	06/05/94	0001			1980	L	1	-
SPECIFIC CONDUCTANCE	08/24/90	0001	UMHO/CM		6900.		-	-
	01/13/91	0001			7810.		-	-
	04/20/91	0001			7770.		-	-
	07/16/91	0001			7690.		-	-
	01/13/92	0001			6200		-	-
	07/23/92	0001			7100		-	-
	01/27/93	0001			6250		-	-
	06/22/93	0001			7340	L	-	-
SULFATE	08/24/90	0001	MG/L		3400.		0.1	-
	01/13/91	0001			2740.		10.	-
	04/20/91	0001			3400.		10.	-
	07/16/91	0001			3400		10.	-
	01/13/92	0001			3280.		10.	-
	07/23/92	0001			3300		1	-
	01/27/93	0001			3210		1	-
	06/22/93	0001			3180.	L	80.	-
	06/05/94	0001			3340	L	1	-
SULFIDE	01/27/93	0001	MG/L		3		1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0180 POC MONITOR WELL (UPGRADIENT)
 NORTH COORDINATE: 59436.0 FT
 EAST COORDINATE: 59803.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFIDE	06/22/93	0001	MG/L		4.2	L	0.1	-
TEMPERATURE	08/24/90	0001	C - DEGREE		16.6		-	-
	01/13/91	0001			14.0		-	-
	04/20/91	0001			19.5		-	-
	07/16/91	0001			20.1		-	-
	01/13/92	0001			13.2		-	-
	07/23/92	0001			19.2		-	-
	01/27/93	0001			15.3		-	-
	06/22/93	0001			21.4	L	-	-
TOTAL DISSOLVED SOLIDS	08/24/90	0001	MG/L		6070.	H	10.	-
	01/13/91	0001			6240.		10.	-
	04/20/91	0001			6110.		10.	-
	07/16/91	0001			5900		10.	-
	01/13/92	0001			6100.		10.	-
	07/23/92	0001			6010		10	-
	01/27/93	0001			6130		10	-
	06/22/93	0001			6090.	HL	10.	-
	06/05/94	0001			6070	L	10	-
TOTAL KJELDAHL NITROGEN	01/13/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	08/24/90	0001	MG/L		6.		1.	-
	01/13/91	0001			32.		1.	-
	04/20/91	0001			5.		1.	-
	07/16/91	0001			2.9		1.	-
	01/13/92	0001			5.		1.	-
	07/23/92	0001			4.3	*	1	-
	01/27/93	0001			7.2	N	1	-
	06/22/93	0001			6.	L	1.	-
URANIUM	08/24/90	0001	MG/L		0.005		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/20/91	0001		<	0.001		0.001	-
	07/16/91	0001		<	0.0003		0.0003	-
	01/13/92	0001		<	0.001		0.001	-
	07/23/92	0001			0.008		0.001	-
	01/27/93	0001			0.001		0.001	-
	06/22/93	0001		<	0.001	L	0.001	-
	06/05/94	0001		<	0.001	L	0.001	-
VANADIUM	08/24/90	0001	MG/L	<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01		0.01	-
	07/16/91	0001		<	0.011	I	0.011	-
	01/13/92	0001		<	0.01		0.01	-
	07/23/92	0001			0.029		0.01	-
	01/27/93	0001		<	0.01		0.01	-
	06/22/93	0001		<	0.01	L	0.01	-
	06/05/94	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0561 ABANDONED
 NORTH COORDINATE: 59838.7 FT
 EAST COORDINATE: 58028.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/04/86	0001	MG/L CAC03		745.		-	-
	09/07/86	0001			707.	L	-	-
	02/27/87	0001			790.	L	-	-
	10/01/87	0001			606.		-	-
	01/10/88	0001			606.		-	-
ALUMINUM	06/04/86	0001	MG/L		13.1	J	0.1	-
	09/07/86	0001			5.3	JL	0.1	-
	02/27/87	0001			0.8	JL	0.1	-
	10/01/87	0001		<	0.1		0.1	-
	01/10/88	0001			0.7		0.1	-
AMMONIUM	06/04/86	0001	MG/L		1.2		0.1	-
	09/07/86	0001			0.8	L	0.1	-
	02/27/87	0001			0.6	L	0.1	-
	10/01/87	0001			0.2		0.1	-
	01/10/88	0001			0.7		0.1	-
ANTIMONY	06/04/86	0001	MG/L	<	0.003		0.003	-
	09/07/86	0001		<	0.003	L	0.003	-
ARSENIC	06/04/86	0001	MG/L	<	0.01		0.01	-
	09/07/86	0001		<	0.01	L	0.01	-
	10/01/87	0001			0.02		0.01	-
	01/10/88	0001			0.01		0.01	-
BARIUM	06/04/86	0001	MG/L		0.4		0.1	-
	09/07/86	0001			0.3	L	0.1	-
BORON	06/04/86	0001	MG/L		0.4		0.1	-
	09/07/86	0001			0.9	L	0.1	-
	02/27/87	0001			0.76	L	0.1	-
	10/01/87	0001			0.7		0.1	-
	01/10/88	0001			0.71		0.1	-
CADMIUM	06/04/86	0001	MG/L	<	0.001		0.001	-
	09/07/86	0001		<	0.001	L	0.001	-
CALCIUM	06/04/86	0001	MG/L		101.		0.01	-
	09/07/86	0001			19.6	L	0.01	-
	02/27/87	0001			4.94	L	0.01	-
	10/01/87	0001			4.1		0.01	-
	01/10/88	0001			4.40		0.01	-
CHLORIDE	06/04/86	0001	MG/L		190.		1.	-
	09/07/86	0001			430.	L	1.	-
	02/27/87	0001			198.	L	1.	-
	10/01/87	0001			226.		1.	-
	01/10/88	0001			210.		1.	-
CHROMIUM	06/04/86	0001	MG/L		0.04		0.01	-
	09/07/86	0001			0.04	L	0.01	-
	02/27/87	0001		<	0.01	L	0.01	-
	10/01/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02		0.01	-
COBALT	06/04/86	0001	MG/L		0.09		0.05	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0561 ABANDONED
NORTH COORDINATE: 59838.7 FT
EAST COORDINATE: 58028.8 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COBALT	09/07/86	0001	MG/L	<	0.05	L	0.05	-
COPPER	06/04/86	0001	MG/L	<	0.04	L	0.02	-
	09/07/86	0001			0.02		0.02	-
FLUORIDE	06/04/86	0001	MG/L		2.9	L	0.1	-
	09/07/86	0001			3.2		0.1	-
	02/27/87	0001			2.92		0.1	-
	10/01/87	0001			2.7		0.1	-
	01/10/88	0001			2.87		0.1	-
GROSS ALPHA	10/01/87	0001	PCI/L		0.0		0.2	13.
	01/10/88	0001			0.		0.2	11.
GROSS BETA	10/01/87	0001	PCI/L		2.9		1.	12.
	01/10/88	0001			0.		1.	11.
IRON	06/04/86	0001	MG/L	<	9.53	J	0.03	-
	09/07/86	0001			2.13	L	0.03	-
	02/27/87	0001			0.16	L	0.03	-
	10/01/87	0001			0.03		0.03	-
	01/10/88	0001			0.32		0.03	-
LEAD	06/04/86	0001	MG/L	<	0.01	L	0.01	-
	09/07/86	0001		<	0.01		0.01	-
MAGNESIUM	06/04/86	0001	MG/L		12.2	J	0.001	-
	09/07/86	0001			3.01	L	0.001	-
	02/27/87	0001			1.32	L	0.001	-
	10/01/87	0001			0.90		0.001	-
	01/10/88	0001			1.03		0.001	-
MANGANESE	06/04/86	0001	MG/L		0.87	L	0.01	-
	09/07/86	0001			0.12		0.01	-
	02/27/87	0001			0.02		0.01	-
	10/01/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
MERCURY	06/04/86	0001	MG/L	<	0.0002	L	0.0002	-
	09/07/86	0001		<	0.0002		0.0002	-
MOLYBDENUM	06/04/86	0001	MG/L		0.13	L	0.01	-
	09/07/86	0001			0.15		0.01	-
	02/27/87	0001			0.1		0.1	-
	10/01/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
NET GROSS ALPHA *	10/01/87	0001	PCI/L		-1.03		-	-
	01/10/88	0001			-1.03		-	-
NICKEL	06/04/86	0001	MG/L	<	0.08	J	0.04	-
	09/07/86	0001			0.04	L	0.04	-
NITRATE	06/04/86	0001	MG/L		0.3	J	1.	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0561 ABANDONED
 NORTH COORDINATE: 59838.7 FT
 EAST COORDINATE: 58028.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	09/07/86	0001	MG/L	<	1.	L	1.	-
	02/27/87	0001		<	0.1	JL	1.	-
	10/01/87	0001		<	1.0		1.	-
	01/10/88	0001		<	0.1	J	1.	-
NITRITE	06/04/86	0001	MG/L	<	0.1		0.1	-
	09/07/86	0001		<	0.1	L	0.1	-
PH	06/04/86	0001	SU		8.16		-	-
	09/07/86	0001			8.23	L	-	-
	02/27/87	0001			8.44	L	-	-
	10/01/87	0001			8.15		-	-
	01/10/88	0001			8.5		-	-
PHOSPHATE	06/04/86	0001	MG/L		0.1		0.1	-
	09/07/86	0001		<	0.1	L	0.1	-
POTASSIUM	06/04/86	0001	MG/L		5.93		0.01	-
	09/07/86	0001			2.40	L	0.01	-
	02/27/87	0001			1.60	L	0.01	-
	10/01/87	0001			0.92		0.01	-
	01/10/88	0001			1.41		0.01	-
RADIUM-226	10/01/87	0001	PCI/L		0.1		1.	0.1
	01/10/88	0001			0.1		1.	0.1
RADIUM-226 + RADIUM-228	10/01/87	0001	PCI/L		2.30		-	-
	01/10/88	0001			0.40		-	-
RADIUM-228	10/01/87	0001	PCI/L		2.2	J	1.	0.9
	01/10/88	0001			0.3		1.	0.8
SELENIUM	06/04/86	0001	MG/L	<	0.005		0.005	-
	09/07/86	0001		<	0.005	L	0.005	-
	02/27/87	0001			0.11	L	0.005	-
	10/01/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.051		0.005	-
SILICA - SiO2	06/04/86	0001	MG/L		4.		2.	-
	09/07/86	0001			4.	L	2.	-
SILVER	06/04/86	0001	MG/L	<	0.01		0.01	-
	09/07/86	0001		<	0.01	L	0.01	-
SODIUM	06/04/86	0001	MG/L		556.		0.002	-
	09/07/86	0001			810.	L	0.002	-
	02/27/87	0001			723.	L	0.002	-
	10/01/87	0001			680.		0.002	-
	01/10/88	0001			666.		0.002	-
SPECIFIC CONDUCTANCE	06/04/86	0001	UMHO/CM		2200.		-	-
	09/07/86	0001			2200.	L	-	-
	02/27/87	0001			1925.	L	-	-
	10/01/87	0001			2310.		-	-
	01/10/88	0001			2330.		-	-
STRONTIUM	06/04/86	0001	MG/L		0.5		0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0561 ABANDONED
 NORTH COORDINATE: 59838.7 FT
 EAST COORDINATE: 58028.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM	09/07/86	0001	MG/L		0.2	L	0.1	-
SULFATE	06/04/86	0001	MG/L		700.		0.1	-
	09/07/86	0001			481.	L	0.1	-
	02/27/87	0001			670.	L	0.1	-
	10/01/87	0001			650.		0.1	-
	01/10/88	0001			648.		0.1	-
TEMPERATURE	06/04/86	0001	C - DEGREE		19.		-	-
	09/07/86	0001			19.5	L	-	-
	02/27/87	0001			17.0	L	-	-
	10/01/87	0001			17.0		-	-
	01/10/88	0001			15.5		-	-
TIN	06/04/86	0001	MG/L	<	0.005		0.005	-
	09/07/86	0001		<	0.005	L	0.005	-
TOTAL DISSOLVED SOLIDS	06/04/86	0001	MG/L		1910.	H	10.	-
	09/07/86	0001			1890.	L	10.	-
	02/27/87	0001			2120.	L	10.	-
	10/01/87	0001			1870.		10.	-
	01/10/88	0001			1900.	H	10.	-
TOTAL ORGANIC CARBON	10/01/87	0001	MG/L		5.		1.	-
	01/10/88	0001			136.		1.	-
URANIUM	06/04/86	0001	MG/L		0.0008	J	0.003	-
	09/07/86	0001		<	0.0003	JL	0.003	-
	02/27/87	0001			0.0028	JL	0.003	-
	10/01/87	0001		<	0.003		0.003	-
	01/10/88	0001		<	0.0003	J	0.003	-
VANADIUM	06/04/86	0001	MG/L		0.1	J	0.01	-
	09/07/86	0001			0.18	LR	0.01	-
	10/01/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
ZINC	06/04/86	0001	MG/L		0.062		0.005	-
	09/07/86	0001			0.020	L	0.005	-
	10/01/87	0001			0.005		0.005	-
	01/10/88	0001			0.013		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0562 ABANDONED
 NORTH COORDINATE: 59585.9 FT
 EAST COORDINATE: 59014.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/05/86	0001	MG/L CACO3		600.		-	-
	09/07/86	0001			701.		-	-
	02/27/87	0001			745.	L	-	-
	10/02/87	0001			588.		-	-
	01/05/88	0001			635.		-	-
	05/12/88	0001			660.		-	-
ALUMINUM	06/05/86	0001	MG/L		0.7	J	0.1	-
	09/07/86	0001			0.2	J	0.1	-
	02/27/87	0001		<	0.1	JL	0.1	-
	10/02/87	0001		<	0.1		0.1	-
	01/05/88	0001			0.2		0.1	-
	05/12/88	0001			0.21		0.1	-
AMMONIUM	06/05/86	0001	MG/L		0.1		0.1	-
	09/07/86	0001			0.3		0.1	-
	02/27/87	0001		<	0.1	L	0.1	-
	10/02/87	0001		<	0.1		0.1	-
	01/05/88	0001		<	0.1		0.1	-
	05/12/88	0001			0.2		0.1	-
ANTIMONY	06/05/86	0001	MG/L	<	0.003		0.003	-
	09/07/86	0001		<	0.003		0.003	-
ARSENIC	06/05/86	0001	MG/L	<	0.01		0.01	-
	09/07/86	0001		<	0.01		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/05/88	0001		<	0.001	J	0.01	-
	05/12/88	0001			0.010		0.01	-
BARIUM	06/05/86	0001	MG/L		0.1		0.1	-
	09/07/86	0001			0.2		0.1	-
	05/12/88	0001			0.01	J	0.1	-
BORON	06/05/86	0001	MG/L		0.9		0.1	-
	09/07/86	0001			0.9		0.1	-
	02/27/87	0001			0.59	L	0.1	-
	10/02/87	0001			0.7		0.1	-
	01/05/88	0001			0.74		0.1	-
	05/12/88	0001			0.82		0.1	-
CADMIUM	06/05/86	0001	MG/L	<	0.001		0.001	-
	09/07/86	0001		<	0.001		0.001	-
	05/12/88	0001			0.005		0.001	-
CALCIUM	06/05/86	0001	MG/L		369.		0.01	-
	09/07/86	0001			321.		0.01	-
	02/27/87	0001			298.	L	0.01	-
	10/02/87	0001			300.		0.01	-
	01/05/88	0001			270.		0.01	-
	05/12/88	0001			328.		0.01	-
CHLORIDE	06/05/86	0001	MG/L		126.		1.	-
	09/07/86	0001			60.		1.	-
	02/27/87	0001			118.	L	1.	-
	10/02/87	0001			129.	J	1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0562 ABANDONED
NORTH COORDINATE: 59585.9 FT
EAST COORDINATE: 59014.3 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	01/05/88 05/12/88	0001 0001	MG/L		120. 150.		1. 1.	- -
CHROMIUM	06/05/86 09/07/86 02/27/87 10/02/87 01/05/88 05/12/88	0001 0001 0001 0001 0001 0001	MG/L	< <	0.04 0.01 0.02 0.01 0.01 0.09	 L J	0.01 0.01 0.01 0.01 0.01 0.01	- - - - - -
COBALT	06/05/86 09/07/86 05/12/88	0001 0001 0001	MG/L		0.13 0.06 0.02	 J	0.05 0.05 0.05	- - -
COPPER	06/05/86 09/07/86 05/12/88	0001 0001 0001	MG/L		0.05 0.03 0.01	 J	0.02 0.02 0.02	- - -
FLUORIDE	06/05/86 09/07/86 02/27/87 10/02/87 01/05/88 05/12/88	0001 0001 0001 0001 0001 0001	MG/L		1. 1.0 0.73 0.9 0.81 0.85	 L 	0.1 0.1 0.1 0.1 0.1 0.1	- - - - - -
GROSS ALPHA	10/02/87 01/05/88	0001 0001	PCI/L		82. 100.		0.2 0.2	74. 40.
GROSS BETA	10/02/87 01/05/88	0001 0001	PCI/L		0.0 39.		1. 1.	40. 29.
IRON	06/05/86 09/07/86 02/27/87 10/02/87 01/05/88 05/12/88	0001 0001 0001 0001 0001 0001	MG/L	< <	0.06 0.37 0.08 0.03 0.19 0.11	 L J	0.03 0.03 0.03 0.03 0.03 0.03	- - - - - -
LEAD	06/05/86 09/07/86 05/12/88	0001 0001 0001	MG/L	< <	0.01 0.01 0.02		0.01 0.01 0.01	- - -
MAGNESIUM	06/05/86 09/07/86 02/27/87 10/02/87 01/05/88 05/12/88	0001 0001 0001 0001 0001 0001	MG/L		150. 144. 150. 167. 123. 124.	 L 	0.001 0.001 0.001 0.001 0.001 0.001	- - - - - -
MANGANESE	06/05/86 09/07/86 02/27/87 10/02/87 01/05/88 05/12/88	0001 0001 0001 0001 0001 0001	MG/L		0.38 0.43 0.09 0.49 0.49 0.47	 L 	0.01 0.01 0.01 0.01 0.01 0.01	- - - - - -
MERCURY	06/05/86	0001	MG/L	<	0.0002		0.0002	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0562 ABANDONED
 NORTH COORDINATE: 59585.9 FT
 EAST COORDINATE: 59014.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MERCURY	09/07/86	0001	MG/L	<	0.0002		0.0002	-
	05/12/88	0001			0.0014		0.0002	-
MOLYBDENUM	06/05/86	0001	MG/L	<	0.18		0.01	-
	09/07/86	0001			0.18		0.01	-
	02/27/87	0001			0.1	L	0.1	-
	10/02/87	0001			0.02		0.01	-
	01/05/88	0001			0.12		0.01	-
	05/12/88	0001			0.07		0.01	-
NET GROSS ALPHA *	10/02/87	0001	PCI/L		-18.16		-	-
	01/05/88	0001			45.67		-	-
NICKEL	06/05/86	0001	MG/L		0.09	J	0.04	-
	09/07/86	0001			0.05		0.04	-
	05/12/88	0001			0.05	J	0.04	-
NITRATE	06/05/86	0001	MG/L		45.		1.	-
	09/07/86	0001			130.		1.	-
	02/27/87	0001			133.	L	1.	-
	10/02/87	0001			173.	H	1.	-
	01/05/88	0001			62.		1.	-
	05/12/88	0001			130.		1.	-
NITRITE	06/05/86	0001	MG/L	<	0.1		0.1	-
	09/07/86	0001			0.1		0.1	-
PH	06/05/86	0001	SU		7.3		-	-
	09/07/86	0001			7.03		-	-
	02/27/87	0001			6.93	L	-	-
	10/02/87	0001			6.9		-	-
	01/05/88	0001			6.9		-	-
	05/12/88	0001			6.88		-	-
PHOSPHATE	06/05/86	0001	MG/L	<	0.1		0.1	-
	09/07/86	0001			0.1		0.1	-
	05/12/88	0001			0.3		0.1	-
POTASSIUM	06/05/86	0001	MG/L		8.41		0.01	-
	09/07/86	0001			8.48		0.01	-
	02/27/87	0001			5.10	L	0.01	-
	10/02/87	0001			7.2		0.01	-
	01/05/88	0001			6.25		0.01	-
	05/12/88	0001			7.39		0.01	-
RADIUM-226	10/02/87	0001	PCI/L		1.3		1.	0.3
	01/05/88	0001			0.2		1.	0.2
RADIUM-226 + RADIUM-228	10/02/87	0001	PCI/L		3.10		-	-
	01/05/88	0001			1.10		-	-
RADIUM-228	10/02/87	0001	PCI/L		1.8		1.	1.0
	01/05/88	0001			0.9		1.	0.8

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0562 ABANDONED
 NORTH COORDINATE: 59585.9 FT
 EAST COORDINATE: 59014.3 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	06/05/86	0001	MG/L	<	0.005		0.005	-
	09/07/86	0001		<	0.005		0.005	-
	02/27/87	0001			0.32	L	0.005	-
	10/02/87	0001			0.020		0.005	-
	01/05/88	0001			0.164	J	0.005	-
	05/12/88	0001			0.160		0.005	-
SILICA - SiO2	06/05/86	0001	MG/L		4.		2.	-
	09/07/86	0001			4.		2.	-
	05/12/88	0001			9.7		2.	-
SILVER	06/05/86	0001	MG/L	<	0.01		0.01	-
	09/07/86	0001		<	0.01		0.01	-
SODIUM	06/05/86	0001	MG/L		1740.		0.002	-
	09/07/86	0001			1900.		0.002	-
	02/27/87	0001			1910.	L	0.002	-
	10/02/87	0001			1750.		0.002	-
	01/05/88	0001			1570.		0.002	-
	05/12/88	0001			1870.		0.002	-
SPECIFIC CONDUCTANCE	06/05/86	0001	UMHO/CM		6000.		-	-
	09/07/86	0001			5200.		-	-
	02/27/87	0001			4575.	L	-	-
	10/02/87	0001			7900.		-	-
	01/05/88	0001			6700.		-	-
	05/12/88	0001			6240.		-	-
STRONTIUM	06/05/86	0001	MG/L		10.8		0.1	-
	09/07/86	0001			0.8		0.1	-
	05/12/88	0001			8.83		0.1	-
SULFATE	06/05/86	0001	MG/L		4330.		0.1	-
	09/07/86	0001			4480.		0.1	-
	02/27/87	0001			4510.	L	0.1	-
	10/02/87	0001			4600.		0.1	-
	01/05/88	0001			3550.		0.1	-
	05/12/88	0001			4330.		0.1	-
SULFIDE	05/12/88	0001	MG/L	<	0.1		0.1	-
TEMPERATURE	06/05/86	0001	C - DEGREE		18.		-	-
	09/07/86	0001			18.5		-	-
	02/27/87	0001			16.5	L	-	-
	10/02/87	0001			16.5		-	-
	01/05/88	0001			15.9		-	-
	05/12/88	0001			16.5		-	-
TIN	06/05/86	0001	MG/L	<	0.005		0.005	-
	09/07/86	0001		<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	06/05/86	0001	MG/L		7620.	H	10.	-
	09/07/86	0001			7160.		10.	-
	02/27/87	0001			7610.	L	10.	-
	10/02/87	0001			7440.		10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0562 ABANDONED

NORTH COORDINATE: 59585.9 FT

EAST COORDINATE: 59014.3 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)

HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	01/05/88	0001	MG/L		7070.	H	10.	-
	05/12/88	0001			7190.		10.	-
TOTAL ORGANIC CARBON	10/02/87	0001	MG/L		25.		1.	-
	01/05/88	0001			237.		1.	-
URANIUM	06/05/86	0001	MG/L		0.0201		0.003	-
	09/07/86	0001			0.0354		0.003	-
	02/27/87	0001			0.0462		0.003	-
	10/02/87	0001			0.146		0.003	-
	01/05/88	0001			0.0792		0.003	-
	05/12/88	0001			0.0402		0.003	-
VANADIUM	06/05/86	0001	MG/L		0.1	J	0.01	-
	09/07/86	0001			0.38	R	0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/05/88	0001			0.04		0.01	-
	05/12/88	0001			0.05	J	0.01	-
ZINC	06/05/86	0001	MG/L		0.015		0.005	-
	09/07/86	0001			0.020		0.005	-
	10/02/87	0001			0.022		0.005	-
	01/05/88	0001			0.007		0.005	-
	05/12/88	0001			0.006	J	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/12/86	0001	MG/L CaCO3		530.	L	-	-
	03/13/87	0001			560.		-	-
	10/02/87	0001			521.		-	-
	01/10/88	0001			521.	L	-	-
	07/18/88	0001			529.	L	-	-
	03/11/89	0001			543.		-	-
	09/19/89	0001			552.	L	-	-
	01/10/90	0001			540.		-	-
	03/29/90	0001			528.	L	-	-
	08/22/90	0001			545.	L	-	-
	01/13/91	0001			526.		-	-
	04/18/91	0001			521.	L	-	-
	07/11/91	0001			548.	L	-	-
	01/08/92	0001			547	L	-	-
	07/19/92	0001			536	L	-	-
ALUMINUM	09/12/86	0001	MG/L		0.3	JL	0.1	-
	03/13/87	0001			0.2		0.1	-
	10/02/87	0001		<	0.1		0.1	-
	01/10/88	0001		<	0.1	L	0.1	-
	07/18/88	0001		<	0.01	JL	0.1	-
					0.0621	*L	0.05	-
	07/19/92	0001						-
AMMONIUM	09/12/86	0001	MG/L		0.7	L	0.1	-
	03/13/87	0001			0.3		0.1	-
	10/02/87	0001			0.3		0.1	-
	01/10/88	0001		<	0.1	L	0.1	-
	07/18/88	0001		<	0.1	L	0.1	-
	03/11/89	0001			0.3	H	0.1	-
	09/19/89	0001			0.3	L	0.1	-
	01/10/90	0001		<	0.1		0.1	-
	03/29/90	0001			0.4	HL	0.1	-
	08/22/90	0001			0.4	HJL	0.1	-
	01/13/91	0001			0.29	J	0.01	-
	04/18/91	0001			0.4	L	0.1	-
	07/10/91	0001			0.16	L	0.03	-
	01/08/92	0001			0.3	L	0.1	-
	07/19/92	0001			0.222	L	0.1	-
ANTIMONY	09/12/86	0001	MG/L	<	0.003	L	0.003	-
ARSENIC	09/12/86	0001	MG/L	<	0.01	J	0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01	L	0.01	-
	07/18/88	0001			0.022	L	0.01	-
	09/19/89	0001		<	0.01	L	0.01	-
	01/10/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	JL	0.01	-
	08/22/90	0001		<	0.05	L	0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.0023	L	0.0023	-
	01/08/92	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0582 OFF-SITE MONITOR WELL
NORTH COORDINATE: 60427.0 FT
EAST COORDINATE: 57424.8 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	07/19/92	0001	MG/L	<	0.005	L	0.005	-
BARIUM	09/12/86	0001	MG/L	<	0.2	L	0.1	-
	07/18/88	0001			0.01	JL	0.1	-
BORON	09/12/86	0001	MG/L		0.8	L	0.1	-
	03/13/87	0001			0.5		0.1	-
	10/02/87	0001			0.7		0.1	-
	01/10/88	0001			0.7	L	0.1	-
	07/18/88	0001			0.7	L	0.1	-
BROMIDE	12/15/93	0001	MG/L		1.73	L	0.10	-
CADMIUM	09/12/86	0001	MG/L	<	0.001	L	0.001	-
	07/18/88	0001			0.001	L	0.001	-
	03/11/89	0001			0.002		0.001	-
	09/19/89	0001			0.001	L	0.001	-
	01/10/90	0001			0.006		0.001	-
	03/29/90	0001			0.001	L	0.001	-
	08/22/90	0001			0.001	L	0.001	-
	01/13/91	0001			0.001		0.001	-
	04/18/91	0001			0.001	L	0.001	-
	07/10/91	0001			0.0046	1L	0.0046	-
	01/08/92	0001			0.001	L	0.001	-
	07/19/92	0001			0.001	LW	0.001	-
CALCIUM	09/12/86	0001	MG/L		7.32	L	0.01	-
	03/13/87	0001			4.83		0.01	-
	10/02/87	0001			4.4		0.01	-
	01/10/88	0001			4.54	L	0.01	-
	07/18/88	0001			5.96	L	0.01	-
	03/11/89	0001			5.56		0.01	-
	09/19/89	0001			6.9	L	0.01	-
	01/10/90	0001			6.56		0.01	-
	03/29/90	0001			7.30	L	0.01	-
	08/22/90	0001			7.54	L	0.01	-
	01/13/91	0001			7.8		0.1	-
	04/18/91	0001			7.8	L	0.1	-
	07/10/91	0001			8.0	L	0.014	-
	01/08/92	0001			7.4	L	0.1	-
	07/19/92	0001			7.91	L	0.5	-
CHLORIDE	09/12/86	0001	MG/L		640.	L	1.	-
	03/13/87	0001			307.		1.	-
	10/02/87	0001			300.		1.	-
	01/10/88	0001			300.	L	1.	-
	07/18/88	0001			560.	L	1.	-
	03/11/89	0001			470.		1.	-
	09/19/89	0001			588.	L	1.	-
	01/10/90	0001			644.		1.	-
	03/29/90	0001			601.	HL	1.	-
	08/22/90	0001			620.	HL	1.	-
	01/13/91	0001			654.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0582 OFF-SITE MONITOR WELL

NORTH COORDINATE: 60427.0 FT

EAST COORDINATE: 57424.8 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)

HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	04/18/91	0001	MG/L		671.	L	0.5	-
	07/10/91	0001			860	L	0.5	-
	01/08/92	0001			620.	L	10.	-
	07/19/92	0001			653	L	0.5	-
	12/15/93	0001			690.	L	0.50	-
CHROMIUM	09/12/86	0001	MG/L		0.01	L	0.01	-
	03/13/87	0001		<	0.01		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02	L	0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
	03/11/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01	L	0.01	-
	01/10/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01	L	0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.016	IL	0.016	-
	01/08/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
COBALT	09/12/86	0001	MG/L	<	0.05	L	0.05	-
	03/11/89	0001		<	0.05		0.05	-
COPPER	09/12/86	0001	MG/L	<	0.02	L	0.02	-
	07/18/88	0001		<	0.01	JL	0.02	-
	03/11/89	0001		<	0.02		0.02	-
DISSOLVED ORGANIC CARBON	07/10/91	0001	MG/L	<	1.0	L	1.	-
FLUORIDE	09/12/86	0001	MG/L		4.4	L	0.1	-
	03/13/87	0001			4.3		0.1	-
	10/02/87	0001			4.2		0.1	-
	01/10/88	0001			3.65	L	0.1	-
	07/18/88	0001			4.3	L	0.1	-
GROSS ALPHA	10/02/87	0001	PCI/L		0.0		0.2	18.
	01/10/88	0001			2.	L	0.2	13.
	07/18/88	0001			0.	L	0.2	23.
	03/11/89	0001			6.		0.2	15.
	09/19/89	0001			20.8	L	1.	18.9
	01/10/90	0001			0.		1.	23.
	03/29/90	0001			0.0	L	1.	14.4
	08/22/90	0001			53.5	JL	1.	48.5
	01/13/91	0001			39.9		1.	33.2
	04/18/91	0001			0.0	L	1.	50.3
	07/11/91	0001			0	L	1.	19
	01/08/92	0001			27.3	L	1.	33.1
	07/19/92	0001			16.1	L	31.1	21.6
GROSS BETA	10/02/87	0001	PCI/L		1.9		1.	15.
	01/10/88	0001			0.	L	1.	11.
	07/18/88	0001			5.	L	1.	14.
	03/11/89	0001			9.5		1.	7.4

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	09/19/89	0001	PCI/L		33.1	L	0.5	11.6
	01/10/90	0001			20.		0.5	14.
	03/29/90	0001			2.5	L	0.5	12.0
	08/22/90	0001			19.5	JL	0.5	26.3
	01/13/91	0001			44.7		0.5	20.3
	04/18/91	0001			0.0	L	0.5	28.7
	07/11/91	0001			0	L	0.5	16
	01/08/92	0001			4.3	L	0.5	18.7
	07/19/92	0001			44.5	L	28.3	19.5
IRON	09/12/86	0001	MG/L	<	0.03	L	0.03	-
	03/13/87	0001			0.05		0.03	-
	10/02/87	0001		<	0.03		0.03	-
	01/10/88	0001			0.12	L	0.03	-
	07/18/88	0001		<	0.01	JL	0.03	-
	03/11/89	0001		<	0.03		0.03	-
	09/19/89	0001		<	0.03	L	0.03	-
	01/10/90	0001		<	0.03		0.03	-
	03/29/90	0001		<	0.03	L	0.03	-
	08/22/90	0001			0.03	L	0.03	-
	01/13/91	0001		<	0.03		0.03	-
	04/18/91	0001		<	0.03	L	0.03	-
	07/10/91	0001			0.082	L	0.005	-
	01/08/92	0001		<	0.03	L	0.03	-
	07/19/92	0001		<	0.03	L	0.03	-
LEAD	09/12/86	0001	MG/L	<	0.01	L	0.01	-
	07/18/88	0001			0.10	L	0.01	-
	09/19/89	0001		<	0.01	L	0.01	-
	01/10/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.005	JL	0.01	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.005	L	0.005	-
	07/10/91	0001		<	0.0021	L	0.0021	-
	01/08/92	0001		<	0.03	IL	0.03	-
	07/19/92	0001		<	0.003	L	0.003	-
LEAD-210	09/12/86	0001	PCI/L		0.0	L	1.5	1.7
MAGNESIUM	09/12/86	0001	MG/L		1.20	L	0.001	-
	03/13/87	0001			0.99		0.001	-
	10/02/87	0001			0.94		0.001	-
	01/10/88	0001			0.88	L	0.001	-
	07/18/88	0001			1.13	L	0.001	-
	03/11/89	0001			1.14		0.001	-
	09/19/89	0001			1.4	L	0.001	-
	01/10/90	0001			1.44		0.001	-
	03/29/90	0001			1.65	L	0.001	-
	08/22/90	0001			1.58	L	0.001	-
	01/13/91	0001			1.6		0.1	-
	04/18/91	0001			1.7	L	0.1	-
	07/10/91	0001			1.6	L	0.028	-
	01/08/92	0001			1.6	L	0.1	-
	07/19/92	0001			1.68	L	0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	09/12/86	0001	MG/L		0.02	L	0.01	-
	03/13/87	0001			0.01		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01	L	0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
MERCURY	09/12/86	0001	MG/L	<	0.0002	L	0.0002	-
	07/18/88	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	09/12/86	0001	MG/L		0.10	L	0.01	-
	03/13/87	0001		<	0.1		0.1	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02	L	0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
	03/11/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01	L	0.01	-
	01/10/90	0001			0.02		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01	L	0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.011	IL	0.011	-
	01/08/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
NET GROSS ALPHA *	10/02/87	0001	PCI/L		-1.03		-	-
	01/10/88	0001			0.97		-	-
	07/18/88	0001			-1.03		-	-
	03/11/89	0001			5.73		-	-
	09/19/89	0001			19.77		-	-
	01/10/90	0001			-1.03		-	-
	03/29/90	0001			-1.03		-	-
	08/22/90	0001			51.44		-	-
	01/13/91	0001			37.16		-	-
	04/18/91	0001			-0.34		-	-
	07/11/91	0001			-0.10		-	-
	01/08/92	0001			26.96		-	-
	07/19/92	0001			11.98		-	-
NICKEL	09/12/86	0001	MG/L	<	0.04	L	0.04	-
	03/11/89	0001		<	0.04		0.04	-
	09/19/89	0001		<	0.04	L	0.04	-
	01/10/90	0001		<	0.04		0.04	-
	03/29/90	0001		<	0.04	L	0.04	-
	08/22/90	0001		<	0.04	L	0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/18/91	0001		<	0.04	L	0.04	-
	07/10/91	0001		<	0.014	IL	0.014	-
	01/08/92	0001		<	0.04	L	0.04	-
NITRATE	09/12/86	0001	MG/L		5.6	L	1.	-
	03/13/87	0001			0.4	J	1.	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	10/02/87	0001	MG/L	<	1.0		1.	-
	01/10/88	0001		<	0.1	JL	1.	-
	07/18/88	0001			2.1	L	1.	-
	03/11/89	0001		<	1.0		1.	-
	09/19/89	0001		<	1.0	L	1.	-
	01/10/90	0001		<	0.1	J	1.	-
	03/29/90	0001		<	1.	HL	1.	-
	08/22/90	0001			1.3	HJL	1.	-
	01/13/91	0001			1.3		1.	-
	04/18/91	0001		<	1.0	L	1.	-
	07/10/91	0001			3.6	JL	0.22	-
	01/08/92	0001		<	1.0	L	1.	-
	07/19/92	0001		<	1	L	1	-
NITRITE	09/12/86	0001	MG/L	<	0.1	L	0.1	-
PH	09/12/86	0001	SU		8.84	L	-	-
	03/13/87	0001			8.34		-	-
	10/02/87	0001			8.0		-	-
	01/10/88	0001			8.4	L	-	-
	07/18/88	0001			8.21	L	-	-
	03/11/89	0001			8.37		-	-
	09/19/89	0001			8.22	L	-	-
	01/10/90	0001			8.25		-	-
	03/29/90	0001			8.25	L	-	-
	08/22/90	0001			8.16	L	-	-
	01/13/91	0001			8.14		-	-
	04/18/91	0001			8.13	JL	-	-
	07/11/91	0001			8.08	L	-	-
	01/08/92	0001			8.13	L	-	-
	07/19/92	0001			8.19	L	-	-
PHOSPHATE	09/12/86	0001	MG/L	<	0.1	L	0.1	-
	07/19/92	0001		<	0.1	L	0.1	-
POLONIUM-210	09/12/86	0001	PCI/L		0.0	L	1.	0.5
POTASSIUM	09/12/86	0001	MG/L		2.01	L	0.01	-
	03/13/87	0001			0.90		0.01	-
	10/02/87	0001			0.92		0.01	-
	01/10/88	0001			1.02	L	0.01	-
	07/18/88	0001			1.1	L	0.01	-
	03/11/89	0001			1.30		0.01	-
	09/19/89	0001			1.09	L	0.01	-
	01/10/90	0001			1.2		0.01	-
	03/29/90	0001			1.21	L	0.01	-
	08/22/90	0001			1.29	L	0.01	-
	01/13/91	0001			1.25		0.01	-
	04/18/91	0001			1.39	L	0.01	-
	07/10/91	0001			1.7	L	0.5	-
	01/08/92	0001			1.16	L	0.01	-
	07/19/92	0001			1.41	L	0.1	-
RADIUM-226	09/12/86	0001	PCI/L		0.1	L	1.	0.1
	10/02/87	0001			0.4		1.	0.2
	01/10/88	0001			0.3	L	1.	0.1

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0582 OFF-SITE MONITOR WELL

NORTH COORDINATE: 60427.0 FT

EAST COORDINATE: 57424.8 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)

HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	07/18/88	0001	PCI/L		0.5	L	1.	0.3
	03/11/89	0001			0.6		1.	0.3
	09/19/89	0001			0.3	L	1.	0.2
	01/10/90	0001			0.3		1.	0.2
	03/29/90	0001			0.3	L	1.	0.2
	08/22/90	0001			0.7	L	1.	0.3
	01/13/91	0001			0.4	Jc	0.6	0.2
	04/18/91	0001			0.7	L	1.	0.3
	07/11/91	0001			0.6	L	1.	0.3
	01/08/92	0001			0.5	L	1.	0.4
	07/19/92	0001			0.9	L	0.3	0.4
RADIUM-226 + RADIUM-228	09/12/86	0001	PCI/L		0.10		-	-
	10/02/87	0001			1.60		-	-
	01/10/88	0001			0.30		-	-
	07/18/88	0001			0.50		-	-
	03/11/89	0001			1.30		-	-
	09/19/89	0001			0.70		-	-
	01/10/90	0001			1.30		-	-
	03/29/90	0001			0.30		-	-
	08/22/90	0001			0.70		-	-
	01/13/91	0001			4.80		-	-
	04/18/91	0001			13.10		-	-
	07/11/91	0001			0.60		-	-
	01/08/92	0001			2.20		-	-
	07/19/92	0001			0.90		-	-
RADIUM-228	09/12/86	0001	PCI/L		0.0	L	1.	1.1
	10/02/87	0001			1.2	J	1.	1.0
	01/10/88	0001			0.	L	1.	0.9
	07/18/88	0001			0.0	L	1.	0.7
	03/11/89	0001			0.7		1.	0.8
	09/19/89	0001			0.4	JL	1.	1.7
	01/10/90	0001			1.0		1.	0.9
	03/29/90	0001			0.0	L	1.	2.4
	08/22/90	0001			0.0	L	1.	1.4
	01/13/91	0001			4.4	J	1.	1.8
	04/18/91	0001			12.4	JL	1.	2.4
	07/11/91	0001			0.0	L	1.	1.0
	01/08/92	0001			1.7	L	1.	2.4
	07/19/92	0001			0.0	L	3.5	2.0
SELENIUM	09/12/86	0001	MG/L		0.076	L	0.005	-
	03/13/87	0001		<	0.002	J	0.005	-
	10/02/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.027	L	0.005	-
	07/18/88	0001			0.007	L	0.005	-
	03/11/89	0001		<	0.005	N	0.005	-
	09/19/89	0001		<	0.03	L	0.03	-
	01/10/90	0001			0.015		0.005	-
	03/29/90	0001			0.02	L	0.005	-
	08/22/90	0001		<	0.03	L	0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/18/91	0001		<	0.03	IL	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

c - CHANGED DETECTION LIMIT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	07/10/91	0001	MG/L	<	0.0022	L	0.0022	-
	01/08/92	0001		<	0.005	L	0.005	-
	07/19/92	0001		<	0.005	L	0.005	-
	12/15/93	0001			0.008	L	0.005	-
SILICA - SiO2	09/12/86	0001	MG/L		5.	L	2.	-
	12/15/93	0001			8.90	EL	0.10	-
SILVER	09/12/86	0001	MG/L	<	0.01	L	0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
SODIUM	09/12/86	0001	MG/L		936.	L	0.002	-
	03/13/87	0001			712.		0.002	-
	10/02/87	0001			700.		0.002	-
	01/10/88	0001			698.	L	0.002	-
	07/18/88	0001			834.	L	0.002	-
	03/11/89	0001			816.		0.002	-
	09/19/89	0001			850.	L	0.002	-
	01/10/90	0001			938.		0.002	-
	03/29/90	0001			900.	L	0.002	-
	08/22/90	0001			910.	L	0.002	-
	01/13/91	0001			930.	J	5.	-
	04/18/91	0001			920.	L	10.	-
	07/10/91	0001			870.	L	0.027	-
	01/08/92	0001			890.	L	5.	-
	07/19/92	0001			1004	L	1	-
SPECIFIC CONDUCTANCE	09/12/86	0001	UMHO/CM		2500.	L	-	-
	03/13/87	0001			2550.		-	-
	10/02/87	0001			2500.		-	-
	01/10/88	0001			2400.	L	-	-
	07/18/88	0001			2900.	L	-	-
	03/11/89	0001			2375.		-	-
	09/19/89	0001			1590.	L	-	-
	01/10/90	0001			2900.		-	-
	03/29/90	0001			3100.	L	-	-
	08/22/90	0001			3220.	L	-	-
	01/13/91	0001			4000.		-	-
	04/18/91	0001			4070.	L	-	-
	07/11/91	0001			4030.	L	-	-
	01/08/92	0001			2370	L	-	-
	07/19/92	0001			3340	L	-	-
STRONTIUM	09/12/86	0001	MG/L		0.6	L	0.1	-
SULFATE	09/12/86	0001	MG/L		619.	L	0.1	-
	03/13/87	0001			615.		0.1	-
	10/02/87	0001			630.		0.1	-
	01/10/88	0001			624.	L	0.1	-
	07/18/88	0001			577.	L	0.1	-
	03/11/89	0001			593.	H	0.1	-
	09/19/89	0001			584.	L	0.1	-
	01/10/90	0001			582.		0.1	-
	03/29/90	0001			545.	HL	0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE S1.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	08/22/90	0001	MG/L		582.	L	0.1	-
	01/13/91	0001			531.		0.1	-
	04/18/91	0001			580.	L	10.	-
	07/10/91	0001			560	L	10.	-
	01/08/92	0001			603.	L	10.	-
	07/19/92	0001			563	L	1	-
	12/15/93	0001			526.	IL	10.	-
SULFIDE	07/18/88	0001	MG/L		9.9	L	0.1	-
TEMPERATURE	09/12/86	0001	C - DEGREE		18.	L	-	-
	03/13/87	0001			16.5		-	-
	10/02/87	0001			16.0		-	-
	01/10/88	0001			14.3	L	-	-
	07/18/88	0001			16.5	L	-	-
	03/11/89	0001			15.5		-	-
	09/19/89	0001			15.0	L	-	-
	01/10/90	0001			15.0		-	-
	03/29/90	0001			15.0	L	-	-
	08/22/90	0001			13.0	L	-	-
	01/13/91	0001			15.1		-	-
	04/18/91	0001			14.5	L	-	-
	07/11/91	0001			16.2	L	-	-
	01/08/92	0001			14.3	L	-	-
	07/19/92	0001			15.5	L	-	-
THORIUM-230	09/12/86	0001	PCI/L		0.3	L	1.	0.5
TIN	09/12/86	0001	MG/L	<	0.005	L	0.005	-
TOTAL DISSOLVED SOLIDS	09/12/86	0001	MG/L		2000.	L	10.	-
	03/13/87	0001			2130.		10.	-
	10/02/87	0001			1930.		10.	-
	01/10/88	0001			1930.	HL	10.	-
	07/18/88	0001			2210.	HL	10.	-
	03/11/89	0001			2080.	H	10.	-
	09/19/89	0001			2390.	L	10.	-
	01/10/90	0001			2370.		10.	-
	03/29/90	0001			2370.	HL	10.	-
	08/22/90	0001			2420.	HL	10.	-
	01/13/91	0001			2510.		10.	-
	04/18/91	0001			2470.	L	10.	-
	07/10/91	0001			2400	L	10.	-
	01/08/92	0001			2430.	L	10.	-
	07/19/92	0001			2450	L	10	-
	12/15/93	0001			2510.	L	10.	-
TOTAL KJELDAHL NITROGEN	01/08/92	0001	MG/L	<	2.	IL	2.	-
TOTAL ORGANIC CARBON	09/12/86	0001	MG/L		62.	L	1.	-
	10/02/87	0001		<	1.		1.	-
	01/10/88	0001			125.	L	1.	-
	07/18/88	0001			74.3	L	1.	-
	03/11/89	0001			135.		1.	-
	09/19/89	0001			3.	L	1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0582 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60427.0 FT
 EAST COORDINATE: 57424.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	01/10/90	0001	MG/L		27.		1.	-
	03/29/90	0001			3.	L	1.	-
	08/22/90	0001			2.	L	1.	-
	01/13/91	0001			4.		1.	-
	04/18/91	0001			3.	L	1.	-
	07/10/91	0001			1.2	L	1.	-
	01/08/92	0001			2.	L	1.	-
	07/19/92	0001			1.5	*L	1	-
URANIUM	09/12/86	0001	MG/L	<	0.0003	JL	0.003	-
	03/13/87	0001			0.0026	J	0.003	-
	10/02/87	0001		<	0.003		0.003	-
	01/10/88	0001		<	0.0003	JL	0.003	-
	07/18/88	0001		<	0.0003	JL	0.003	-
	03/11/89	0001			0.0004	J	0.003	-
	09/19/89	0001		<	0.003	L	0.003	-
	01/10/90	0001		<	0.0003	J	0.003	-
	03/29/90	0001		<	0.003	L	0.003	-
	08/22/90	0001			0.003	L	0.001	-
	01/13/91	0001			0.004		0.001	-
	04/18/91	0001		<	0.001	L	0.001	-
	07/11/91	0001		<	0.0003	L	0.0003	-
	01/08/92	0001		<	0.001	L	0.001	-
	07/19/92	0001			0.006	L	0.001	-
VANADIUM	09/12/86	0001	MG/L		0.19	JL	0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01	L	0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
	03/11/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01	L	0.01	-
	01/10/90	0001			0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01	L	0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/18/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.011	IL	0.011	-
	01/08/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
ZINC	09/12/86	0001	MG/L		0.008	L	0.005	-
	10/02/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.01	L	0.005	-
	07/18/88	0001		<	0.005	L	0.005	-
	03/11/89	0001		<	0.005		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/12/86	0001	MG/L CaCO3		193.		-	-
	03/13/87	0001			670.		-	-
	10/02/87	0001			1030.		-	-
	01/11/88	0001			1220.		-	-
	07/21/88	0001			1563.		-	-
	03/12/89	0001			868.		-	-
	09/19/89	0001			1736.		-	-
	01/11/90	0001			2324.		-	-
	03/29/90	0001			2224.	L	-	-
	08/22/90	0001			1420.		-	-
	01/13/91	0001			1889.		-	-
	04/21/91	0001			1138.		-	-
	07/11/91	0001			1338.		-	-
	01/08/92	0001			1957		-	-
	07/19/92	0001			1298		-	-
ALUMINUM	09/12/86	0001	MG/L		0.3	J	0.1	-
	03/13/87	0001		<	0.1		0.1	-
	10/02/87	0001		<	0.1		0.1	-
	01/11/88	0001			0.2		0.1	-
	07/21/88	0001			0.06	J	0.1	-
	07/19/92	0001			0.117	*	0.05	-
AMMONIUM	09/12/86	0001	MG/L		1.1		0.1	-
	03/13/87	0001			0.4		0.1	-
	10/02/87	0001			0.5		0.1	-
	01/11/88	0001			0.3		0.1	-
	07/21/88	0001			0.4		0.1	-
	03/12/89	0001			0.4	H	0.1	-
	09/19/89	0001			1.0		0.1	-
	01/11/90	0001			0.8		0.1	-
	03/29/90	0001			0.9	HL	0.1	-
	08/22/90	0001			0.82	J	0.1	-
	01/13/91	0001			0.79		0.01	-
	04/21/91	0001			0.9		0.1	-
	07/12/91	0001			0.21		0.03	-
	01/08/92	0001			0.9		0.1	-
	07/19/92	0001			0.645		0.1	-
ANTIMONY	09/12/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/12/86	0001	MG/L	<	0.01		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/11/88	0001		<	0.01		0.01	-
	07/21/88	0001			0.015		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.03	I JL	0.03	-
	08/22/90	0001		<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.0023		0.0023	-
	01/08/92	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	07/19/92	0001	MG/L	<	0.005		0.005	-
BARIUM	09/12/86	0001	MG/L		0.2		0.1	-
	07/21/88	0001			0.01	J	0.1	-
BORON	09/12/86	0001	MG/L		0.4		0.1	-
	03/13/87	0001			1.0		0.1	-
	10/02/87	0001			1.2		0.1	-
	01/11/88	0001			1.23		0.1	-
	07/21/88	0001			1.2		0.1	-
BROMIDE	01/08/94	0001	MG/L		2.74		0.10	-
CADMIUM	09/12/86	0001	MG/L	<	0.001		0.001	-
	07/21/88	0001			0.048		0.001	-
	03/12/89	0001			0.018		0.001	-
	09/19/89	0001		<	0.001		0.001	-
	01/11/90	0001			0.017		0.001	-
	03/29/90	0001		<	0.001	L	0.001	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/12/91	0001		<	0.0046	I	0.0046	-
	01/08/92	0001		<	0.001		0.001	-
	07/19/92	0001		<	0.01	IW	0.01	-
CALCIUM	09/12/86	0001	MG/L		303.		0.01	-
	03/13/87	0001			327.		0.01	-
	10/02/87	0001			230.		0.01	-
	01/11/88	0001			218.		0.01	-
	07/21/88	0001			186.		0.01	-
	03/12/89	0001			235.		0.01	-
	09/19/89	0001			134.		0.01	-
	01/11/90	0001			126.		0.01	-
	03/29/90	0001			132.	L	0.01	-
	08/22/90	0001			143.		0.01	-
	01/13/91	0001			121.		0.5	-
	04/21/91	0001			160.		0.5	-
	07/12/91	0001			150		0.014	-
	01/08/92	0001			118.		0.5	-
	07/19/92	0001			130		0.5	-
CHLORIDE	09/12/86	0001	MG/L		710.		1.	-
	03/13/87	0001			925.		1.	-
	10/02/87	0001			830.		1.	-
	01/11/88	0001			900.		1.	-
	07/21/88	0001			1120.		1.	-
	03/12/9	0001			920.		1.	-
	09/19/89	0001			1100.		1.	-
	01/11/90	0001			1000.		1.	-
	03/29/90	0001			1002.	HL	1.	-
	08/22/90	0001			1010.	H	1.	-
	01/13/91	0001			1070.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	04/21/91	0001	MG/L		1060.		0.5	-
	07/12/91	0001			1400		0.5	-
	01/08/92	0001			1180.		10.	-
	07/19/92	0001			1200		0.5	-
	01/08/94	0001			1160.		0.50	-
CHROMIUM	09/12/86	0001	MG/L		0.02		0.01	-
	03/13/87	0001			0.02		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/11/88	0001			0.03		0.01	-
	07/21/88	0001			0.07		0.01	-
	03/12/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.016	I	0.016	-
	01/08/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
COBALT	09/12/86	0001	MG/L	<	0.05		0.05	-
	03/12/89	0001		<	0.05		0.05	-
COPPER	09/12/86	0001	MG/L		0.03		0.02	-
	07/21/88	0001		<	0.01	J	0.02	-
	03/12/89	0001		<	0.02		0.02	-
DISSOLVED ORGANIC CARBON	07/12/91	0001	MG/L		1.0		1.	-
FLUORIDE	09/12/86	0001	MG/L		1.2		0.1	-
	03/13/87	0001			0.4		0.1	-
	10/02/87	0001			0.2		0.1	-
	01/11/88	0001			0.36		0.1	-
	07/21/88	0001			0.4		0.1	-
GROSS ALPHA	10/02/87	0001	PCI/L		0.8		0.2	61.
	01/11/88	0001			4.		0.2	27.
	07/21/88	0001			0.		0.2	54.
	03/12/89	0001			0.		0.2	53.
	09/19/89	0001			32.1		1.	45.9
	01/11/90	0001			5.		1.	48.
	03/29/90	0001			0.0	L	1.	40.3
	08/22/90	0001			30.2	J	1.	46.5
	01/13/91	0001			49.4		1.	56.2
	04/21/91	0001			50.1		1.	94.0
	07/11/91	0001			0		1.	54
	01/08/92	0001			49.6		1.	76.1
	07/19/92	0001			36.4		70.3	48.8
GROSS BETA	10/02/87	0001	PCI/L		0.0		1.	38.
	01/11/88	0001			0.		1.	19.
	07/21/88	0001			15.		1.	29.
	03/12/89	0001			46.		1.	30.

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	09/19/89	0001	PCI/L		42.2		0.5	32.1
	01/11/90	0001			19.		0.5	28.
	03/29/90	0001			13.4	L	0.5	28.6
	08/22/90	0001			31.7	J	0.5	26.2
	01/13/91	0001			107.		0.5	31.9
	04/21/91	0001			35.4		0.5	44.7
	07/11/91	0001			11		0.5	41
	01/08/92	0001			0.0		0.5	51.3
	07/19/92	0001			38.6		53.8	34.4
IRON	09/12/86	0001	MG/L	<	0.03		0.03	-
	03/13/87	0001			0.03		0.03	-
	10/02/87	0001			0.16		0.03	-
	01/11/88	0001			0.56		0.03	-
	07/21/88	0001			0.22		0.03	-
	03/12/89	0001			0.21		0.03	-
	09/19/89	0001		<	0.03		0.03	-
	01/11/90	0001			0.22		0.03	-
	03/29/90	0001			0.09	L	0.03	-
	08/22/90	0001			0.10		0.03	-
	01/13/91	0001			0.22		0.03	-
	04/21/91	0001			0.08		0.03	-
	07/12/91	0001			0.14	J	0.005	-
	01/08/92	0001			0.15		0.03	-
	07/19/92	0001			0.0516		0.03	-
LEAD	09/12/86	0001	MG/L	<	0.01		0.01	-
	07/21/88	0001			0.02		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.03		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/08/92	0001		<	0.03	I	0.03	-
	07/19/92	0001		<	0.003		0.003	-
LEAD-210	09/12/86	0001	PCI/L		0.0		1.5	1.4
MAGNESIUM	09/12/86	0001	MG/L		127.		0.001	-
	03/13/87	0001			136.		0.001	-
	10/02/87	0001			112.		0.001	-
	01/11/88	0001			87.7		0.001	-
	07/21/88	0001			76.2		0.001	-
	03/12/89	0001			99.5		0.001	-
	09/19/89	0001			15.6		0.001	-
	01/11/90	0001			57.4		0.001	-
	03/29/90	0001			59.	L	0.001	-
	08/22/90	0001			66.0		0.001	-
	01/13/91	0001			54.9		0.5	-
	04/21/91	0001			72.2		0.5	-
	07/12/91	0001			58		0.028	-
	01/08/92	0001			54.5		0.5	-
	07/19/92	0001			57.2		0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	09/12/86	0001	MG/L		0.07		0.01	-
	03/13/87	0001			0.09		0.01	-
	10/02/87	0001			0.02		0.01	-
	01/11/88	0001			0.07		0.01	-
	07/21/88	0001			0.06		0.01	-
MERCURY	09/12/86	0001	MG/L	<	0.0002		0.0002	-
	07/21/88	0001		<	0.0002		0.0002	-
MOLYBDENUM	09/12/86	0001	MG/L		0.10		0.01	-
	03/13/87	0001		<	0.1		0.1	-
	10/02/87	0001		<	0.01		0.01	-
	01/11/88	0001			0.09		0.01	-
	07/21/88	0001			0.05		0.01	-
	03/12/89	0001			0.02		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.05		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/08/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
NET GROSS ALPHA *	10/02/87	0001	PCI/L		-8.80		-	-
	01/11/88	0001			-3.20		-	-
	07/21/88	0001			-2.47		-	-
	03/12/89	0001			-2.81		-	-
	09/19/89	0001			31.07		-	-
	01/11/90	0001			4.18		-	-
	03/29/90	0001			-1.03		-	-
	08/22/90	0001			29.86		-	-
	01/13/91	0001			48.71		-	-
	04/21/91	0001			49.76		-	-
	07/11/91	0001			-0.41		-	-
	01/08/92	0001			48.91		-	-
	07/19/92	0001			35.71		-	-
NICKEL	09/12/86	0001	MG/L		0.05		0.04	-
	03/12/89	0001		<	0.04		0.04	-
	09/19/89	0001		<	0.04		0.04	-
	01/11/90	0001		<	0.04		0.04	-
	03/29/90	0001		<	0.04	L	0.04	-
	08/22/90	0001		<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/21/91	0001		<	0.04		0.04	-
	07/12/91	0001		<	0.014	I	0.014	-
	01/08/92	0001		<	0.04		0.04	-
	07/19/92	0001		<	0.04	N	0.04	-
NITRATE	09/12/86	0001	MG/L		14.		1.	-
	03/13/87	0001			71.		1.	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	10/02/87	0001	MG/L		40.		1.	-
	01/11/88	0001			48.3		1.	-
	07/21/88	0001			4.4		1.	-
	03/12/89	0001			1.3		1.	-
	09/19/89	0001			10.2		1.	-
	01/11/90	0001			12.0		1.	-
	03/29/90	0001			11.5	HL	1.	-
	08/22/90	0001			5.3	HJ	1.	-
	01/13/91	0001			2.2		1.	-
	04/21/91	0001			3.6		1.	-
	07/12/91	0001			3.7	J	0.22	-
	01/08/92	0001		<	1.0		1.	-
	07/19/92	0001			1.33		1	-
NITRITE	09/12/86	0001	MG/L	<	0.1		0.1	-
PH	09/12/86	0001	SU		8.10		-	-
	03/13/87	0001			6.79		-	-
	10/02/87	0001			6.60		-	-
	01/11/88	0001			6.7		-	-
	07/21/88	0001			7.10		-	-
	03/12/89	0001			6.92		-	-
	09/19/89	0001			6.82		-	-
	01/11/90	0001			6.84		-	-
	03/29/90	0001			6.73	L	-	-
	08/22/90	0001			6.77		-	-
	01/13/91	0001			6.66		-	-
	04/21/91	0001			6.67		-	-
	07/11/91	0001			6.65		-	-
	01/08/92	0001			6.76		-	-
	07/19/92	0001			6.49		-	-
PHOSPHATE	09/12/86	0001	MG/L	<	0.1		0.1	-
	07/19/92	0001			0.44		0.1	-
POLONIUM-210	09/12/86	0001	PCI/L		0.0		1.	0.6
POTASSIUM	09/12/86	0001	MG/L		10.3		0.01	-
	03/13/87	0001			10.7		0.01	-
	10/02/87	0001			6.6		0.01	-
	01/11/88	0001			6.68		0.01	-
	07/21/88	0001			6.8		0.01	-
	03/12/89	0001			7.86		0.01	-
	09/19/89	0001			4.6		0.01	-
	01/11/90	0001			6.0		0.01	-
	03/29/90	0001			5.0	L	0.01	-
	08/22/90	0001			5.1		0.01	-
	01/13/91	0001			4.9		0.01	-
	04/21/91	0001			5.9		0.01	-
	07/12/91	0001			5.6		0.5	-
	01/08/92	0001			4.5		0.01	-
	07/19/92	0001			5.83		0.1	-
RADIUM-226	09/12/86	0001	PCI/L		0.7		1.	0.3
	10/02/87	0001			1.1		1.	0.3
	01/11/88	0001			0.7		1.	0.2

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	07/21/88	0001	PCI/L		1.0		1.	0.3
	03/12/89	0001			0.3		1.	0.2
	09/19/89	0001			1.9		1.	0.5
	01/11/90	0001			0.9		1.	0.3
	03/29/90	0001			1.9	L	1.	0.4
	08/22/90	0001			2.4		1.	0.5
	01/13/91	0001			0.6	J	1.	0.2
	04/21/91	0001			1.9		1.	0.4
	07/11/91	0001			0.9		1.	0.3
	01/08/92	0001			2.3		1.	0.6
	07/19/92	0001			2.3		0.3	0.6
RADIUM-226 + RADIUM-228	09/12/86	0001	PCI/L		0.80		-	-
	10/02/87	0001			3.70		-	-
	01/11/88	0001			2.70		-	-
	07/21/88	0001			2.40		-	-
	03/12/89	0001			1.40		-	-
	09/19/89	0001			3.60		-	-
	01/11/90	0001			1.50		-	-
	03/29/90	0001			1.90		-	-
	08/22/90	0001			2.40		-	-
	01/13/91	0001			4.30		-	-
	04/21/91	0001			12.60		-	-
	07/11/91	0001			1.80		-	-
	01/08/92	0001			4.40		-	-
	07/19/92	0001			3.70		-	-
RADIUM-228	09/12/86	0001	PCI/L		0.1		1.	1.2
	10/02/87	0001			2.6	J	1.	1.2
	01/11/88	0001			2.		1.	1.
	07/21/88	0001			1.4		1.	0.9
	03/12/89	0001			1.1		1.	0.8
	09/19/89	0001			1.7	J	1.	1.2
	01/11/90	0001			0.6		1.	1.0
	03/29/90	0001			0.0	L	1.	2.8
	08/22/90	0001			0.0		1.	1.6
	01/13/91	0001			3.7	J	1.	1.7
	04/21/91	0001			10.7	J	1.	2.3
	07/11/91	0001			0.9		1.	1.1
	01/08/92	0001			2.1		1.	2.4
	07/19/92	0001			1.4		3.5	2.2
SELENIUM	09/12/86	0001	MG/L		0.111		0.005	-
	03/13/87	0001			0.009		0.005	-
	10/02/87	0001			0.019		0.005	-
	01/11/88	0001			0.104		0.005	-
	07/21/88	0001			0.062		0.005	-
	03/12/89	0001			0.028	N	0.005	-
	09/19/89	0001		<	0.05		0.05	-
	01/11/90	0001			0.043		0.005	-
	03/29/90	0001		<	0.025	IL	0.025	-
	08/22/90	0001		<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.03	I	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	07/12/91	0001	MG/L	<	0.011	I	0.011	-
	01/08/92	0001		<	0.005		0.005	-
	07/19/92	0001		<	0.005		0.005	-
	01/08/94	0001		<	0.005		0.005	-
SILICA - SiO2	09/12/86	0001	MG/L		3.		2.	-
	01/08/94	0001			16.9		0.10	-
SILVER	09/12/86	0001	MG/L	<	0.01		0.01	-
	07/21/88	0001		<	0.01		0.01	-
SODIUM	09/12/86	0001	MG/L		1220.		0.002	-
	03/13/87	0001			1520.		0.002	-
	10/02/87	0001			1690.		0.002	-
	01/11/88	0001			1870.		0.002	-
	07/21/88	0001			1860.		0.002	-
	03/12/89	0001			1650.		0.002	-
	09/19/89	0001			2140.		0.002	-
	01/11/90	0001			2210.		0.002	-
	03/29/90	0001			2150.	L	0.002	-
	08/22/90	0001			2010.		0.002	-
	01/13/91	0001			2080.	J	5.	-
	04/21/91	0001			2060.		50.	-
	07/12/91	0001			1900		0.027	-
	01/08/92	0001			2180.		20.	-
	07/19/92	0001			2210		1	-
SPECIFIC CONDUCTANCE	09/12/86	0001	UMHO/CM		4500.		-	-
	03/13/87	0001			7000.		-	-
	10/02/87	0001			7000.		-	-
	01/11/88	0001			6270.		-	-
	07/21/88	0001			6750.		-	-
	03/12/89	0001			5500.		-	-
	09/19/89	0001			2600.	R	-	-
	01/11/90	0001			7500.		-	-
	03/29/90	0001			7000.	L	-	-
	08/22/90	0001			8000.		-	-
	01/13/91	0001			8800.		-	-
	04/21/91	0001			8560.		-	-
	07/11/91	0001			8420.		-	-
	01/08/92	0001			6880		-	-
	07/19/92	0001			6810		-	-
STRONTIUM	09/12/86	0001	MG/L		6.5		0.1	-
SULFATE	09/12/86	0001	MG/L		2630.		0.1	-
	03/13/87	0001			2580.		0.1	-
	10/02/87	0001			2340.		0.1	-
	01/11/88	0001			2290.		0.1	-
	07/21/88	0001			1440.		0.1	-
	03/12/89	0001			2520.	H	0.1	-
	09/19/89	0001			1920.		0.1	-
	01/11/90	0001			2130.	H	0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	03/29/90	0001	MG/L		2070.	HL	0.1	-
	08/22/90	0001			2050.		0.1	-
	01/13/91	0001			1650.		10.	-
	04/21/91	0001			2180.		10.	-
	07/12/91	0001			2000		10.	-
	01/08/92	0001			1920.		10.	-
	07/19/92	0001			1660	I	1	-
	01/08/94	0001			1630.		8.	-
SULFIDE	07/21/88	0001	MG/L	<	0.1		0.1	-
TEMPERATURE	09/12/86	0001	C - DEGREE		17.5	L	-	-
	03/13/87	0001			14.		-	-
	10/02/87	0001			16.0		-	-
	01/11/88	0001			13.0		-	-
	07/21/88	0001			15.0		-	-
	03/12/89	0001			15.0		-	-
	09/19/89	0001			13.5		-	-
	01/11/90	0001			14.0		-	-
	03/29/90	0001			14.0		-	-
	08/22/90	0001			15.7		-	-
	01/13/91	0001			12.0		-	-
	04/21/91	0001			16.6		-	-
	07/11/91	0001			17.7		-	-
	01/08/92	0001			11.4		-	-
	07/19/92	0001			16.1		-	-
THORIUM-230	09/12/86	0001	PCI/L		0.7		1.	0.6
TIN	09/12/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/12/86	0001	MG/L		5360.	HL	10.	-
	03/13/87	0001			6100.		10.	-
	10/02/87	0001			5840.		10.	-
	01/11/88	0001			6200.		10.	-
	07/21/88	0001			6190.		10.	-
	03/12/89	0001			5860.		10.	-
	09/19/89	0001			6440.		10.	-
	01/11/90	0001			6200.		10.	-
	03/29/90	0001			6030.		10.	-
	08/22/90	0001			5960.		10.	-
	01/13/91	0001			5420.		10.	-
	04/21/91	0001			6130.		10.	-
	07/12/91	0001			5800		10.	-
	01/08/92	0001			6510.		10.	-
	07/19/92	0001			6420		10.	-
	01/08/94	0001			6520.		10.	-
TOTAL KJELDAHL NITROGEN	01/08/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	09/12/86	0001	MG/L		120.		1.	-
	10/02/87	0001			2.		1.	-
	01/11/88	0001			279.		1.	-
	07/21/88	0001			404.		1.	-
	03/12/89	0001			185.		1.	-
	09/19/89	0001			2.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0583 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60462.5 FT
 EAST COORDINATE: 57425.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	01/11/90	0001	MG/L		72.		1.	-
	03/29/90	0001		<	1.	L	1.	-
	08/22/90	0001			3.		1.	-
	01/13/91	0001			33.		1.	-
	04/21/91	0001			8.		1.	-
	07/12/91	0001			1.3		1.	-
	01/08/92	0001		<	1.		1.	-
	07/19/92	0001			2.8	*	1	-
URANIUM	09/12/86	0001	MG/L		0.0042		0.003	-
	03/13/87	0001			0.0139		0.003	-
	10/02/87	0001			0.014		0.003	-
	01/11/88	0001			0.0105		0.003	-
	07/21/88	0001			0.0036		0.003	-
	03/12/89	0001			0.0041		0.003	-
	09/19/89	0001		<	0.003		0.003	-
	01/11/90	0001			0.0012	J	0.003	-
	03/29/90	0001		<	0.003	L	0.003	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001			0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/11/91	0001			0.0006		0.0003	-
	01/08/92	0001			0.001		0.001	-
	07/19/92	0001			0.001		0.001	-
VANADIUM	09/12/86	0001	MG/L		0.23	J	0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/11/88	0001			0.03		0.01	-
	07/21/88	0001			0.03		0.01	-
	03/12/89	0001			0.03		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/08/92	0001		<	0.01		0.01	-
	07/19/92	0001			0.0161		0.01	-
ZINC	09/12/86	0001	MG/L		0.054		0.005	-
	10/02/87	0001			0.005		0.005	-
	01/11/88	0001			0.013		0.005	-
	07/21/88	0001			0.007		0.005	-
	03/12/89	0001			0.013	J	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/11/86	0001	MG/L CaCO3		286.	G	-	-
	03/13/87	0001			267.		-	-
	10/06/87	0001			252.		-	-
	01/12/88	0001			263.		-	-
	05/11/88	0001			266.		-	-
	07/16/88	0001			259.		-	-
	09/19/89	0001			234.		-	-
	01/11/90	0001			251.		-	-
	03/29/90	0001			285.	L	-	-
	08/22/90	0001			233.		-	-
	01/13/91	0001			232.		-	-
	04/21/91	0001			239.		-	-
	07/14/91	0001			226.		-	-
	01/09/92	0001			234		-	-
	07/19/92	0001			229		-	-
ALUMINUM	09/11/86	0001	MG/L		0.2	GJ	0.1	-
	03/13/87	0001			0.2		0.1	-
	10/06/87	0001		<	0.1		0.1	-
	01/12/88	0001			0.17	J	0.1	-
	05/11/88	0001			0.06	J	0.1	-
	07/16/88	0001			0.02	J	0.1	-
	07/19/92	0001			0.18	*	0.05	-
AMMONIUM	09/11/86	0001	MG/L		1.0	G	0.1	-
	03/13/87	0001			0.9		0.1	-
	10/06/87	0001			0.7		0.1	-
	01/12/88	0001			0.5		0.1	-
	05/11/88	0001			0.7		0.1	-
	07/16/88	0001			0.2		0.1	-
	09/19/89	0001			0.8		0.1	-
	01/11/90	0001			0.4		0.1	-
	03/29/90	0001			0.6	HL	0.1	-
	08/22/90	0001			0.76	J	0.1	-
	01/13/91	0001			0.72		0.01	-
	04/21/91	0001			0.9		0.1	-
	07/14/91	0001			0.41		0.03	-
	01/09/92	0001			0.7		0.1	-
	07/19/92	0001			0.696		0.1	-
ANTIMONY	09/11/86	0001	MG/L	<	0.003	G	0.003	-
ARSENIC	09/11/86	0001	MG/L	<	0.01	G	0.01	-
	10/06/87	0001		<	0.01		0.01	-
	01/12/88	0001			0.01		0.01	-
	05/11/88	0001			0.008	J	0.01	-
	07/16/88	0001			0.010		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.01		0.01	-
	03/29/90	0001		<	0.05	IJL	0.05	-
	08/22/90	0001		<	0.1		0.1	-
	01/13/91	0001		<	0.05	I	0.05	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- G - PH > 9, POSSIBLE GROUT CONTAMINATION
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/21/91	0001	MG/L	<	0.05	I	0.05	-
	07/14/91	0001		<	0.012	I	0.012	-
	01/09/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.005		0.005	-
BARIUM	09/11/86	0001	MG/L		0.2	G	0.1	-
	05/11/88	0001			0.01	J	0.1	-
	07/16/88	0001		<	0.01	J	0.1	-
BORON	09/11/86	0001	MG/L		0.3	G	0.1	-
	03/13/87	0001			0.3		0.1	-
	10/06/87	0001			0.6		0.1	-
	01/12/88	0001			0.67		0.1	-
	05/11/88	0001			0.65		0.1	-
	07/16/88	0001			0.64		0.1	-
BROMIDE	12/15/93	0001	MG/L		0.53		0.10	-
CADMIUM	09/11/86	0001	MG/L	<	0.001	G	0.001	-
	05/11/88	0001			0.003		0.001	-
	07/16/88	0001			0.004		0.001	-
	09/19/89	0001		<	0.001		0.001	-
	01/11/90	0001			0.011		0.001	-
	03/29/90	0001		<	0.001	L	0.001	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/14/91	0001		<	0.0046	I	0.0046	-
	01/09/92	0001		<	0.005	I	0.005	-
	07/19/92	0001		<	0.001	W	0.001	-
CALCIUM	09/11/86	0001	MG/L		57.5	G	0.01	-
	03/13/87	0001			39.7		0.01	-
	10/06/87	0001			47.		0.01	-
	01/12/88	0001			39.4		0.01	-
	05/11/88	0001			46.7		0.01	-
	07/16/88	0001			46.3		0.01	-
	09/19/89	0001			51.		0.01	-
	01/11/90	0001			44.6		0.01	-
	03/29/90	0001			47.	L	0.01	-
	08/22/90	0001			51.5		0.01	-
	01/13/91	0001			52.3		0.5	-
	04/21/91	0001			54.4		0.5	-
	07/14/91	0001			57		0.014	-
	01/09/92	0001			52.5		0.5	-
	07/19/92	0001			52.9		0.5	-
CHLORIDE	09/11/86	0001	MG/L		530.	G	1.	-
	03/13/87	0001			95.4		1.	-
	10/06/87	0001			120.		1.	-
	01/12/88	0001			110.		1.	-
	05/11/88	0001			130.		1.	-
	07/16/88	0001			130.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	09/19/89	0001	MG/L		140.		1.	-
	01/11/90	0001			169.		1.	-
	03/29/90	0001			166.	HL	1.	-
	08/22/90	0001			163.	H	1.	-
	01/13/91	0001			175.		0.5	-
	04/21/91	0001			187.		0.5	-
	07/14/91	0001			190		0.5	-
	01/09/92	0001			192.		2.	-
	07/19/92	0001			198		0.5	-
	12/15/93	0001			187.		0.50	-
CHROMIUM	09/11/86	0001	MG/L		0.02	G	0.01	-
	03/13/87	0001			0.02		0.01	-
	10/06/87	0001		<	0.01		0.01	-
	01/12/88	0001			0.02		0.01	-
	05/11/88	0001			0.02	J	0.01	-
	07/16/88	0001			0.02		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.016	I	0.016	-
	01/09/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
COBALT	09/11/86	0001	MG/L	<	0.05	G	0.05	-
	05/11/88	0001			0.01	J	0.05	-
COPPER	09/11/86	0001	MG/L	<	0.02	G	0.02	-
	05/11/88	0001		<	0.01	J	0.02	-
	07/16/88	0001		<	0.01	J	0.02	-
DISSOLVED ORGANIC CARBON	07/14/91	0001	MG/L	<	1.0		1.	-
FLUORIDE	09/11/86	0001	MG/L		1.9	G	0.1	-
	03/13/87	0001			1.9		0.1	-
	10/06/87	0001			1.9		0.1	-
	01/12/88	0001			1.76		0.1	-
	05/11/88	0001			1.73		0.1	-
	07/16/88	0001			1.7		0.1	-
GROSS ALPHA	10/06/87	0001	PCI/L		0.0		0.2	40.
	01/12/88	0001			15.		0.2	19.
	07/16/88	0001			0.		0.2	30.
	09/19/89	0001			25.1		1.	29.9
	01/11/90	0001			0.		1.	31.
	03/29/90	0001			0.0	L	1.	29.9
	08/22/90	0001			14.7	J	1.	30.7
	01/13/91	0001			48.7		1.	36.8
	04/21/91	0001			0.0		1.	52.8
	07/14/91	0001			0		1.	40
	01/09/92	0001			0.0		1.	51.8

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	07/19/92	0001	PCI/L		24.3		46.9	32.6
GROSS BETA	10/06/87	0001	PCI/L		0.0		1.	29.
	01/12/88	0001			6.		1.	13.
	07/16/88	0001			17.		1.	17.
	09/19/89	0001			37.0		0.5	19.5
	01/11/90	0001			25.		0.5	19.
	03/29/90	0001			38.3	L	0.5	21.2
	08/22/90	0001			0.0	J	0.5	17.2
	01/13/91	0001			59.3		0.5	22.7
	04/21/91	0001			0.0		0.5	28.2
	07/14/91	0001			0		0.5	29
	01/09/92	0001			4.3		0.5	37.1
	07/19/92	0001			46.5		35.9	24.2
IRON	09/11/86	0001	MG/L	<	0.03	G	0.03	-
	03/13/87	0001			0.11		0.03	-
	10/06/87	0001			0.08		0.03	-
	01/12/88	0001			0.22		0.03	-
	05/11/88	0001			0.06	J	0.03	-
	07/16/88	0001			0.11		0.03	-
	09/19/89	0001		<	0.03		0.03	-
	01/11/90	0001			0.15		0.03	-
	03/29/90	0001			0.06	L	0.03	-
	08/22/90	0001			0.17		0.03	-
	01/13/91	0001			0.14		0.03	-
	04/21/91	0001			0.04		0.03	-
	07/14/91	0001			0.18	J	0.005	-
	01/09/92	0001			0.11		0.03	-
	07/19/92	0001			0.102		0.03	-
LEAD	09/11/86	0001	MG/L		0.03	G	0.01	-
	05/11/88	0001			0.03		0.01	-
	07/16/88	0001			0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.02		0.01	-
	03/29/90	0001		<	0.05	IL	0.05	-
	08/22/90	0001		<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/21/91	0001		<	0.005		0.005	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.03	I	0.03	-
	07/19/92	0001		<	0.003		0.003	-
LEAD-210	09/11/86	0001	PCI/L		1.5	G	1.5	1.3
MAGNESIUM	09/11/86	0001	MG/L		15.2	G	0.001	-
	03/13/87	0001			12.8		0.001	-
	10/06/87	0001			14.7		0.001	-
	01/12/88	0001			12.9		0.001	-
	05/11/88	0001			13.4		0.001	-
	07/16/88	0001			14.7		0.001	-
	09/19/89	0001			15.6		0.001	-
	01/11/90	0001			14.7		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM	03/29/90	0001	MG/L		14.6	L	0.001	-
	08/22/90	0001			16.5		0.001	-
	01/13/91	0001			16.8		0.1	-
	04/21/91	0001			17.6		0.1	-
	07/14/91	0001			17		0.028	-
	01/09/92	0001			17.2		0.1	-
	07/19/92	0001			16.9		0.1	-
MANGANESE	09/11/86	0001	MG/L		0.02	G	0.01	-
	03/13/87	0001			0.05		0.01	-
	10/06/87	0001			0.02		0.01	-
	01/12/88	0001			0.03		0.01	-
	05/11/88	0001			0.03		0.01	-
	07/16/88	0001			0.02		0.01	-
MERCURY	09/11/86	0001	MG/L	<	0.0002	G	0.0002	-
	05/11/88	0001		<	0.0002		0.0002	-
	07/16/88	0001		<	0.0002		0.0002	-
MOLYBDENUM	09/11/86	0001	MG/L		0.10	G	0.01	-
	03/13/87	0001		<	0.1		0.1	-
	10/06/87	0001		<	0.01		0.01	-
	01/12/88	0001		<	0.01	R	0.01	-
	05/11/88	0001			0.01		0.01	-
	07/16/88	0001			0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.02		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
NET GROSS ALPHA *	10/06/87	0001	PCI/L		-2.06		-	-
	01/12/88	0001			14.38		-	-
	07/16/88	0001			-1.03		-	-
	09/19/89	0001			24.07		-	-
	01/11/90	0001			-1.03		-	-
	03/29/90	0001			-1.03		-	-
	08/22/90	0001			14.36		-	-
	01/13/91	0001			48.36		-	-
	04/21/91	0001			-0.34		-	-
	07/14/91	0001			-0.10		-	-
	01/09/92	0001			-2.06		-	-
	07/19/92	0001			22.93		-	-
NICKEL	09/11/86	0001	MG/L		0.04	G	0.04	-
	05/11/88	0001			0.02	J	0.04	-
	09/19/89	0001		<	0.04		0.04	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	01/11/90	0001	MG/L	<	0.04		0.04	-
	03/29/90	0001		<	0.04	L	0.04	-
	08/22/90	0001		<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/21/91	0001		<	0.04		0.04	-
	07/14/91	0001		<	0.014	I	0.014	-
	01/09/92	0001		<	0.04		0.04	-
	07/19/92	0001		<	0.04		0.04	-
NITRATE	09/11/86	0001	MG/L		5.	G	1.	-
	03/13/87	0001			0.4	J	1.	-
	10/06/87	0001			5.8		1.	-
	01/12/88	0001		<	0.1	J	1.	-
	05/11/88	0001			1.0		1.	-
	07/16/88	0001			11.		1.	-
	09/19/89	0001		<	1.0		1.	-
	01/11/90	0001		<	0.1	J	1.	-
	03/29/90	0001		<	1.	HL	1.	-
	08/22/90	0001			1.3	HJ	1.	-
	01/13/91	0001			1.3		1.	-
	04/21/91	0001			1.3		1.	-
	07/14/91	0001			8.9	J	0.22	-
	01/09/92	0001		<	1.0		1.	-
	07/19/92	0001		<	1		1	-
NITRITE	09/11/86	0001	MG/L	<	0.1	G	0.1	-
PH	09/11/86	0001	SU		9.08	G	-	-
	03/13/87	0001			8.41		-	-
	10/06/87	0001			7.95		-	-
	01/12/88	0001			8.0		-	-
	05/11/88	0001			7.96		-	-
	07/16/88	0001			8.09		-	-
	09/19/89	0001			8.17		-	-
	01/11/90	0001			8.05		-	-
	03/29/90	0001			8.06	L	-	-
	08/22/90	0001			8.06		-	-
	01/13/91	0001			7.91		-	-
	04/21/91	0001			8.00		-	-
	07/14/91	0001			7.94		-	-
	01/09/92	0001			8.04		-	-
	07/19/92	0001			8.06		-	-
PHOSPHATE	09/11/86	0001	MG/L	<	0.1	G	0.1	-
	05/11/88	0001			0.3		0.1	-
	07/19/92	0001		<	0.1		0.1	-
POLONIUM-210	09/11/86	0001	PCI/L		0.0	G	1.	0.5
POTASSIUM	09/11/86	0001	MG/L		4.78	G	0.01	-
	03/13/87	0001			2.60		0.01	-
	10/06/87	0001			2.7		0.01	-
	01/12/88	0001			2.91		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- G - PH > 9, POSSIBLE GROUT CONTAMINATION
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	05/11/88	0001	MG/L		3.27		0.01	-
	07/16/88	0001			3.5		0.01	-
	09/19/89	0001			2.6		0.01	-
	01/11/90	0001			3.6		0.01	-
	03/29/90	0001			2.8	L	0.01	-
	08/22/90	0001			2.9		0.01	-
	01/13/91	0001			3.0		0.01	-
	04/21/91	0001			3.3		0.01	-
	07/14/91	0001			3.4		0.5	-
	01/09/92	0001			2.9		0.01	-
	07/19/92	0001			3.38		0.1	-
RADIUM-226	09/11/86	0001	PCI/L		0.2	G	1.	0.2
	10/06/87	0001			0.8		1.	0.3
	01/12/88	0001			0.1		1.	0.1
	07/16/88	0001			0.3		1.	0.2
	09/19/89	0001			0.3		1.	0.2
	01/11/90	0001			0.1		1.	0.1
	03/29/90	0001			0.3	L	1.	0.2
	08/22/90	0001			0.3		1.	0.2
	01/13/91	0001			0.5	Jc	0.8	0.3
	04/21/91	0001			0.2		1.	0.2
	07/14/91	0001			0.3		1.	0.2
	01/09/92	0001			0.6		1.	0.4
	07/19/92	0001			0.3		0.3	0.2
RADIUM-226 + RADIUM-228	09/11/86	0001	PCI/L		0.20		-	-
	10/06/87	0001			3.60		-	-
	01/12/88	0001			0.30		-	-
	07/16/88	0001			1.00		-	-
	09/19/89	0001			4.90		-	-
	01/11/90	0001			2.00		-	-
	03/29/90	0001			0.30		-	-
	08/22/90	0001			0.30		-	-
	01/13/91	0001			3.40		-	-
	04/21/91	0001			14.70		-	-
	07/14/91	0001			0.30		-	-
	01/09/92	0001			1.40		-	-
	07/19/92	0001			0.30		-	-
RADIUM-228	09/11/86	0001	PCI/L		0.0	G	1.	1.0
	10/06/87	0001			2.8	J	1.	1.2
	01/12/88	0001			0.2		1.	0.7
	07/16/88	0001			0.7		1.	0.8
	09/19/89	0001			4.6	J	1.	1.4
	01/11/90	0001			1.9		1.	1.1
	03/29/90	0001			0.0	L	1.	2.0
	08/22/90	0001			0.0		1.	1.5
	01/13/91	0001			2.9	J	1.	1.7
	04/21/91	0001			14.5	J	1.	2.5
	07/14/91	0001			0.0		1.	0.8
	01/09/92	0001			0.8		1.	1.9
	07/19/92	0001			0.0		3.5	2.0
SELENIUM	09/11/86	0001	MG/L		0.093	G	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 c - CHANGED DETECTION LIMIT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	03/13/87	0001	MG/L	<	0.002	J	0.005	-
	10/06/87	0001		<	0.005		0.005	-
	01/12/88	0001			0.249		0.005	-
	05/11/88	0001			0.112		0.005	-
	07/16/88	0001			0.089	J	0.005	-
	09/19/89	0001		<	0.05		0.05	-
	01/11/90	0001			0.085		0.005	-
	03/29/90	0001		<	0.05	IL	0.05	-
	08/22/90	0001		<	0.05		0.05	-
	01/13/91	0001		<	0.05	I	0.05	-
	04/21/91	0001		<	0.05	I	0.05	-
	07/14/91	0001		<	0.011	I	0.011	-
	01/09/92	0001		<	0.005		0.005	-
	07/19/92	0001		<	0.01	I	0.01	-
	12/15/93	0001		<	0.005		0.005	-
SILICA - SiO2	09/11/86	0001	MG/L		5.	G	2.	-
	05/11/88	0001			9.2		2.	-
	12/15/93	0001			9.20	E	0.10	-
SILVER	09/11/86	0001	MG/L	<	0.01	G	0.01	-
	07/16/88	0001		<	0.01		0.01	-
SODIUM	09/11/86	0001	MG/L		1880.	G	0.002	-
	03/13/87	0001			1610.		0.002	-
	10/06/87	0001			1490.		0.002	-
	01/12/88	0001			1580.		0.002	-
	05/11/88	0001			1630.		0.002	-
	07/16/88	0001			1460.	R	0.002	-
	09/19/89	0001			1570.		0.002	-
	01/11/90	0001			1660.		0.002	-
	03/29/90	0001			1780.	L	0.002	-
	08/22/90	0001			1770.		0.002	-
	01/13/91	0001			1790.	J	5.	-
	04/21/91	0001			1760.		50.	-
	07/14/91	0001			1500		0.027	-
	01/09/92	0001			1760.		20.	-
	07/19/92	0001			1610		1	-
SPECIFIC CONDUCTANCE	09/11/86	0001	UMHO/CM		4800.	G	-	-
	03/13/87	0001			4250.		-	-
	10/06/87	0001			4620.		-	-
	01/12/88	0001			5100.		-	-
	05/11/88	0001			5100.		-	-
	07/16/88	0001			4650.		-	-
	09/19/89	0001			2200.	R	-	-
	01/11/90	0001			5000.		-	-
	03/29/90	0001			5000.	L	-	-
	08/22/90	0001			5200.		-	-
	01/13/91	0001			6850.		-	-
	04/21/91	0001			6830.		-	-
	07/14/91	0001			6810.		-	-
	01/09/92	0001			5440		-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- G - PH > 9, POSSIBLE GROUT CONTAMINATION
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	07/19/92	0001	UMHO/CM		5650		-	-
STRONTIUM	09/11/86	0001	MG/L		3.1	G	0.1	-
	05/11/88	0001			3.50		0.1	-
SULFATE	09/11/86	0001	MG/L		3160.	G	0.1	-
	03/13/87	0001			3150.		0.1	-
	10/06/87	0001			3100.		0.1	-
	01/12/88	0001			2560.		0.1	-
	05/11/88	0001			3160.		0.1	-
	07/16/88	0001			3140.		0.1	-
	09/19/89	0001			3280.		0.1	-
	01/11/90	0001			3350.		0.1	-
	03/29/90	0001			3300.	HL	0.1	-
	08/22/90	0001			3260.		0.1	-
	01/13/91	0001			3090.		10.	-
	04/21/91	0001			3370.		10.	-
	07/14/91	0001			3300		10.	-
	01/09/92	0001			3420.		10.	-
	07/19/92	0001			3330		1	-
	12/15/93	0001			3150.	I	38.	-
SULFIDE	05/11/88	0001	MG/L	<	0.1		0.1	-
	07/16/88	0001		<	0.1		0.1	-
TEMPERATURE	09/11/86	0001	C - DEGREE		17.0	G	-	-
	03/13/87	0001			15.0		-	-
	10/06/87	0001			14.8		-	-
	01/12/88	0001			14.0		-	-
	05/11/88	0001			15.9		-	-
	07/16/88	0001			15.0	J	-	-
	09/19/89	0001			14.0		-	-
	01/11/90	0001			13.5		-	-
	03/29/90	0001			14.0	L	-	-
	08/22/90	0001			11.4		-	-
	01/13/91	0001			13.1		-	-
	04/21/91	0001			16.0		-	-
	07/14/91	0001			16.3		-	-
	01/09/92	0001			12.6		-	-
	07/19/92	0001			15.1		-	-
THORIUM-230	09/11/86	0001	PCI/L		0.6	G	1.	0.6
TIN	09/11/86	0001	MG/L	<	0.005	G	0.005	-
TOTAL DISSOLVED SOLIDS	09/11/86	0001	MG/L		4890.	G	10.	-
	03/13/87	0001			5130.		10.	-
	10/06/87	0001			5040.		10.	-
	01/12/88	0001			4930.	H	10.	-
	05/11/88	0001			4930.		10.	-
	07/16/88	0001			4940.	H	10.	-
	09/19/89	0001			5170.		10.	-
	01/11/90	0001			5160.		10.	-
	03/29/90	0001			5160.	HL	10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	08/22/90	0001	MG/L		5180.	H	10.	-
	01/13/91	0001			5410.		10.	-
	04/21/91	0001			5340.		10.	-
	07/14/91	0001			5000		10.	-
	01/09/92	0001			5410.		10.	-
	07/19/92	0001			5240		10	-
	12/15/93	0001			5420.		10.	-
TOTAL KJELDAHL NITROGEN	01/09/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	09/11/86	0001	MG/L		62.	G	1.	-
	10/06/87	0001			4.		1.	-
	01/12/88	0001			30.		1.	-
	07/16/88	0001			67.2		1.	-
	09/19/89	0001		<	2.		2.	-
	01/11/90	0001			16.		1.	-
	03/29/90	0001		<	1.	L	1.	-
	08/22/90	0001			6.		1.	-
	01/13/91	0001			5.		1.	-
	04/21/91	0001			2.		1.	-
	07/14/91	0001			1.0		1.	-
	01/09/92	0001		<	1.		1.	-
	07/19/92	0001			1.6	*	1	-
URANIUM	09/11/86	0001	MG/L	<	0.0003	GJ	0.003	-
	03/13/87	0001		<	0.0003	J	0.003	-
	10/06/87	0001			0.003		0.003	-
	01/12/88	0001			0.0009	J	0.003	-
	05/11/88	0001			0.0007	J	0.003	-
	07/16/88	0001		<	0.0003	J	0.003	-
	09/19/89	0001		<	0.003		0.003	-
	01/11/90	0001		<	0.0003	J	0.003	-
	03/29/90	0001		<	0.003	L	0.003	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/21/91	0001		<	0.001		0.001	-
	07/14/91	0001		<	0.0003		0.0003	-
	01/09/92	0001			0.003		0.001	-
	07/19/92	0001			0.002		0.001	-
VANADIUM	09/11/86	0001	MG/L		0.27	GJ	0.01	-
	10/06/87	0001		<	0.01		0.01	-
	01/12/88	0001			0.02		0.01	-
	05/11/88	0001			0.01	J	0.01	-
	07/16/88	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.02		0.01	-
	03/29/90	0001		<	0.01	L	0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/21/91	0001		<	0.01		0.01	-
	07/14/91	0001		<	0.011	I	0.011	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- G - PH > 9, POSSIBLE GROUT CONTAMINATION
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0584 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60654.2 FT
 EAST COORDINATE: 58236.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	01/09/92	0001	MG/L	<	0.01		0.01	-
	07/19/92	0001			0.0135		0.01	-
ZINC	09/11/86	0001	MG/L		0.013	G	0.005	-
	10/06/87	0001			0.024		0.005	-
	01/12/88	0001			0.007		0.005	-
	05/11/88	0001		<	0.005	J	0.005	-
	07/16/88	0001		<	0.005		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 G - PH > 9, POSSIBLE GROUT CONTAMINATION
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/12/86	0001	MG/L CaCO3		1007.		-	-
	03/13/87	0001			938.		-	-
	10/02/87	0001			848.		-	-
	01/10/88	0001			766.		-	-
	07/18/88	0001			873.		-	-
	03/11/89	0001			667.		-	-
	09/19/89	0001			841.		-	-
	01/11/90	0001			651.		-	-
	03/29/90	0001			666.		-	-
	08/22/90	0001			684.		-	-
	01/13/91	0001			623.		-	-
	04/22/91	0001			674.		-	-
	07/12/91	0001			614.		-	-
	01/15/92	0001			580		-	-
	07/19/92	0001			595		-	-
ALUMINUM	09/12/86	0001	MG/L		0.3	J	0.1	-
	03/13/87	0001			0.3		0.1	-
	10/02/87	0001			0.1		0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/18/88	0001			0.02	J	0.1	-
	07/19/92	0001			0.155	*	0.05	-
AMMONIUM	09/12/86	0001	MG/L		1.0		0.1	-
	03/13/87	0001			2.0		0.1	-
	10/02/87	0001			1.3		0.1	-
	01/10/88	0001			0.7		0.1	-
	07/18/88	0001			1.2		0.1	-
	03/11/89	0001			0.9	H	0.1	-
	09/19/89	0001			0.9		0.1	-
	01/11/90	0001			0.6		0.1	-
	03/29/90	0001			0.9	HL	0.1	-
	08/22/90	0001			0.86	J	0.1	-
	01/13/91	0001			0.83		0.01	-
	04/22/91	0001			1.0		0.1	-
	07/12/91	0001			0.76		0.03	-
	01/15/92	0001			0.8		0.1	-
	07/19/92	0001			0.743		0.1	-
ANTIMONY	09/12/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/12/86	0001	MG/L	<	0.01		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/18/88	0001			0.008	J	0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.05	IJ	0.05	-
	08/22/90	0001		<	0.1		0.1	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/22/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.012	I	0.012	-
	01/15/92	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	07/19/92	0001	MG/L	<	0.005		0.005	-
BARIUM	09/12/86	0001	MG/L		0.1		0.1	-
	07/18/88	0001			0.01	J	0.1	-
BORON	09/12/86	0001	MG/L		1.5		0.1	-
	03/13/87	0001			0.8		0.1	-
	10/02/87	0001			1.1		0.1	-
	01/10/88	0001			1.1		0.1	-
	07/18/88	0001			1.1		0.1	-
BROMIDE	01/08/94	0001	MG/L		1.55		0.10	-
CADMIUM	09/12/86	0001	MG/L	<	0.001		0.001	-
	07/18/88	0001			0.003		0.001	-
	03/11/89	0001			0.017		0.001	-
	09/19/89	0001		<	0.001		0.001	-
	01/11/90	0001			0.012		0.001	-
	03/29/90	0001		<	0.001		0.001	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/22/91	0001		<	0.001		0.001	-
	07/12/91	0001		<	0.0046	I	0.0046	-
	01/15/92	0001		<	0.001		0.001	-
	07/19/92	0001		<	0.001	W	0.001	-
CALCIUM	09/12/86	0001	MG/L		78.6		0.01	-
	03/13/87	0001			25.8		0.01	-
	10/02/87	0001			40.		0.01	-
	01/10/88	0001			36.8		0.01	-
	07/18/88	0001			41.9		0.01	-
	03/11/89	0001			36.5		0.01	-
	09/19/89	0001			37.		0.01	-
	01/11/90	0001			34.2		0.01	-
	03/29/90	0001			40.		0.01	-
	08/22/90	0001			37.8		0.01	-
	01/13/91	0001			34.5		0.5	-
	04/22/91	0001			36.3		0.5	-
	07/12/91	0001			37		0.014	-
	01/15/92	0001			36.5		0.5	-
	07/19/92	0001			35.7		0.5	-
CHLORIDE	09/12/86	0001	MG/L		1200.		1.	-
	03/13/87	0001			837.		1.	-
	10/02/87	0001			750.		1.	-
	01/10/88	0001			740.		1.	-
	07/18/88	0001			830.		1.	-
	03/11/89	0001			740.		1.	-
	09/19/89	0001			705.		1.	-
	01/11/90	0001			707.		1.	-
	03/29/90	0001			676.	H	1.	-
	08/22/90	0001			680.	H	1.	-
	01/13/91	0001			690.		0.5	-
	04/22/91	0001			729.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	07/12/91	0001	MG/L		930		0.5	-
	01/15/92	0001			666.		8.	-
	07/19/92	0001			657		0.5	-
	01/08/94	0001			593.		0.50	-
CHROMIUM	09/12/86	0001	MG/L		0.02		0.01	-
	03/13/87	0001			0.03		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.07		0.01	-
	07/18/88	0001			0.02		0.01	-
	03/11/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001		<	0.01		0.01	-
	03/29/90	0001		<	0.01		0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/22/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.016	I	0.016	-
	01/15/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
COBALT	09/12/86	0001	MG/L	<	0.05		0.05	-
	03/11/89	0001		<	0.05		0.05	-
COPPER	09/12/86	0001	MG/L		0.03		0.02	-
	07/18/88	0001		<	0.01	J	0.02	-
	03/11/89	0001		<	0.02		0.02	-
DISSOLVED ORGANIC CARBON	07/12/91	0001	MG/L	<	1.0		1.	-
FLUORIDE	09/12/86	0001	MG/L		0.6		0.1	-
	03/13/87	0001			0.5		0.1	-
	10/02/87	0001			0.2		0.1	-
	01/10/88	0001			0.32		0.1	-
	07/18/88	0001			0.4		0.1	-
GROSS ALPHA	10/02/87	0001	PCI/L		0.0		0.2	56.
	01/10/88	0001			7.		0.2	38.
	07/18/88	0001			0.		0.2	49.
	03/11/89	0001			0.		0.2	40.
	09/19/89	0001			111.0		1.	48.5
	01/11/90	0001			0.		1.	33.
	03/29/90	0001			54.		1.	38.0
	08/22/90	0001			34.2	J	1.	35.6
	01/13/91	0001			49.1		1.	56.2
	04/22/91	0001			0.0		1.	78.8
	07/12/91	0001			0		1.	49
	01/15/92	0001			0.0		1.	61.8
	07/19/92	0001			13.2		68.3	43.3
GROSS BETA	10/02/87	0001	PCI/L		9.0		1.	46.
	01/10/88	0001			16.		1.	28.
	07/18/88	0001			27.		1.	26.
	03/11/89	0001			14.		1.	23.
	09/19/89	0001			86.8		0.5	23.9
	01/11/90	0001			28.		0.5	19.

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	03/29/90	0001	PCI/L		27.8		0.5	21.6
	08/22/90	0001			14.9	J	0.5	18.4
	01/13/91	0001			59.1		0.5	24.5
	04/22/91	0001			80.0		0.5	48.9
	07/12/91	0001			10		0.5	33
	01/15/92	0001			41.4		0.5	45.8
	07/19/92	0001			51.1		61.1	39.5
IRON	09/12/86	0001	MG/L		0.05		0.03	-
	03/13/87	0001		<	0.03		0.03	-
	10/02/87	0001		<	0.03		0.03	-
	01/10/88	0001			0.35		0.03	-
	07/18/88	0001			0.05		0.03	-
	03/11/89	0001			0.04		0.03	-
	09/19/89	0001		<	0.03		0.03	-
	01/11/90	0001			0.05		0.03	-
	03/29/90	0001		<	0.03		0.03	-
	08/22/90	0001		<	0.03		0.03	-
	01/13/91	0001			0.07		0.03	-
	04/22/91	0001		<	0.03		0.03	-
	07/12/91	0001			0.077	J	0.005	-
	01/15/92	0001		<	0.03		0.03	-
	07/19/92	0001		<	0.03		0.03	-
LEAD	09/12/86	0001	MG/L	<	0.01		0.01	-
	07/18/88	0001			0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.03		0.01	-
	03/29/90	0001		<	0.05	I	0.05	-
	08/22/90	0001		<	0.03		0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/22/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.03	I	0.03	-
	07/19/92	0001		<	0.003		0.003	-
LEAD-210	09/12/86	0001	PCI/L		0.6		1.5	1.3
MAGNESIUM	09/12/86	0001	MG/L		14.1		0.001	-
	03/13/87	0001			7.52		0.001	-
	10/02/87	0001			8.8		0.001	-
	01/10/88	0001			8.65		0.001	-
	07/18/88	0001			9.67		0.001	-
	03/11/89	0001			8.97		0.001	-
	09/19/89	0001			8.2		0.001	-
	01/11/90	0001			8.78		0.001	-
	03/29/90	0001			9.2		0.001	-
	08/22/90	0001			9.82		0.001	-
	01/13/91	0001			9.4		0.1	-
	04/22/91	0001			10.2		0.1	-
	07/12/91	0001			9.1		0.028	-
	01/15/92	0001			9.6		0.1	-
	07/19/92	0001			9.23		0.1	-
MANGANESE	09/12/86	0001	MG/L		0.04		0.01	-
	03/13/87	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	10/02/87	0001	MG/L		0.01		0.01	-
	01/10/88	0001			0.03		0.01	-
	07/18/88	0001			0.02		0.01	-
MERCURY	09/12/86	0001	MG/L	<	0.0002		0.0002	-
	07/18/88	0001		<	0.0002		0.0002	-
MOLYBDENUM	09/12/86	0001	MG/L		0.09		0.01	-
	03/13/87	0001		<	0.1		0.1	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02		0.01	-
	07/18/88	0001		<	0.01		0.01	-
	03/11/89	0001			0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.03		0.01	-
	03/29/90	0001		<	0.01		0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/22/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
NET GROSS ALPHA *	10/02/87	0001	PCI/L		-1.03		-	-
	01/10/88	0001			5.97		-	-
	07/18/88	0001			-1.03		-	-
	03/11/89	0001			-1.03		-	-
	09/19/89	0001			109.97		-	-
	01/11/90	0001			-1.17		-	-
	03/29/90	0001			52.97		-	-
	08/22/90	0001			33.86		-	-
	01/13/91	0001			48.76		-	-
	04/22/91	0001			-0.34		-	-
	07/12/91	0001			-0.10		-	-
	01/15/92	0001			-0.69		-	-
	07/19/92	0001			12.51		-	-
NICKEL	09/12/86	0001	MG/L		0.04		0.04	-
	03/11/89	0001		<	0.04		0.04	-
	09/19/89	0001		<	0.04		0.04	-
	01/11/90	0001		<	0.04		0.04	-
	03/29/90	0001		<	0.04		0.04	-
	08/22/90	0001		<	0.04		0.04	-
	01/13/91	0001		<	0.04		0.04	-
	04/22/91	0001		<	0.04		0.04	-
	07/12/91	0001		<	0.014	I	0.014	-
	01/15/92	0001		<	0.04		0.04	-
NITRATE	09/12/86	0001	MG/L	<	1.		1.	-
	03/13/87	0001			0.4	J	1.	-
	10/02/87	0001		<	1.0		1.	-
	01/10/88	0001		<	0.1	J	1.	-
	07/18/88	0001			4.1		1.	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	03/11/89	0001	MG/L	<	1.0		1.	-
	09/19/89	0001		<	1.0		1.	-
	01/11/90	0001		<	0.1	J	1.	-
	03/29/90	0001		<	1.	H	1.	-
	08/22/90	0001			3.6	HJ	1.	-
	01/13/91	0001		<	1.		1.	-
	04/22/91	0001		<	1.0		1.	-
	07/12/91	0001			4.4	J	0.22	-
	01/15/92	0001		<	1.0		1.	-
	07/19/92	0001			1.08		1	-
NITRITE	09/12/86	0001	MG/L	<	0.1		0.1	-
PH	09/12/86	0001	SU		7.30		-	-
	03/13/87	0001			8.52		-	-
	10/02/87	0001			7.10		-	-
	01/10/88	0001			6.9		-	-
	07/18/88	0001			7.22		-	-
	03/11/89	0001			7.29		-	-
	09/19/89	0001			7.67		-	-
	01/11/90	0001			7.38		-	-
	03/29/90	0001			7.26		-	-
	08/22/90	0001			7.11		-	-
	01/13/91	0001			7.01		-	-
	04/22/91	0001			7.14		-	-
	07/12/91	0001			7.12		-	-
	01/15/92	0001			7.15	H	-	-
	07/19/92	0001			7.38		-	-
PHOSPHATE	09/12/86	0001	MG/L	<	0.1		0.1	-
	07/19/92	0001		<	0.1		0.1	-
POLONIUM-210	09/12/86	0001	PCI/L		0.0		1.	0.5
POTASSIUM	09/12/86	0001	MG/L		5.71		0.01	-
	03/13/87	0001			8.61		0.01	-
	10/02/87	0001			3.6		0.01	-
	01/10/88	0001			3.59		0.01	-
	07/18/88	0001			4.2		0.01	-
	03/11/89	0001			4.30		0.01	-
	09/19/89	0001			3.4		0.01	-
	01/11/90	0001			3.5		0.01	-
	03/29/90	0001			3.4		0.01	-
	08/22/90	0001			3.3		0.01	-
	01/13/91	0001			3.42		0.01	-
	04/22/91	0001			3.5		0.01	-
	07/12/91	0001			3.7		0.5	-
	01/15/92	0001			3.1		0.01	-
	07/19/92	0001			3.69		0.1	-
RADIUM-226	09/12/86	0001	PCI/L		0.6		1.	0.3
	10/02/87	0001			0.3		1.	0.2
	01/10/88	0001			0.3		1.	0.1
	07/18/88	0001			0.4		1.	0.2
	03/11/89	0001			0.2		1.	0.2
	09/19/89	0001			0.2		1.	0.2

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	01/11/90	0001	PCI/L		0.2		1.	0.2
	03/29/90	0001			0.2		1.	0.2
	08/22/90	0001			0.2		1.	0.2
	01/13/91	0001			0.4	Jc	0.7	0.3
	04/22/91	0001			0.3		1.	0.2
	07/12/91	0001			0.4		1.	0.2
	01/15/92	0001			0.2		1.	0.3
	07/19/92	0001			0.5		0.3	0.3
RADIUM-226 + RADIUM-228	09/12/86	0001	PCI/L		1.20		-	-
	10/02/87	0001			2.10		-	-
	01/10/88	0001			1.20		-	-
	07/18/88	0001			0.50		-	-
	03/11/89	0001			0.40		-	-
	09/19/89	0001			1.00		-	-
	01/11/90	0001			0.60		-	-
	03/29/90	0001			0.20		-	-
	08/22/90	0001			1.30		-	-
	01/13/91	0001			4.80		-	-
	04/22/91	0001			13.00		-	-
	07/12/91	0001			0.60		-	-
	01/15/92	0001			0.20		-	-
	07/19/92	0001			2.60		-	-
RADIUM-228	09/12/86	0001	PCI/L		0.6		1.	1.0
	10/02/87	0001			1.8	J	1.	1.5
	01/10/88	0001			0.9		1.	0.9
	07/18/88	0001			0.1		1.	0.7
	03/11/89	0001			0.2		1.	0.8
	09/19/89	0001			0.8	J	1.	1.0
	01/11/90	0001			0.4		1.	1.0
	03/29/90	0001			0.0		1.	2.0
	08/22/90	0001			1.1		1.	1.9
	01/13/91	0001			4.4	J	1.	1.8
	04/22/91	0001			12.7	J	1.	2.4
	07/12/91	0001			0.2		1.	0.8
	01/15/92	0001			0.0		1.	2.2
	07/19/92	0001			2.1		3.0	2.0
SELENIUM	09/12/86	0001	MG/L		0.039		0.005	-
	03/13/87	0001		<	0.002	J	0.005	-
	10/02/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.155		0.005	-
	07/18/88	0001			0.071		0.005	-
	03/11/89	0001		<	0.005	N	0.005	-
	09/19/89	0001		<	0.05		0.05	-
	01/11/90	0001			0.072		0.005	-
	03/29/90	0001		<	0.05	I	0.05	-
	08/22/90	0001		<	0.05		0.05	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/22/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.005		0.005	-
	07/19/92	0001		<	0.01	EI	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
- C - CHANGED DETECTION LIMIT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	01/08/94	0001	MG/L	<	0.005	W	0.005	-
SILICA - SiO2	09/12/86	0001	MG/L		11.		2.	-
	01/08/94	0001			14.9		0.10	-
SILVER	09/12/86	0001	MG/L	<	0.01		0.01	-
	07/18/88	0001		<	0.01		0.01	-
SODIUM	09/12/86	0001	MG/L		2240.		0.002	-
	03/13/87	0001			1940.		0.002	-
	10/02/87	0001			1900.		0.002	-
	01/10/88	0001			1920.		0.002	-
	07/18/88	0001			1980.		0.002	-
	03/11/89	0001			1820.		0.002	-
	09/19/89	0001			1810.		0.002	-
	01/11/90	0001			1880.		0.002	-
	03/29/90	0001			1960.		0.002	-
	08/22/90	0001			2000.		0.002	-
	01/13/91	0001			1980.	J	5.	-
	04/22/91	0001			1950.		50.	-
	07/12/91	0001			1700.		0.027	-
	01/15/92	0001			1940.		20.	-
	07/19/92	0001			1830		1	-
SPECIFIC CONDUCTANCE	09/12/86	0001	UMHO/CM		4900.		-	-
	03/13/87	0001			6500.		-	-
	10/02/87	0001			7000.		-	-
	01/10/88	0001			5960.		-	-
	07/18/88	0001			5000.		-	-
	03/11/89	0001			5750.		-	-
	09/19/89	0001			1850.	R	-	-
	01/11/90	0001			6000.		-	-
	03/29/90	0001			6000.		-	-
	08/22/90	0001			6500.		-	-
	01/13/91	0001			7460.		-	-
	04/22/91	0001			7420.		-	-
	07/12/91	0001			7340.		-	-
	01/15/92	0001			6080		-	-
	07/19/92	0001			6340		-	-
STRONTIUM	09/12/86	0001	MG/L		3.4		0.1	-
SULFATE	09/12/86	0001	MG/L		2370.		0.1	-
	03/13/87	0001			2170.		0.1	-
	10/02/87	0001			2490.		0.1	-
	01/10/88	0001			2400.		0.1	-
	07/18/88	0001			2320.		0.1	-
	03/11/89	0001			2520.	H	0.1	-
	09/19/89	0001			2510.		0.1	-
	01/11/90	0001			2610.		0.1	-
	03/29/90	0001			2540.	H	0.1	-
	08/22/90	0001			2470.		0.1	-
	01/13/91	0001			2120.		10.	-
	04/22/91	0001			2520.		10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

R - UNUSABLE DATA POINT

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0585 PROC. SITE MONITOR WELL
 NORTH COORDINATE: 60925.6 FT
 EAST COORDINATE: 57423.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	07/12/91	0001	MG/L		2500		10.	-
	01/15/92	0001			2370.		10.	-
	07/19/92	0001			2530		1	-
	01/08/94	0001			2440.	I	16.	-
SULFIDE	07/18/88	0001	MG/L		0.2		0.1	-
TEMPERATURE	09/12/86	0001	C - DEGREE		17.5		-	-
	03/13/87	0001			15.0		-	-
	10/02/87	0001			16.0		-	-
	01/10/88	0001			14.3		-	-
	07/18/88	0001			16.5		-	-
	03/11/89	0001			17.5		-	-
	09/19/89	0001			16.0		-	-
	01/11/90	0001			14.0		-	-
	03/29/90	0001			15.0		-	-
	08/22/90	0001			18.0		-	-
	01/13/91	0001			13.8		-	-
	04/22/91	0001			16.9		-	-
	07/12/91	0001			18.9		-	-
	01/15/92	0001			15.1		-	-
	07/19/92	0001			17.2		-	-
THORIUM-230	09/12/86	0001	PCI/L		0.4		1.	0.5
TIN	09/12/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/12/86	0001	MG/L		5660.		10.	-
	03/13/87	0001			5650.		10.	-
	10/02/87	0001			5420.		10.	-
	01/10/88	0001			5550.	H	10.	-
	07/18/88	0001			5630.	H	10.	-
	03/11/89	0001			5400.	H	10.	-
	09/19/89	0001			5470.		10.	-
	01/11/90	0001			5360.		10.	-
	03/29/90	0001			5450.	H	10.	-
	08/22/90	0001			5410.	H	10.	-
	01/13/91	0001			5450.		10.	-
	04/22/91	0001			5460.		10.	-
	07/12/91	0001			5400		10.	-
	01/15/92	0001			5440.		10.	-
	07/19/92	0001			5340		10	-
	01/08/94	0001			5400.		10.	-
TOTAL KJELDAHL NITROGEN	01/15/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	09/12/86	0001	MG/L		140.		1.	-
	10/02/87	0001			5.		1.	-
	01/10/88	0001			36.2		1.	-
	07/18/88	0001			232.		1.	-
	03/11/89	0001			119.		1.	-
	09/19/89	0001			2.		1.	-
	01/11/90	0001			16.		1.	-
	03/29/90	0001			7.		1.	-
	08/22/90	0001			11.		1.	-
	01/13/91	0001			19.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0585 PROC. SITE MONITOR WELL

NORTH COORDINATE: 60925.6 FT

EAST COORDINATE: 57423.5 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)

HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	04/22/91	0001	MG/L		2.		1.	-
	07/12/91	0001			1.1		1.	-
	01/15/92	0001			4.		1.	-
	07/19/92	0001			1.1	•	1	-
URANIUM	09/12/86	0001	MG/L	<	0.0003	J	0.003	-
	03/13/87	0001		<	0.0003	J	0.003	-
	10/02/87	0001		<	0.003		0.003	-
	01/10/88	0001		<	0.0003	J	0.003	-
	07/18/88	0001		<	0.0003	J	0.003	-
	03/11/89	0001		<	0.0003	J	0.003	-
	09/19/89	0001		<	0.003		0.003	-
	01/11/90	0001			0.0017	J	0.003	-
	03/29/90	0001		<	0.003		0.003	-
	08/22/90	0001		<	0.001		0.001	-
	01/13/91	0001		<	0.001		0.001	-
	04/22/91	0001		<	0.001		0.001	-
	07/12/91	0001		<	0.0003		0.0003	-
	01/15/92	0001			0.001		0.001	-
	07/19/92	0001			0.001		0.001	-
VANADIUM	09/12/86	0001	MG/L		0.25	J	0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/18/88	0001		<	0.01		0.01	-
	03/11/89	0001		<	0.01		0.01	-
	09/19/89	0001		<	0.01		0.01	-
	01/11/90	0001			0.01		0.01	-
	03/29/90	0001		<	0.01		0.01	-
	08/22/90	0001		<	0.01		0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/22/91	0001		<	0.01	I JL	0.01	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01		0.01	-
ZINC	09/12/86	0001	MG/L		0.019		0.005	-
	10/02/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.025		0.005	-
	07/18/88	0001		<	0.005		0.005	-
	03/11/89	0001			0.009	J	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0586 ABANDONED
 NORTH COORDINATE: 59171.8 FT
 EAST COORDINATE: 58915.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/11/86	0001	MG/L CAC03		720.		-	-
	03/13/87	0001			424.	GL	-	-
	10/05/87	0001			569.		-	-
	01/07/88	0001			586.	L	-	-
ALUMINUM	09/11/86	0001	MG/L		0.5	J	0.1	-
	03/13/87	0001			0.1	GJL	0.1	-
	10/05/87	0001		<	0.1		0.1	-
	01/07/88	0001		<	0.1	L	0.1	-
AMMONIUM	09/11/86	0001	MG/L		1.0		0.1	-
	03/13/87	0001			2.4	GL	0.1	-
	10/05/87	0001			0.2		0.1	-
	01/07/88	0001			0.1	L	0.1	-
ANTIMONY	09/11/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/11/86	0001	MG/L	<	0.01		0.01	-
	10/05/87	0001			0.01		0.01	-
	01/07/88	0001			0.03	L	0.01	-
BARIUM	09/11/86	0001	MG/L	<	0.1		0.1	-
BORON	09/11/86	0001	MG/L		0.6		0.1	-
	03/13/87	0001			0.7	GL	0.1	-
	10/05/87	0001			0.6		0.1	-
	01/07/88	0001			0.65	L	0.1	-
CADMIUM	09/11/86	0001	MG/L	<	0.001		0.001	-
CALCIUM	09/11/86	0001	MG/L		8.20		0.01	-
	03/13/87	0001			6.42	GL	0.01	-
	10/05/87	0001			12.3		0.01	-
	01/07/88	0001			12.5	L	0.01	-
CHLORIDE	09/11/86	0001	MG/L		110.		1.	-
	03/13/87	0001			142.	GL	1.	-
	10/05/87	0001			183.	J	1.	-
	01/07/88	0001			180.	L	1.	-
CHROMIUM	09/11/86	0001	MG/L		0.03		0.01	-
	03/13/87	0001			0.06	GL	0.01	-
	10/05/87	0001		<	0.01		0.01	-
	01/07/88	0001			0.07	L	0.01	-
COBALT	09/11/86	0001	MG/L	<	0.05		0.05	-
COPPER	09/11/86	0001	MG/L	<	0.02		0.02	-
FLUORIDE	09/11/86	0001	MG/L		2.7		0.1	-
	03/13/87	0001			3.0	GL	0.1	-
	10/05/87	0001			2.6		0.1	-
	01/07/88	0001			0.81	L	0.1	-
GROSS ALPHA	03/13/87	0001	PCI/L		1.	GL	0.2	11.
	10/05/87	0001			0.0		0.2	20.

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0586 ABANDONED
NORTH COORDINATE: 59171.8 FT
EAST COORDINATE: 58915.7 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	01/07/88	0001	PCI/L		2.5	L	0.2	8.7
GROSS BETA	03/13/87	0001	PCI/L		4.5	GL	1.	5.7
	10/05/87	0001			0.0		1.	14.
	01/07/88	0001			9.0	L	1.	10.
IRON	09/11/86	0001	MG/L		0.07		0.03	-
	03/13/87	0001		<	0.03	GL	0.03	-
	10/05/87	0001		<	0.03		0.03	-
	01/07/88	0001			0.34	L	0.03	-
LEAD	09/11/86	0001	MG/L		0.01		0.01	-
MAGNESIUM	09/11/86	0001	MG/L		3.48		0.001	-
	03/13/87	0001			2.20	GL	0.001	-
	10/05/87	0001			4.5		0.001	-
	01/07/88	0001			3.45	L	0.001	-
MANGANESE	09/11/86	0001	MG/L		0.03		0.01	-
	03/13/87	0001			0.02	GL	0.01	-
	10/05/87	0001		<	0.01		0.01	-
	01/07/88	0001		<	0.01	L	0.01	-
MERCURY	09/11/86	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	09/11/86	0001	MG/L		0.14		0.01	-
	03/13/87	0001		<	0.1	GL	0.1	-
	10/05/87	0001		<	0.01		0.01	-
	01/07/88	0001			0.02	L	0.01	-
NET GROSS ALPHA *	03/13/87	0001	PCI/L		-1.47		-	-
	10/05/87	0001			-1.03		-	-
	01/07/88	0001			1.68		-	-
NICKEL	09/11/86	0001	MG/L	<	0.04		0.04	-
NITRATE	09/11/86	0001	MG/L		2.		1.	-
	03/13/87	0001			0.4	GJL	1.	-
	10/05/87	0001		<	1.0	H	1.	-
	01/07/88	0001		<	0.1	JL	1.	-
NITRITE	09/11/86	0001	MG/L	<	0.1		0.1	-
PH	09/11/86	0001	SU		9.92		-	-
	03/13/87	0001			10.51	GL	-	-
	10/05/87	0001			8.1		-	-
	01/07/88	0001			8.05	L	-	-
PHOSPHATE	09/11/86	0001	MG/L	<	0.1		0.1	-
POTASSIUM	09/11/86	0001	MG/L		8.20		0.01	-
	03/13/87	0001			2.46	GL	0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0586 ABANDONED
 NORTH COORDINATE: 59171.8 FT
 EAST COORDINATE: 58915.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	10/05/87	0001	MG/L		1.34		0.01	-
	01/07/88	0001			1.34	L	0.01	-
RADIUM-226	03/13/87	0001	PCI/L		0.1	GL	1.	0.2
	10/05/87	0001			0.1		1.	0.1
	01/07/88	0001			0.	L	1.	0.1
RADIUM-226 + RADIUM-228	10/05/87	0001	PCI/L		1.30		-	-
	01/07/88	0001			0.30		-	-
RADIUM-228	10/05/87	0001	PCI/L		1.2		1.	0.8
	01/07/88	0001			0.3	L	1.	0.8
SELENIUM	09/11/86	0001	MG/L		0.036		0.005	-
	03/13/87	0001		<	0.002	GJL	0.005	-
	10/05/87	0001		<	0.005		0.005	-
	01/07/88	0001			0.021	JL	0.005	-
SILICA - SiO2	09/11/86	0001	MG/L		10.		2.	-
SILVER	09/11/86	0001	MG/L	<	0.01		0.01	-
SODIUM	09/11/86	0001	MG/L		680.		0.002	-
	03/13/87	0001			643.	GL	0.002	-
	10/05/87	0001			640.		0.002	-
	01/07/88	0001			682.	L	0.002	-
SPECIFIC CONDUCTANCE	09/11/86	0001	UMHO/CM		2500.		-	-
	03/13/87	0001			2300.	GL	-	-
	10/05/87	0001			2400.		-	-
	01/07/88	0001			2290.	L	-	-
STRONTIUM	09/11/86	0001	MG/L		0.2		0.1	-
SULFATE	09/11/86	0001	MG/L		699.		0.1	-
	03/13/87	0001			720.	GL	0.1	-
	10/05/87	0001			690.		0.1	-
	01/07/88	0001			702.	L	0.1	-
TEMPERATURE	09/11/86	0001	C - DEGREE		16.		-	-
	03/13/87	0001			16.5	GL	-	-
	10/05/87	0001			17.0		-	-
	01/07/88	0001			16.0	L	-	-
THORIUM-230	03/13/87	0001	PCI/L		0.0	GL	1.	0.4
TIN	09/11/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/11/86	0001	MG/L		1920.		10.	-
	03/13/87	0001			1920.	GL	10.	-
	10/05/87	0001			1830.		10.	-
	01/07/88	0001			1870.	HL	10.	-
TOTAL ORGANIC CARBON	10/05/87	0001	MG/L		6.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER
 LOCATION: 0586 ABANDONED
 NORTH COORDINATE: 59171.8 FT
 EAST COORDINATE: 58915.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	01/07/88	0001	MG/L		117.	L	1.	-
URANIUM	09/11/86	0001	MG/L		0.0049		0.003	-
	03/13/87	0001			0.0036	GL	0.003	-
	10/05/87	0001		<	0.003		0.003	-
	01/07/88	0001			0.0012	JL	0.003	-
VANADIUM	09/11/86	0001	MG/L		0.19		0.01	-
	10/05/87	0001		<	0.01		0.01	-
	01/07/88	0001		<	0.01	L	0.01	-
ZINC	09/11/86	0001	MG/L		0.015		0.005	-
	10/05/87	0001			0.007		0.005	-
	01/07/88	0001			0.012	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0587 ABANDONED
NORTH COORDINATE: 59177.2 FT
EAST COORDINATE: 59540.5 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/11/86	0001	MG/L CACO3		842.		-	-
	03/13/87	0001			546.	G	-	-
	10/05/87	0001			419.	G	-	-
	01/10/88	0001			593.	GL	-	-
ALUMINUM	09/11/86	0001	MG/L		0.8	J	0.1	-
	03/13/87	0001			1.1	GJ	0.1	-
	10/05/87	0001		<	0.1	G	0.1	-
	01/10/88	0001			0.1	GL	0.1	-
AMMONIUM	09/11/86	0001	MG/L		1.0		0.1	-
	03/13/87	0001			1.0	G	0.1	-
	10/05/87	0001			0.2	G	0.1	-
	01/10/88	0001			0.1	GL	0.1	-
ANTIMONY	09/11/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/11/86	0001	MG/L	<	0.01		0.01	-
	10/05/87	0001			0.01	G	0.01	-
	01/10/88	0001			0.006	GJL	0.01	-
BARIUM	09/11/86	0001	MG/L	<	0.1		0.1	-
BORON	09/11/86	0001	MG/L		0.4		0.1	-
	03/13/87	0001			0.9	G	0.1	-
	10/05/87	0001			0.8	G	0.1	-
	01/10/88	0001			0.78	GL	0.1	-
CADMIUM	09/11/86	0001	MG/L	<	0.001		0.001	-
CALCIUM	09/11/86	0001	MG/L		3.18		0.01	-
	03/13/87	0001			7.28	G	0.01	-
	10/05/87	0001			3.1	G	0.01	-
	01/10/88	0001			6.78	GL	0.01	-
CHLORIDE	09/11/86	0001	MG/L		190.		1.	-
	03/13/87	0001			79.1	G	1.	-
	10/05/87	0001			93.	GJ	1.	-
	01/10/88	0001			76.	GL	1.	-
CHROMIUM	09/11/86	0001	MG/L		0.04		0.01	-
	03/13/87	0001			0.03	G	0.01	-
	10/05/87	0001		<	0.01	G	0.01	-
	01/10/88	0001			0.03	GL	0.01	-
COBALT	09/11/86	0001	MG/L	<	0.05		0.05	-
COPPER	09/11/86	0001	MG/L		0.03		0.02	-
FLUORIDE	09/11/86	0001	MG/L		3.0		0.1	-
	03/13/87	0001			5.5	G	0.1	-
	10/05/87	0001			5.1	G	0.1	-
	01/10/88	0001			5.3	GL	0.1	-
GROSS ALPHA	03/13/87	0001	PCI/L		1.	G	0.2	13.

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0587 ABANDONED
NORTH COORDINATE: 59177.2 FT
EAST COORDINATE: 59540.5 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	10/05/87	0001	PCI/L		0.9	G	0.2	5.9
	01/10/88	0001			21.	GL	0.2	12.
GROSS BETA	03/13/87	0001	PCI/L		13.	G	1.	8.
	10/05/87	0001			0.0	G	1.	16.
	01/10/88	0001			0.	GL	1.	10.
IRON	09/11/86	0001	MG/L		0.04		0.03	-
	03/13/87	0001		<	0.03	G	0.03	-
	10/05/87	0001		<	0.03	G	0.03	-
	01/10/88	0001			0.19	GL	0.03	-
LEAD	09/11/86	0001	MG/L		0.01		0.01	-
MAGNESIUM	09/11/86	0001	MG/L		0.011		0.001	-
	03/13/87	0001			0.03	G	0.001	-
	10/05/87	0001			0.78	G	0.001	-
	01/10/88	0001			1.73	GL	0.001	-
MANGANESE	09/11/86	0001	MG/L		0.03		0.01	-
	03/13/87	0001		<	0.01	G	0.01	-
	10/05/87	0001		<	0.01	G	0.01	-
	01/10/88	0001		<	0.01	GL	0.01	-
MERCURY	09/11/86	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	09/11/86	0001	MG/L		0.09		0.01	-
	03/13/87	0001		<	0.1	G	0.1	-
	10/05/87	0001			0.03	G	0.01	-
	01/10/88	0001			0.07	GL	0.01	-
NET GROSS ALPHA *	03/13/87	0001	PCI/L		-0.10		-	-
	10/05/87	0001			-1.16		-	-
	01/10/88	0001			19.15		-	-
NICKEL	09/11/86	0001	MG/L	<	0.04		0.04	-
NITRATE	09/11/86	0001	MG/L	<	1.		1.	-
	03/13/87	0001			0.8	GJ	1.	-
	10/05/87	0001		<	1.0	GH	1.	-
	01/10/88	0001		<	0.1	GJL	1.	-
NITRITE	09/11/86	0001	MG/L	<	0.1		0.1	-
PH	09/11/86	0001	SU		11.49		-	-
	03/13/87	0001			11.61	G	-	-
	10/05/87	0001			9.35	G	-	-
	01/10/88	0001			9.0	GL	-	-
PHOSPHATE	09/11/86	0001	MG/L	<	0.1		0.1	-
POTASSIUM	09/11/86	0001	MG/L		17.1		0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0587 ABANDONED
 NORTH COORDINATE: 59177.2 FT
 EAST COORDINATE: 59540.5 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	03/13/87	0001	MG/L		4.09	G	0.01	-
	10/05/87	0001			1.27	G	0.01	-
	01/10/88	0001			1.29	GL	0.01	-
RADIUM-226	03/13/87	0001	PCI/L		0.0	G	1.	0.2
	10/05/87	0001			0.1	G	1.	0.1
	01/10/88	0001			0.1	GL	1.	0.1
RADIUM-226 + RADIUM-228	10/05/87	0001	PCI/L		3.00		-	-
	01/10/88	0001			0.10		-	-
RADIUM-228	10/05/87	0001	PCI/L		2.9	G	1.	1.0
	01/10/88	0001			0.	GL	1.	0.8
SELENIUM	09/11/86	0001	MG/L		0.106		0.005	-
	03/13/87	0001		<	0.002	GJ	0.005	-
	10/05/87	0001		<	0.005	G	0.005	-
	01/10/88	0001			0.043	GJL	0.005	-
SILICA - SiO2	09/11/86	0001	MG/L		13.		2.	-
SILVER	09/11/86	0001	MG/L	<	0.01		0.01	-
SODIUM	09/11/86	0001	MG/L		730.		0.002	-
	03/13/87	0001			803.	G	0.002	-
	10/05/87	0001			740.	G	0.002	-
	01/10/88	0001			864.	GL	0.002	-
SPECIFIC CONDUCTANCE	09/11/86	0001	UMHO/CM		3500.		-	-
	03/13/87	0001			3000.	G	-	-
	10/05/87	0001			2700.	G	-	-
	01/10/88	0001			2820.	GL	-	-
STRONTIUM	09/11/86	0001	MG/L		0.1		0.1	-
SULFATE	09/11/86	0001	MG/L		546.		0.1	-
	03/13/87	0001			1170.	G	0.1	-
	10/05/87	0001			950.	G	0.1	-
	01/10/88	0001			1193.	GL	0.1	-
TEMPERATURE	09/11/86	0001	C - DEGREE		17.		-	-
	03/13/87	0001			15.0	G	-	-
	10/05/87	0001			16.0	G	-	-
	01/10/88	0001			16.1	GL	-	-
THORIUM-230	03/13/87	0001	PCI/L		0.0	G	1.	0.4
TIN	09/11/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/11/86	0001	MG/L		1990.		10.	-
	03/13/87	0001			2480.	G	10.	-
	10/05/87	0001			2200.	G	10.	-
	01/10/88	0001			2430.	GHL	10.	-
TOTAL ORGANIC CARBON	10/05/87	0001	MG/L		7.	G	1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0587 ABANDONED

NORTH COORDINATE: 59177.2 FT

EAST COORDINATE: 59540.5 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)

HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	01/10/88	0001	MG/L		138.	GL	1.	-
URANIUM	09/11/86	0001	MG/L	<	0.0003	J	0.003	-
	03/13/87	0001			0.0016	GJ	0.003	-
	10/05/87	0001			0.003	G	0.003	-
	01/10/88	0001			0.0027	GJL	0.003	-
VANADIUM	09/11/86	0001	MG/L	<	0.22		0.01	-
	10/05/87	0001			0.01	G	0.01	-
	01/10/88	0001			0.01	GL	0.01	-
ZINC	09/11/86	0001	MG/L	<	0.005		0.005	-
	10/05/87	0001			0.005	G	0.005	-
	01/10/88	0001			0.005	GL	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	09/11/86	0001	MG/L CAC03		565.		-	-
	03/13/87	0001			614.		-	-
	10/02/87	0001			555.		-	-
	01/10/88	0001			545.		-	-
	07/21/88	0001			531.	L	-	-
	03/31/89	0001			561.	L	-	-
	09/17/89	0001			499.	L	-	-
	01/07/90	0001			500.	L	-	-
	03/14/90	0001			500.	L	-	-
	08/27/90	0001			485.	L	-	-
	01/09/91	0001			434.		-	-
	04/17/91	0001			464.	L	-	-
	07/10/91	0001			455.		-	-
	01/15/92	0001			506	L	-	-
	07/23/92	0001			466	L	-	-
ALUMINUM	09/11/86	0001	MG/L		0.3	J	0.1	-
	03/13/87	0001			0.3	J	0.1	-
	10/02/87	0001		<	0.1		0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/21/88	0001			0.02	JL	0.1	-
	07/23/92	0001			0.133	*L	0.05	-
AMMONIUM	09/11/86	0001	MG/L		0.9		0.1	-
	03/13/87	0001			0.6		0.1	-
	10/02/87	0001			0.2		0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/21/88	0001		<	0.1	L	0.1	-
	03/31/89	0001			0.1	L	0.1	-
	09/17/89	0001			0.4	L	0.1	-
	01/07/90	0001			0.2	L	0.1	-
	03/14/90	0001			0.4	HL	0.1	-
	08/27/90	0001			0.17	JL	0.1	-
	01/09/91	0001			0.32		0.01	-
	04/17/91	0001			0.4	L	0.1	-
	07/10/91	0001			0.17		0.03	-
	01/15/92	0001			0.3	L	0.1	-
	07/23/92	0001			0.296	L	0.1	-
ANTIMONY	09/11/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/11/86	0001	MG/L	<	0.01		0.01	-
	10/02/87	0001			0.01		0.01	-
	01/10/88	0001			0.01		0.01	-
	07/21/88	0001			0.042	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/14/90	0001		<	0.02	IL	0.02	-
	08/27/90	0001		<	0.05	L	0.05	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.03	IL	0.03	-
	07/10/91	0001			0.0082		0.0023	-
	01/15/92	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	07/23/92	0001	MG/L		0.0058	L	0.005	-
BARIUM	09/11/86	0001	MG/L	<	0.1		0.1	-
	07/21/88	0001			0.02	JL	0.1	-
BORON	09/11/86	0001	MG/L		0.6		0.1	-
	03/13/87	0001			0.6		0.1	-
	10/02/87	0001			0.7		0.1	-
	01/10/88	0001			0.69		0.1	-
	07/21/88	0001			0.6	L	0.1	-
BROMIDE	01/08/94	0001	MG/L		1.86	L	0.10	-
CADMIUM	09/11/86	0001	MG/L	<	0.001		0.001	-
	07/21/88	0001			0.020	L	0.001	-
	03/31/89	0001			0.003	L	0.001	-
	09/17/89	0001			0.001	L	0.001	-
	01/07/90	0001			0.007	L	0.001	-
	03/14/90	0001			0.001	L	0.001	-
	08/27/90	0001			0.001	L	0.001	-
	01/09/91	0001			0.001		0.001	-
	04/17/91	0001			0.001	L	0.001	-
	07/10/91	0001			0.0046	I	0.0046	-
	01/15/92	0001			0.001	L	0.001	-
	07/23/92	0001			0.001	LW	0.001	-
CALCIUM	09/11/86	0001	MG/L		9.96		0.01	-
	03/13/87	0001			5.49		0.01	-
	10/02/87	0001			4.2		0.01	-
	01/10/88	0001			4.43		0.01	-
	07/21/88	0001			6.90	L	0.01	-
	03/31/89	0001			4.83		0.01	-
	09/17/89	0001			9.5	L	0.01	-
	01/07/90	0001			10.7	L	0.01	-
	03/14/90	0001			12.6	L	0.01	-
	08/27/90	0001			12.8	L	0.01	-
	01/09/91	0001			13.8		0.1	-
	04/17/91	0001			10.4	L	0.1	-
	07/10/91	0001			15		0.014	-
	01/15/92	0001			10.0	L	0.1	-
	07/23/92	0001			16.1	L	0.5	-
CHLORIDE	09/11/86	0001	MG/L		240.		1.	-
	03/13/87	0001			319.		1.	-
	10/02/87	0001			220.		1.	-
	01/10/88	0001			240.		1.	-
	07/21/88	0001			660.	L	1.	-
	03/31/89	0001			281.	HL	1.	-
	09/17/89	0001			845.	L	1.	-
	01/07/90	0001			914.	L	1.	-
	03/14/90	0001			1020.	HL	1.	-
	08/27/90	0001			984.	HL	1.	-
	01/09/91	0001			1030.		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	04/17/91	0001	MG/L		856.	L	1.	-
	07/10/91	0001			1400		0.5	-
	01/15/92	0001			838.	L	10.	-
	07/23/92	0001			1070	L	0.5	-
	01/08/94	0001			741.	L	0.50	-
CHROMIUM	09/11/86	0001	MG/L		0.06		0.01	-
	03/13/87	0001			0.02		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02		0.01	-
	07/21/88	0001			0.02	L	0.01	-
	03/31/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/14/90	0001		<	0.01	L	0.01	-
	08/27/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.016	I	0.016	-
	01/15/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.01	L	0.01	-
COBALT	09/11/86	0001	MG/L	<	0.05		0.05	-
	03/31/89	0001		<	0.05	L	0.05	-
COPPER	09/11/86	0001	MG/L		0.03		0.02	-
	07/21/88	0001		<	0.01	JL	0.02	-
	03/31/89	0001		<	0.02	L	0.02	-
DISSOLVED ORGANIC CARBON	07/10/91	0001	MG/L	<	1.0		1.	-
FLUORIDE	09/11/86	0001	MG/L		3.2		0.1	-
	03/13/87	0001			3.4		0.1	-
	10/02/87	0001			2.6		0.1	-
	01/10/88	0001			2.67		0.1	-
	07/21/88	0001			3.1	L	0.1	-
GROSS ALPHA	03/13/87	0001	PCI/L		1.		0.2	13.
	10/02/87	0001			0.0		0.2	22.
	01/10/88	0001			0.		0.2	12.
	07/21/88	0001			0.	L	0.2	20.
	03/31/89	0001			39.	L	0.2	17.
	09/17/89	0001			22.9	L	1.	18.8
	01/07/90	0001			5.	L	1.	29.
	03/14/90	0001			3.4	L	1.	19.1
	08/27/90	0001			17.6	L	1.	29.8
	01/09/91	0001			41.9		1.	36.8
	04/17/91	0001			0.0	L	1.	53.0
	07/10/91	0001			26		1.	34
	01/15/92	0001			0.0	L	1.	39.1
	07/23/92	0001			0.0	L	41.4	22.3
GROSS BETA	03/13/87	0001	PCI/L		0.0		1.	9.4
	10/02/87	0001			0.0		1.	20.
	01/10/88	0001			0.		1.	9.0

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	07/21/88	0001	PCI/L		5.	L	1.	13.
	03/31/89	0001			20.	L	1.	7.
	09/17/89	0001			41.6	L	0.5	12.2
	01/07/90	0001			14.	L	0.5	19.
	03/14/90	0001			18.3	L	0.5	12.4
	08/27/90	0001			4.5	L	0.5	15.6
	01/09/91	0001			99.1		0.5	26.4
	04/17/91	0001			6.2	L	0.5	31.2
	07/10/91	0001			10		0.5	23
	01/15/92	0001			16.2	L	0.5	28.4
	07/23/92	0001			14.3	L	37.7	23.3
IRON	09/11/86	0001	MG/L		0.14		0.03	-
	03/13/87	0001			0.04		0.03	-
	10/02/87	0001		<	0.03		0.03	-
	01/10/88	0001			0.1		0.03	-
	07/21/88	0001		<	0.01	JL	0.03	-
	03/31/89	0001		<	0.03	L	0.03	-
	09/17/89	0001		<	0.03	L	0.03	-
	01/07/90	0001		<	0.03	L	0.03	-
	03/14/90	0001			0.04	L	0.03	-
	08/27/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03		0.03	-
	04/17/91	0001		<	0.03	L	0.03	-
	07/10/91	0001			0.070	J	0.005	-
	01/15/92	0001		<	0.03	L	0.03	-
	07/23/92	0001			0.0389	L	0.03	-
LEAD	09/11/86	0001	MG/L	<	0.01		0.01	-
	07/21/88	0001			0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/14/90	0001		<	0.01	L	0.01	-
	08/27/90	0001		<	0.005	JL	0.01	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.005	L	0.005	-
	07/10/91	0001		<	0.0021		0.0021	-
	01/15/92	0001		<	0.005	L	0.005	-
	07/23/92	0001		<	0.003	L	0.003	-
MAGNESIUM	09/11/86	0001	MG/L		1.78		0.001	-
	03/13/87	0001			1.30		0.001	-
	10/02/87	0001			0.90		0.001	-
	01/10/88	0001			0.89		0.001	-
	07/21/88	0001			1.48	L	0.001	-
	03/31/89	0001			0.97	L	0.001	-
	09/17/89	0001			2.31	L	0.001	-
	01/07/90	0001			2.4	L	0.001	-
	03/14/90	0001			2.69	L	0.001	-
	08/27/90	0001			2.71	L	0.001	-
	01/09/91	0001			2.8		0.1	-
	04/17/91	0001			2.5	L	0.1	-
	07/10/91	0001			2.9		0.028	-
	01/15/92	0001			2.2	L	0.1	-
	07/23/92	0001			3.03	L	0.1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	09/11/86	0001	MG/L		0.02		0.01	-
	03/13/87	0001			0.03		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
MERCURY	09/11/86	0001	MG/L	<	0.0002		0.0002	-
	07/21/88	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	09/11/86	0001	MG/L		0.09		0.01	-
	03/13/87	0001		<	0.1		0.1	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001			0.02		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
	03/31/89	0001			0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001			0.01	L	0.01	-
	03/14/90	0001		<	0.01	L	0.01	-
	08/27/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.01	L	0.01	-
NET GROSS ALPHA *	03/13/87	0001	PCI/L		0.31		-	-
	10/02/87	0001			-1.03		-	-
	01/10/88	0001			-1.03		-	-
	07/21/88	0001			-1.03		-	-
	03/31/89	0001			37.97		-	-
	09/17/89	0001			21.87		-	-
	01/07/90	0001			3.97		-	-
	03/14/90	0001			2.37		-	-
	08/27/90	0001			8.00		-	-
	01/09/91	0001			41.56		-	-
	04/17/91	0001			-0.34		-	-
	07/10/91	0001			25.90		-	-
	01/15/92	0001			-0.69		-	-
	07/23/92	0001			-0.34		-	-
NICKEL	09/11/86	0001	MG/L	<	0.04		0.04	-
	03/31/89	0001		<	0.04	L	0.04	-
	09/17/89	0001		<	0.04	L	0.04	-
	01/07/90	0001		<	0.04	L	0.04	-
	03/14/90	0001		<	0.04	L	0.04	-
	08/27/90	0001		<	0.04	L	0.04	-
	01/09/91	0001		<	0.04		0.04	-
	04/17/91	0001		<	0.04	L	0.04	-
	07/10/91	0001		<	0.014	I	0.014	-
	01/15/92	0001		<	0.04	L	0.04	-
	07/23/92	0001		<	0.04	L	0.04	-
NITRATE	09/11/86	0001	MG/L		3.		1.	-
	03/13/87	0001		<	0.1	J	1.	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	10/02/87	0001	MG/L	<	1.0		1.	-
	01/10/88	0001		<	0.1	J	1.	-
	07/21/88	0001		<	0.1	JL	1.	-
	03/31/89	0001		<	1.0	L	1.	-
	09/17/89	0001		<	1.0	L	1.	-
	01/07/90	0001		<	0.1	JL	1.	-
	03/14/90	0001		<	1.	HL	1.	-
	08/27/90	0001			1.3	HJL	1.	-
	01/09/91	0001		<	1.		1.	-
	04/17/91	0001		<	1.0	L	1.	-
	07/10/91	0001			5.3	J	0.22	-
	01/15/92	0001		<	1.0	L	1.	-
	07/23/92	0001			2.05	L	1	-
NITRITE	09/11/86	0001	MG/L	<	0.1		0.1	-
PH	09/11/86	0001	SU		8.65		-	-
	03/13/87	0001			8.30		-	-
	10/02/87	0001			8.15		-	-
	01/10/88	0001			8.25		-	-
	07/21/88	0001			8.34	L	-	-
	03/31/89	0001			8.51	L	-	-
	09/17/89	0001			8.40	L	-	-
	01/07/90	0001			8.27	L	-	-
	03/14/90	0001			8.02	L	-	-
	08/27/90	0001			8.27	L	-	-
	01/09/91	0001			8.10		-	-
	04/17/91	0001			8.09	L	-	-
	07/10/91	0001			8.09		-	-
	01/15/92	0001			8.31	L	-	-
	07/23/92	0001			8.28	L	-	-
PHOSPHATE	09/11/86	0001	MG/L	<	0.1		0.1	-
	07/23/92	0001		<	0.1	L	0.1	-
POTASSIUM	09/11/86	0001	MG/L		1.51		0.01	-
	03/13/87	0001			1.21		0.01	-
	10/02/87	0001			0.92		0.01	-
	01/10/88	0001			0.97		0.01	-
	07/21/88	0001			1.4	L	0.01	-
	03/31/89	0001			1.22	L	0.01	-
	09/17/89	0001			1.4	L	0.01	-
	01/07/90	0001			1.5	L	0.01	-
	03/14/90	0001			1.68	L	0.01	-
	08/27/90	0001			1.52	L	0.01	-
	01/09/91	0001			1.62		0.01	-
	04/17/91	0001			1.65	L	0.01	-
	07/10/91	0001			1.8		0.5	-
	01/15/92	0001			1.35	L	0.01	-
	07/23/92	0001			1.83	L	0.1	-
RADIUM-226	03/13/87	0001	PCI/L		0.2		1.	0.2
	10/02/87	0001			0.4		1.	0.2
	01/10/88	0001			0.3		1.	0.2
	07/21/88	0001			0.2	L	1.	0.2

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	03/31/89	0001	PCI/L		0.2	L	1.	0.2
	09/17/89	0001			0.2	JL	1.	0.4
	01/07/90	0001			0.2	JL	1.	0.2
	03/14/90	0001			0.3	L	1.	0.2
	08/27/90	0001			1.2	L	1.	0.5
	01/09/91	0001			0.6		1.	0.6
	04/17/91	0001			0.6	L	1.	0.3
	07/10/91	0001			0.4		1.	0.2
	01/15/92	0001			0.5	L	1.	0.4
	07/23/92	0001			0.5	L	0.3	0.3
RADIUM-226 + RADIUM-228	10/02/87	0001	PCI/L		1.50		-	-
	01/10/88	0001			0.40		-	-
	07/21/88	0001			0.60		-	-
	03/31/89	0001			1.10		-	-
	09/17/89	0001			2.20		-	-
	01/07/90	0001			0.40		-	-
	03/14/90	0001			0.70		-	-
	08/27/90	0001			4.50		-	-
	01/09/91	0001			0.60		-	-
	04/17/91	0001			0.60		-	-
	07/10/91	0001			0.90		-	-
	01/15/92	0001			0.50		-	-
	07/23/92	0001			3.40		-	-
RADIUM-228	10/02/87	0001	PCI/L		1.1	J	1.	1.1
	01/10/88	0001			0.1		1.	0.8
	07/21/88	0001			0.4	L	1.	0.8
	03/31/89	0001			0.9	L	1.	0.8
	09/17/89	0001			2.0	L	1.	1.3
	01/07/90	0001			0.2	L	1.	0.9
	03/14/90	0001			0.4	L	1.	1.9
	08/27/90	0001			3.3	JL	1.	1.7
	01/09/91	0001			0.0	J	1.	3.2
	04/17/91	0001			0.0	JL	1.	1.8
	07/10/91	0001			0.5		1.	0.8
	01/15/92	0001			0.0	L	1.	2.2
	07/23/92	0001			2.9	L	3.5	2.3
SELENIUM	09/11/86	0001	MG/L		0.096		0.005	-
	03/13/87	0001		<	0.002	J	0.005	-
	10/02/87	0001			0.007		0.005	-
	01/10/88	0001			0.027		0.005	-
	07/21/88	0001			0.024	L	0.005	-
	03/31/89	0001		<	0.005	L	0.005	-
	09/17/89	0001		<	0.03	L	0.03	-
	01/07/90	0001			0.009	L	0.005	-
	03/14/90	0001		<	0.01	IL	0.01	-
	08/27/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.005	L	0.005	-
	07/10/91	0001		<	0.0022		0.0022	-
	01/15/92	0001		<	0.005	L	0.005	-
	07/23/92	0001		<	0.005	L	0.005	-
	01/08/94	0001			0.006	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	09/11/86	0001	MG/L		8.		2.	-
	01/08/94	0001			10.3	L	0.10	-
SILVER	09/11/86	0001	MG/L	<	0.01		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
SODIUM	09/11/86	0001	MG/L		677.		0.002	-
	03/13/87	0001			731.		0.002	-
	10/02/87	0001			690.		0.002	-
	01/10/88	0001			683.		0.002	-
	07/21/88	0001			901.	L	0.002	-
	03/31/89	0001			700.	L	0.002	-
	09/17/89	0001			1080.	L	0.002	-
	01/07/90	0001			1050.	L	0.002	-
	03/14/90	0001			1210.	L	0.002	-
	08/27/90	0001			1150.	L	0.002	-
	01/09/91	0001			1170.		5.	-
	04/17/91	0001			1080.	L	50.	-
	07/10/91	0001			1100		0.027	-
	01/15/92	0001			952.	L	5.	-
	07/23/92	0001			1030	L	1	-
SPECIFIC CONDUCTANCE	09/11/86	0001	UMHO/CM		2350.		-	-
	03/13/87	0001			2500.		-	-
	10/02/87	0001			2390.		-	-
	01/10/88	0001			2460.		-	-
	07/21/88	0001			3100.	L	-	-
	03/31/89	0001			2100.	L	-	-
	09/17/89	0001			1530.	L	-	-
	01/07/90	0001			3500.	L	-	-
	03/14/90	0001			3700.	L	-	-
	08/27/90	0001			3910.	L	-	-
	01/09/91	0001			5090.		-	-
	04/17/91	0001			5320.	L	-	-
	07/10/91	0001			5040.		-	-
	01/15/92	0001			3850	L	-	-
	07/23/92	0001			4550	L	-	-
STRONTIUM	09/11/86	0001	MG/L		0.4		0.1	-
SULFATE	09/11/86	0001	MG/L		645.		0.1	-
	03/13/87	0001			635.		0.1	-
	10/02/87	0001			660.		0.1	-
	01/10/88	0001			674.		0.1	-
	07/21/88	0001			571.	L	0.1	-
	03/31/89	0001			684.	HL	0.1	-
	09/17/89	0001			549.	L	0.1	-
	01/07/90	0001			536.	L	0.1	-
	03/14/90	0001			515.	HL	0.1	-
	08/27/90	0001			535.	L	0.1	-
	01/09/91	0001			393.		10.	-
	04/17/91	0001			551.	L	10.	-
	07/10/91	0001			490		10.	-
	01/15/92	0001			553.	L	60.	-
	07/23/92	0001			518	L	1	-
	01/08/94	0001			530.	L	1.0	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFIDE	07/21/88	0001	MG/L		5.6	L	0.1	-
TEMPERATURE	09/11/86	0001	C - DEGREE		19.		-	-
	03/13/87	0001			11.0		-	-
	10/02/87	0001			16.0		-	-
	01/10/88	0001			16.2		-	-
	07/21/88	0001			16.5	L	-	-
	03/31/89	0001			17.	L	-	-
	09/17/89	0001			17.0	L	-	-
	01/07/90	0001			16.0	L	-	-
	03/14/90	0001			17.0	L	-	-
	08/27/90	0001			13.2	L	-	-
	01/09/91	0001			15.6		-	-
	04/17/91	0001			16.7	L	-	-
	07/10/91	0001			17.7		-	-
	01/15/92	0001			15.5	L	-	-
	07/23/92	0001			18.3	L	-	-
THORIUM-230	03/13/87	0001	PCI/L		0.3		1.	0.5
TIN	09/11/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/11/86	0001	MG/L		2000.		10.	-
	03/13/87	0001			2170.		10.	-
	10/02/87	0001			1880.		10.	-
	01/10/88	0001			1930.	H	10.	-
	07/21/88	0001			2330.	HL	10.	-
	03/31/89	0001			1900.	HL	10.	-
	09/17/89	0001			2700.	L	10.	-
	01/07/90	0001			2750.	L	10.	-
	03/14/90	0001			2920.	HL	10.	-
	08/27/90	0001			2850.	HL	10.	-
	01/09/91	0001			3160.		10.	-
	04/17/91	0001			2720.	L	10.	-
	07/10/91	0001			3000.		10.	-
	01/15/92	0001			2800.	L	10.	-
	07/23/92	0001			2990.	L	10.	-
	01/08/94	0001			2620.	L	10.	-
TOTAL KJELDAHL NITROGEN	01/15/92	0001	MG/L	<	2.	IL	2.	-
TOTAL ORGANIC CARBON	10/02/87	0001	MG/L		4.		1.	-
	01/10/88	0001			34.8		1.	-
	07/21/88	0001			127.	L	1.	-
	03/31/89	0001			113.	L	1.	-
	09/17/89	0001			2.	L	1.	-
	01/07/90	0001			79.	L	1.	-
	03/14/90	0001			5.	L	1.	-
	08/27/90	0001			2.	L	1.	-
	01/09/91	0001			12.		1.	-
	04/17/91	0001			2.	L	1.	-
	07/10/91	0001			7.6		1.	-
	01/15/92	0001			3.	L	1.	-
	07/23/92	0001			1.7	*L	1	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0588 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 59445.0 FT
 EAST COORDINATE: 57782.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	09/11/86	0001	MG/L	<	0.0003	J	0.003	-
	03/13/87	0001		<	0.0010	J	0.003	-
	10/02/87	0001		<	0.003		0.003	-
	01/10/88	0001		<	0.0003	J	0.003	-
	07/21/88	0001		<	0.0003	JL	0.003	-
	03/31/89	0001		<	0.0003	JL	0.003	-
	09/17/89	0001		<	0.003	L	0.003	-
	01/07/90	0001		<	0.0003	JL	0.003	-
	03/14/90	0001		<	0.003	L	0.003	-
	08/27/90	0001			0.014	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/17/91	0001		<	0.001	L	0.001	-
	07/10/91	0001		<	0.0003		0.0003	-
	01/15/92	0001			0.001	L	0.001	-
	07/23/92	0001		<	0.001	L	0.001	-
VANADIUM	09/11/86	0001	MG/L		0.22		0.01	-
	10/02/87	0001		<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/21/88	0001			0.01	L	0.01	-
	03/31/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/14/90	0001		<	0.01	L	0.01	-
	08/27/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/15/92	0001		<	0.01	L	0.01	-
	07/23/92	0001			0.0312	L	0.01	-
ZINC	09/11/86	0001	MG/L		0.010		0.005	-
	10/02/87	0001		<	0.005		0.005	-
	01/10/88	0001			0.007		0.005	-
	07/21/88	0001		<	0.005	L	0.005	-
	03/31/89	0001		<	0.005	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/23/87	0001	MG/L CACO3		988.	L	-	-
	01/10/88	0001			967.		-	-
	07/21/88	0001			986.	L	-	-
	03/31/89	0001			1010.		-	-
	09/16/89	0001			1018.	L	-	-
	01/07/90	0001			965.		-	-
	03/15/90	0001			994.	L	-	-
	08/26/90	0001			982.	L	-	-
	01/09/91	0001			948.		-	-
	04/17/91	0001			951.		-	-
	07/11/91	0001			978.		-	-
	01/11/92	0001			957		-	-
	07/19/92	0001			970	L	-	-
ALUMINUM	10/23/87	0001	MG/L	<	0.1	L	0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/21/88	0001		<	0.01	JL	0.1	-
	07/19/92	0001			0.0872	*L	0.05	-
AMMONIUM	10/23/87	0001	MG/L		0.2	L	0.1	-
	01/10/88	0001			0.1		0.1	-
	07/21/88	0001		<	0.1	L	0.1	-
	03/31/89	0001			0.1		0.1	-
	09/16/89	0001			0.5	L	0.1	-
	01/07/90	0001		<	0.1		0.1	-
	03/15/90	0001			0.4	HL	0.1	-
	08/26/90	0001			0.32	JL	0.1	-
	01/09/91	0001			0.36		0.01	-
	04/17/91	0001			0.4		0.1	-
	07/10/91	0001			0.090		0.03	-
	01/11/92	0001			0.3		0.1	-
	07/19/92	0001			0.307	L	0.1	-
ARSENIC	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/21/88	0001			0.007	JL	0.01	-
	09/16/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01		0.01	-
	03/15/90	0001		<	0.02	IL	0.02	-
	08/26/90	0001		<	0.05	L	0.05	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.03	I	0.03	-
	07/10/91	0001		<	0.0023		0.0023	-
	01/11/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.005	L	0.005	-
BARIUM	07/21/88	0001	MG/L		0.01	JL	0.1	-
BORON	10/23/87	0001	MG/L		0.8	L	0.1	-
	01/10/88	0001			0.89		0.1	-
	07/21/88	0001			0.8	L	0.1	-
BROMIDE	12/14/93	0001	MG/L		0.51		0.10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	07/21/88	0001	MG/L		0.026	L	0.001	-
	03/31/89	0001			0.003		0.001	-
	09/16/89	0001		<	0.001	L	0.001	-
	01/07/90	0001			0.005		0.001	-
	03/15/90	0001		<	0.001	L	0.001	-
	08/26/90	0001		<	0.001	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/17/91	0001		<	0.001		0.001	-
	07/10/91	0001		<	0.0046	I	0.0046	-
	01/11/92	0001		<	0.001		0.001	-
	07/19/92	0001		<	0.001	LW	0.001	-
CALCIUM	10/23/87	0001	MG/L		4.9	L	0.01	-
	01/10/88	0001			5.20		0.01	-
	07/21/88	0001			4.73	L	0.01	-
	03/31/89	0001			4.78		0.01	-
	09/16/89	0001			5.4	L	0.01	-
	01/07/90	0001			4.64		0.01	-
	03/15/90	0001			5.15	L	0.01	-
	08/26/90	0001			5.16	L	0.01	-
	01/09/91	0001			5.3		0.1	-
	04/17/91	0001			5.5		0.1	-
	07/10/91	0001			5.4		0.014	-
	01/11/92	0001			5.1		0.1	-
CHLORIDE	07/19/92	0001			5.52	L	0.5	-
	10/23/87	0001	MG/L		188.	L	1.	-
	01/10/88	0001			160.		1.	-
	07/21/88	0001			200.	L	1.	-
	03/31/89	0001			200.		1.	-
	09/16/89	0001			176.	L	1.	-
	01/07/90	0001			194.		1.	-
	03/15/90	0001			174.	HL	1.	-
	08/26/90	0001			168.	HL	1.	-
	01/09/91	0001			168.		0.5	-
	04/17/91	0001			173.		0.5	-
	07/10/91	0001			230		0.5	-
	01/11/92	0001			170.		1.	-
CHROMIUM	07/19/92	0001			166	L	0.5	-
	12/14/93	0001			166.		0.50	-
	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/10/88	0001			0.02		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
	03/31/89	0001		<	0.01		0.01	-
	09/16/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01		0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.016	I	0.016	-
	01/11/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COBALT	03/31/89	0001	MG/L	<	0.05		0.05	-
COPPER	07/21/88	0001	MG/L	<	0.01	JL	0.02	-
	03/31/89	0001		<	0.02		0.02	-
DISSOLVED ORGANIC CARBON	07/10/91	0001	MG/L		1.0		1.	-
FLUORIDE	10/23/87	0001	MG/L		1.8	L	0.1	-
	01/10/88	0001			1.95		0.1	-
	07/21/88	0001			3.5	L	0.1	-
GROSS ALPHA	10/23/87	0001	PCI/L		0.0	L	0.2	23.
	01/10/88	0001			5.		0.2	13.
	07/21/88	0001			0.	L	0.2	19.
	03/31/89	0001			10.		0.2	19.
	09/16/89	0001			22.4	L	1.	20.2
	01/07/90	0001			6.		1.	14.
	03/15/90	0001			0.0	L	1.	14.2
	08/26/90	0001			20.5	L	1.	23.2
	01/09/91	0001			8.7		1.	17.0
	04/17/91	0001			0.0		1.	23.4
	07/11/91	0001			0		1.	30
	01/11/92	0001			30.3		1.	30.3
	07/19/92	0001			39.4	L	23.4	20.6
GROSS BETA	10/23/87	0001	PCI/L		4.5	L	1.	18.
	01/10/88	0001			2.3		1.	9.6
	07/21/88	0001			5.	L	1.	11.
	03/31/89	0001			10.		1.	10.
	09/16/89	0001			39.3	L	0.5	12.4
	01/07/90	0001			9.5		0.5	9.3
	03/15/90	0001			7.0	L	0.5	8.9
	08/26/90	0001			4.9	L	0.5	10.0
	01/09/91	0001			24.6		0.5	12.2
	04/17/91	0001			0.0		0.5	13.7
	07/11/91	0001			0		0.5	22
	01/11/92	0001			8.6		0.5	19.4
	07/19/92	0001			20.4	L	17.9	11.9
IRON	10/23/87	0001	MG/L	<	0.03	L	0.03	-
	01/10/88	0001			0.12		0.03	-
	07/21/88	0001		<	0.01	JL	0.03	-
	03/31/89	0001		<	0.03		0.03	-
	09/16/89	0001		<	0.03	L	0.03	-
	01/07/90	0001		<	0.03		0.03	-
	03/15/90	0001		<	0.03	L	0.03	-
	08/26/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03		0.03	-
	04/17/91	0001		<	0.03		0.03	-
	07/10/91	0001			0.13	JLR	0.005	-
	01/11/92	0001		<	0.03		0.03	-
	07/19/92	0001		<	0.03	L	0.03	-
LEAD	07/21/88	0001	MG/L		0.01	L	0.01	-
	09/16/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	03/15/90	0001	MG/L	<	0.01	L	0.01	-
	08/26/90	0001		<	0.005	JL	0.01	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.005		0.005	-
	07/10/91	0001		<	0.0021		0.0021	-
	01/11/92	0001		<	0.005		0.005	-
	07/19/92	0001		<	0.003	L	0.003	-
MAGNESIUM	10/23/87	0001	MG/L		1.54	L	0.001	-
	01/10/88	0001			1.54		0.001	-
	07/21/88	0001			1.37	L	0.001	-
	03/31/89	0001			1.39		0.001	-
	09/16/89	0001			1.61	L	0.001	-
	01/07/90	0001			1.50		0.001	-
	03/15/90	0001			1.66	L	0.001	-
	08/26/90	0001			1.63	L	0.001	-
	01/09/91	0001			1.6		0.1	-
	04/17/91	0001			1.7		0.1	-
	07/10/91	0001			1.6		0.028	-
	01/11/92	0001			1.6		0.1	-
	07/19/92	0001			1.64	L	0.1	-
MANGANESE	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/10/88	0001			0.01		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
MERCURY	07/21/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/10/88	0001			0.02		0.01	-
	07/21/88	0001			0.02	L	0.01	-
	03/31/89	0001			0.02		0.01	-
	09/16/89	0001		<	0.01	L	0.01	-
	01/07/90	0001			0.02		0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/11/92	0001		<	0.01		0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
NET GROSS ALPHA *	10/23/87	0001	PCI/L		-1.03		-	-
	01/10/88	0001			3.97		-	-
	07/21/88	0001			-1.03		-	-
	03/31/89	0001			8.97		-	-
	09/16/89	0001			21.37		-	-
	01/07/90	0001			4.97		-	-
	03/15/90	0001			-1.03		-	-
	08/26/90	0001			20.16		-	-
	01/09/91	0001			8.36		-	-
	04/17/91	0001			-0.34		-	-
	07/11/91	0001			-0.10		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	01/11/92	0001	PCI/L		29.61		-	-
	07/19/92	0001			35.97		-	-
NICKEL	03/31/89	0001	MG/L	<	0.04		0.04	-
	09/16/89	0001		<	0.04	L	0.04	-
	01/07/90	0001		<	0.04		0.04	-
	03/15/90	0001		<	0.04	L	0.04	-
	08/26/90	0001		<	0.04	L	0.04	-
	01/09/91	0001		<	0.04		0.04	-
	04/17/91	0001		<	0.04		0.04	-
	07/10/91	0001		<	0.014	I	0.014	-
	01/11/92	0001		<	0.04		0.04	-
	07/19/92	0001		<	0.04	L	0.04	-
NITRATE	10/23/87	0001	MG/L	<	1.0	HL	1.	-
	01/10/88	0001		<	0.1	J	1.	-
	07/21/88	0001			0.3	JL	1.	-
	03/31/89	0001		<	1.0		1.	-
	09/16/89	0001		<	1.0	L	1.	-
	01/07/90	0001		<	0.1	J	1.	-
	03/15/90	0001		<	1.	HL	1.	-
	08/26/90	0001			1.6	HJL	1.	-
	01/09/91	0001		<	1.		1.	-
	04/17/91	0001		<	1.0		1.	-
	07/10/91	0001			4.4	J	0.22	-
	01/11/92	0001		<	1.0		1.	-
	07/19/92	0001			1.22	L	1	-
PH	10/23/87	0001	SU		7.9	L	-	-
	01/10/88	0001			8.0		-	-
	07/21/88	0001			8.07	L	-	-
	03/31/89	0001			8.26		-	-
	09/16/89	0001			8.18	L	-	-
	01/07/90	0001			8.11		-	-
	03/15/90	0001			7.99	L	-	-
	08/26/90	0001			8.18	L	-	-
	01/09/91	0001			8.12		-	-
	04/17/91	0001			8.03		-	-
	07/11/91	0001			8.03		-	-
	01/11/92	0001			8.15		-	-
	07/19/92	0001			8.50	L	-	-
PHOSPHATE	07/19/92	0001	MG/L	<	0.1	L	0.1	-
POTASSIUM	10/23/87	0001	MG/L		1.42	L	0.01	-
	01/10/88	0001			1.57		0.01	-
	07/21/88	0001			1.6	L	0.01	-
	03/31/89	0001			1.94		0.01	-
	09/16/89	0001			1.48	L	0.01	-
	01/07/90	0001			1.5		0.01	-
	03/15/90	0001			1.48	L	0.01	-
	08/26/90	0001			1.52	L	0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	01/09/91	0001	MG/L		1.56		0.01	-
	04/17/91	0001			1.70		0.01	-
	07/10/91	0001			2.0		0.5	-
	01/11/92	0001			1.40		0.01	-
	07/19/92	0001			1.67	L	0.1	-
RADIUM-226	10/23/87	0001	PCI/L		0.1	L	1.	0.1
	01/10/88	0001			0.3		1.	0.2
	07/21/88	0001			0.0	L	1.	0.1
	03/31/89	0001			0.0		1.	0.1
	09/16/89	0001			0.0	JL	1.	0.3
	01/07/90	0001			0.0	J	1.	0.1
	03/15/90	0001			0.0	L	1.	0.1
	08/26/90	0001			0.1	L	1.	0.2
	01/09/91	0001			0.2		1.	0.2
	04/17/91	0001			0.2		1.	0.2
	07/11/91	0001			0.0		1.	0.1
	01/11/92	0001			0.1		1.	0.4
	07/19/92	0001			0.0	L	0.3	0.2
RADIUM-226 + RADIUM-228	10/23/87	0001	PCI/L		0.40		-	-
	01/10/88	0001			0.30		-	-
	07/21/88	0001			0.10		-	-
	03/31/89	0001			0.70		-	-
	09/16/89	0001			0.00		-	-
	01/07/90	0001			0.20		-	-
	03/15/90	0001			0.00		-	-
	08/26/90	0001			25.50		-	-
	01/09/91	0001			0.60		-	-
	04/17/91	0001			1.00		-	-
	07/11/91	0001			0.00		-	-
	01/11/92	0001			0.10		-	-
	07/19/92	0001			0.00		-	-
RADIUM-228	10/23/87	0001	PCI/L		0.3	JL	1.	0.9
	01/10/88	0001			0.		1.	0.9
	07/21/88	0001			0.1	L	1.	0.8
	03/31/89	0001			0.7		1.	0.8
	09/16/89	0001			0.0	L	1.	1.6
	01/07/90	0001			0.2		1.	0.9
	03/15/90	0001			0.0	L	1.	2.0
	08/26/90	0001			25.4	JL	1.	3.5
	01/09/91	0001			0.4	J	1.	1.9
	04/17/91	0001			0.8	J	1.	2.0
	07/11/91	0001			0.0		1.	0.9
	01/11/92	0001			0.0		1.	2.2
	07/19/92	0001			0.0	L	3.5	2.0
SELENIUM	10/23/87	0001	MG/L	<	0.005	L	0.005	-
	01/10/88	0001			0.048		0.005	-
	07/21/88	0001			0.022	L	0.005	-
	03/31/89	0001		<	0.005		0.005	-
	09/16/89	0001		<	0.03	L	0.03	-
	01/07/90	0001		<	0.019		0.005	-
	03/15/90	0001		<	0.01	IL	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	08/26/90	0001	MG/L	<	0.05	L	0.05	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.005		0.005	-
	07/10/91	0001		<	0.0022		0.0022	-
	01/11/92	0001		<	0.005		0.005	-
	07/19/92	0001		<	0.005	L	0.005	-
	12/14/93	0001		<	0.005		0.005	-
SILICA - SiO2	12/14/93	0001	MG/L		9.90	E	0.10	-
SILVER	07/21/88	0001	MG/L	<	0.01	L	0.01	-
SODIUM	10/23/87	0001	MG/L		850.	L	0.002	-
	01/10/88	0001			871.		0.002	-
	07/21/88	0001			823.	L	0.002	-
	03/31/89	0001			840.		0.002	-
	09/16/89	0001			860.	L	0.002	-
	01/07/90	0001			898.		0.002	-
	03/15/90	0001			880.	L	0.002	-
	08/26/90	0001			890.	L	0.002	-
	01/09/91	0001			861.		5.	-
	04/17/91	0001			887.		5.	-
	07/10/91	0001			840.		0.027	-
	01/11/92	0001			869.		5.	-
	07/19/92	0001			905	L	1	-
SPECIFIC CONDUCTANCE	10/23/87	0001	UMHO/CM		2750.	L	-	-
	01/10/88	0001			2870.		-	-
	07/21/88	0001			2800.	L	-	-
	03/31/89	0001			2350.		-	-
	09/16/89	0001			1100.	L	-	-
	01/07/90	0001			2700.		-	-
	03/15/90	0001			2800.	L	-	-
	08/26/90	0001			2800.	L	-	-
	01/09/91	0001			3540.		-	-
	04/17/91	0001			3640.		-	-
	07/11/91	0001			3560.		-	-
	01/11/92	0001			2910		-	-
	07/19/92	0001			300	L	-	-
SULFATE	10/23/87	0001	MG/L		570.	L	0.1	-
	01/10/88	0001			770.		0.1	-
	07/21/88	0001			682.	L	0.1	-
	03/31/89	0001			646.		0.1	-
	09/16/89	0001			652.	L	0.1	-
	01/07/90	0001			748.		0.1	-
	03/15/90	0001			728.	HL	0.1	-
	08/26/90	0001			687.	L	0.1	-
	01/09/91	0001			665.		10.	-
	04/17/91	0001			792.		10.	-
	07/10/91	0001			710		10.	-
	01/11/92	0001			819.		10.	-
	07/19/92	0001			766	L	1	-
	12/14/93	0001			643.	I	10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFIDE	07/21/88	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	10/23/87	0001	C - DEGREE		16.0	L	-	-
	01/10/88	0001			14.8		-	-
	07/21/88	0001			17.0	L	-	-
	03/31/89	0001			16.		-	-
	09/16/89	0001			16.5	L	-	-
	01/07/90	0001			15.0		-	-
	03/15/90	0001			16.0	L	-	-
	08/26/90	0001			12.6	L	-	-
	01/09/91	0001			15.3		-	-
	04/17/91	0001			17.1		-	-
	07/11/91	0001			16.6		-	-
	01/11/92	0001			13.8		-	-
	07/19/92	0001			16.2	L	-	-
TOTAL DISSOLVED SOLIDS	10/23/87	0001	MG/L		2200.	L	10.	-
	01/10/88	0001			2400.	H	10.	-
	07/21/88	0001			2290.	L	10.	-
	03/31/89	0001			2280.	H	10.	-
	09/16/89	0001			2260.	L	10.	-
	01/07/90	0001			2340.		10.	-
	03/15/90	0001			2380.	HL	10.	-
	08/26/90	0001			2330.	HL	10.	-
	01/09/91	0001			2290.		10.	-
	04/17/91	0001			2460.		10.	-
	07/10/91	0001			2300		10.	-
	01/11/92	0001			2440.		10.	-
	07/19/92	0001			2420	L	10.	-
	12/14/93	0001			2390.		10.	-
TOTAL KJELDAHL NITROGEN	01/11/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	10/23/87	0001	MG/L		4.	L	1.	-
	01/10/88	0001			233.		1.	-
	07/21/88	0001			182.	L	1.	-
	03/31/89	0001			243.		1.	-
	09/16/89	0001			3.	L	1.	-
	01/07/90	0001			152.		1.	-
	03/15/90	0001			5.	L	1.	-
	08/26/90	0001			3.	L	1.	-
	01/09/91	0001			7.		1.	-
	04/17/91	0001			3.		1.	-
	07/10/91	0001			1.3		1.	-
	01/11/92	0001			2.		1.	-
	07/19/92	0001			1.1	*L	1	-
URANIUM	10/23/87	0001	MG/L	<	0.003	L	0.003	-
	01/10/88	0001		<	0.0003	J	0.003	-
	07/21/88	0001		<	0.0003	JL	0.003	-
	03/31/89	0001		<	0.0003	J	0.003	-
	09/16/89	0001		<	0.003	L	0.003	-
	01/07/90	0001		<	0.0003	J	0.003	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0806 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60839.6 FT
 EAST COORDINATE: 60243.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	03/15/90	0001	MG/L	<	0.003	L	0.003	-
	08/26/90	0001		<	0.001	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/17/91	0001		<	0.001		0.001	-
	07/11/91	0001		<	0.0003		0.0003	-
	01/11/92	0001			0.001		0.001	-
	07/19/92	0001			0.005	L	0.001	-
VANADIUM	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
	03/31/89	0001		<	0.01		0.01	-
	09/16/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01		0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/11/92	0001		<	0.01		0.01	-
	07/19/92	0001			0.0451	L	0.01	-
ZINC	10/23/87	0001	MG/L	<	0.005	L	0.005	-
	01/10/88	0001			0.019		0.005	-
	07/21/88	0001		<	0.005	L	0.005	-
	03/31/89	0001			0.011	J	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0809 ABANDONED
 NORTH COORDINATE: 60371.1 FT
 EAST COORDINATE: 58519.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/23/87 01/07/88	0001 0001	MG/L CACO3		530. 485.	L L	- -	- -
ALUMINUM	10/23/87 01/07/88	0001 0001	MG/L	< <	0.1 0.1	L L	0.1 0.1	- -
AMMONIUM	10/23/87 01/07/88	0001 0001	MG/L		0.6 0.7	L L	0.1 0.1	- -
ARSENIC	10/23/87 01/07/88	0001 0001	MG/L	<	0.01 0.014	L L	0.01 0.01	- -
BORON	10/23/87 01/07/88	0001 0001	MG/L		0.5 0.64	L L	0.1 0.1	- -
CALCIUM	10/23/87 01/07/88	0001 0001	MG/L		33. 27.7	L L	0.01 0.01	- -
CHLORIDE	10/23/87 01/07/88	0001 0001	MG/L		92. 100.	JL L	1. 1.	- -
CHROMIUM	10/23/87 01/07/88	0001 0001	MG/L	<	0.01 0.02	L L	0.01 0.01	- -
FLUORIDE	10/23/87 01/07/88	0001 0001	MG/L		1.9 1.93	L L	0.1 0.1	- -
GROSS ALPHA	10/23/87 01/07/88	0001 0001	PCI/L		0.0 0.8	L L	0.2 0.2	33. 1.4
GROSS BETA	10/23/87 01/07/88	0001 0001	PCI/L		0.0 0.	L L	1. 1.	31. 1.7
IRON	10/23/87 01/07/88	0001 0001	MG/L	<	0.03 0.13	L L	0.03 0.03	- -
MAGNESIUM	10/23/87 01/07/88	0001 0001	MG/L		16. 11.9	L L	0.001 0.001	- -
MANGANESE	10/23/87 01/07/88	0001 0001	MG/L		0.01 0.09	L L	0.01 0.01	- -
MOLYBDENUM	10/23/87 01/07/88	0001 0001	MG/L	<	0.01 0.04	L L	0.01 0.01	- -
NET GROSS ALPHA *	10/23/87 01/07/88	0001 0001	PCI/L		-1.03 -0.16		- -	- -
NITRATE	10/23/87 01/07/88	0001 0001	MG/L	< <	1.0 0.1	HL JL	1. 1.	- -
PH	10/23/87 01/07/88	0001 0001	SU		8.2 8.3	L L	- -	- -

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0809 ABANDONED
 NORTH COORDINATE: 60371.1 FT
 EAST COORDINATE: 58519.2 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	10/23/87	0001	MG/L		4.1	L	0.01	-
	01/07/88	0001			3.46	L	0.01	-
RADIUM-226	10/23/87	0001	PCI/L		0.6	L	1.	0.2
	01/07/88	0001			0.2	L	1.	0.2
RADIUM-226 + RADIUM-228	10/23/87	0001	PCI/L		1.10		-	-
	01/07/88	0001			1.10		-	-
RADIUM-228	10/23/87	0001	PCI/L		0.5	L	1.	1.3
	01/07/88	0001			0.9	L	1.	0.9
SELENIUM	10/23/87	0001	MG/L	<	0.005	L	0.005	-
	01/07/88	0001			0.124	JL	0.005	-
SODIUM	10/23/87	0001	MG/L		1670.	L	0.002	-
	01/07/88	0001			1800.	L	0.002	-
SPECIFIC CONDUCTANCE	10/23/87	0001	UMHO/CM		5500.	L	-	-
	01/07/88	0001			5240.	L	-	-
SULFATE	10/23/87	0001	MG/L		3140.	L	0.1	-
	01/07/88	0001			3270.	L	0.1	-
TEMPERATURE	10/23/87	0001	C - DEGREE		15.0	L	-	-
	01/07/88	0001			14.1	L	-	-
TOTAL DISSOLVED SOLIDS	10/23/87	0001	MG/L		5340.	L	10.	-
	01/07/88	0001			5100.	HL	10.	-
TOTAL ORGANIC CARBON	10/23/87	0001	MG/L		3.	L	1.	-
	01/07/88	0001			118.	L	1.	-
URANIUM	10/23/87	0001	MG/L	<	0.003	L	0.003	-
	01/07/88	0001			0.0014	JL	0.003	-
VANADIUM	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.01	L	0.01	-
ZINC	10/23/87	0001	MG/L	<	0.005	L	0.005	-
	01/07/88	0001			0.009	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/26/87	0001	MG/L CACO3		369.	L	-	-
	01/07/88	0001			423.	L	-	-
	07/16/88	0001			406.	L	-	-
	03/12/89	0001			407.	L	-	-
	09/20/89	0001			622.	L	-	-
	01/10/90	0001			398.	L	-	-
	03/30/90	0001			446.	L	-	-
	08/23/90	0001			430.	L	0.5	-
	01/13/91	0001			431.		-	-
	04/22/91	0001			441.	L	-	-
	07/12/91	0001			471.	L	-	-
	01/14/92	0001			399	L	-	-
	07/23/92	0001			429	L	-	-
	01/17/94	0001			434	L	-	-
ALUMINUM	10/26/87	0001	MG/L	<	0.1	L	0.1	-
	01/07/88	0001		<	0.1	L	0.1	-
	07/16/88	0001			0.09	JL	0.1	-
	07/23/92	0001		<	0.05	L	0.05	-
AMMONIUM	10/26/87	0001	MG/L		0.3	L	0.1	-
	01/07/88	0001			0.1	L	0.1	-
	07/16/88	0001		<	0.1	L	0.1	-
	03/12/89	0001			0.5	HL	0.1	-
	09/20/89	0001			0.7	L	0.1	-
	01/10/90	0001			0.2	L	0.1	-
	03/30/90	0001			0.5	HL	0.1	-
	08/23/90	0001			0.30	JL	0.1	-
	01/13/91	0001			0.29	J	0.01	-
	04/22/91	0001			0.4	L	0.1	-
	07/12/91	0001			0.040	L	0.03	-
	01/14/92	0001			0.1	L	0.1	-
	07/23/92	0001			0.291	L	0.1	-
ARSENIC	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.01	L	0.01	-
	07/16/88	0001			0.012	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/10/90	0001		<	0.01	L	0.01	-
	03/30/90	0001		<	0.05	IJL	0.05	-
	08/23/90	0001		<	0.05	L	0.05	-
	01/13/91	0001		<	0.03	IW	0.03	-
	04/22/91	0001		<	0.03	IL	0.03	-
	07/12/91	0001			0.0041	L	0.0023	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.005	L	0.005	-
BARIUM	07/16/88	0001	MG/L		0.04	JL	0.1	-
BORON	10/26/87	0001	MG/L		0.6	L	0.1	-
	01/07/88	0001			0.59	L	0.1	-
	07/16/88	0001			0.71	L	0.1	-
BROMIDE	01/08/94	0001	MG/L		0.52	L	0.10	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	07/16/88	0001	MG/L		0.003	L	0.001	-
	03/12/89	0001			0.011	L	0.001	-
	09/20/89	0001		<	0.001	L	0.001	-
	01/10/90	0001			0.008	L	0.001	-
	03/30/90	0001		<	0.001	L	0.001	-
	08/23/90	0001		<	0.001	L	0.001	-
	01/13/91	0001		<	0.001	L	0.001	-
	04/22/91	0001		<	0.001	L	0.001	-
	07/12/91	0001		<	0.0046	IL	0.0046	-
	01/14/92	0001		<	0.001	L	0.001	-
	07/23/92	0001		<	0.001	L	0.001	-
CALCIUM	10/26/87	0001	MG/L		7.7	L	0.01	-
	01/07/88	0001			17.1	L	0.01	-
	07/16/88	0001			27.9	L	0.01	-
	03/12/89	0001			21.6	L	0.01	-
	09/20/89	0001			23.	L	0.01	-
	01/10/90	0001			18.9	L	0.01	-
	03/30/90	0001			17.4	L	0.01	-
	08/23/90	0001			15.5	L	0.01	-
	01/13/91	0001			13.0	L	0.1	-
	04/22/91	0001			15.3	L	0.1	-
	07/12/91	0001			12	L	0.014	-
	01/14/92	0001			13.9	L	0.1	-
	07/23/92	0001			15.7	L	0.5	-
CHLORIDE	10/26/87	0001	MG/L		550.	JL	1.	-
	01/07/88	0001			150.	L	1.	-
	07/16/88	0001			150.	L	1.	-
	03/12/89	0001			150.	L	1.	-
	09/20/89	0001			144.	L	1.	-
	01/10/90	0001			163.	L	1.	-
	03/30/90	0001			157.	HL	1.	-
	08/23/90	0001			158.	HL	0.5	-
	01/13/91	0001			162.	L	0.5	-
	04/22/91	0001			156.	L	0.5	-
	07/12/91	0001			190	L	0.5	-
	01/14/92	0001			155.	L	2.	-
	07/23/92	0001			152	L	0.5	-
	01/08/94	0001			147.	L	0.50	-
CHROMIUM	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.07	L	0.01	-
	07/16/88	0001		<	0.01	L	0.01	-
	03/12/89	0001		<	0.01	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/10/90	0001		<	0.01	L	0.01	-
	03/30/90	0001		<	0.01	L	0.01	-
	08/23/90	0001		<	0.01	L	0.01	-
	01/13/91	0001		<	0.01	L	0.01	-
	04/22/91	0001		<	0.01	L	0.01	-
	07/12/91	0001		<	0.016	IL	0.016	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.01	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION

SITE: GRN01 GREEN RIVER

LOCATION: 0810 OFF-SITE MONITOR WELL

NORTH COORDINATE: 60011.6 FT

EAST COORDINATE: 57868.6 FT

06/04/86 TO 06/08/94

REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)

HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COBALT	03/12/89	0001	MG/L	<	0.05	L	0.05	-
COPPER	07/16/88	0001	MG/L	<	0.02	L	0.02	-
	03/12/89	0001			0.02	L	0.02	-
DISSOLVED ORGANIC CARBON	07/12/91	0001	MG/L	<	1.0	L	1.	-
FLUORIDE	10/26/87	0001	MG/L		5.4	L	0.1	-
	01/07/88	0001			3.27	L	0.1	-
	07/16/88	0001			2.7	L	0.1	-
GROSS ALPHA	10/26/87	0001	PCI/L		0.0	L	0.2	28.
	01/07/88	0001			10.	L	0.2	18.
	07/16/88	0001			0.	L	0.2	25.
	03/12/89	0001			10.	L	0.2	42.
	09/20/89	0001			44.9	L	1.	33.6
	01/10/90	0001			9.	L	1.	34.
	03/30/90	0001			44.	L	1.	29.0
	08/23/90	0001			9.8	JL	1.	25.1
	01/13/91	0001			0.0		1.	1.2
	04/22/91	0001			4.6	L	1.	45.0
	07/12/91	0001			34	L	1.	32
	01/14/92	0001			2.3	L	1.	32.5
	07/23/92	0001			9.1	L	35.2	22.7
GROSS BETA	10/26/87	0001	PCI/L		0.0	L	1.	23.
	01/07/88	0001			19.	L	1.	18.
	07/16/88	0001			0.	L	1.	15.
	03/12/89	0001			13.	L	1.	22.
	09/20/89	0001			51.1	L	0.5	17.1
	01/10/90	0001			24.	L	0.5	19.
	03/30/90	0001			20.9	L	0.5	15.8
	08/23/90	0001			0.	JL	0.5	12.2
	01/13/91	0001			0.0		0.5	1.4
	04/22/91	0001			4.8	L	0.5	21.8
	07/12/91	0001			7	L	0.5	21
	01/14/92	0001			3.8	L	0.5	19.4
	07/23/92	0001			0.0	L	26.9	15.9
IRON	10/26/87	0001	MG/L	<	0.03	L	0.03	-
	01/07/88	0001			0.32	L	0.03	-
	07/16/88	0001			0.04	L	0.03	-
	03/12/89	0001			0.03	L	0.03	-
	09/20/89	0001			0.07	L	0.03	-
	01/10/90	0001			0.04	L	0.03	-
	03/30/90	0001			0.03	L	0.03	-
	08/23/90	0001			0.03	L	0.03	-
	01/13/91	0001			0.03		0.03	-
	04/22/91	0001			0.03	L	0.03	-
	07/12/91	0001			0.064	JL	0.005	-
	01/14/92	0001			0.03	L	0.03	-
	07/23/92	0001			0.03	L	0.03	-
LEAD	07/16/88	0001	MG/L	<	0.01	L	0.01	-
	09/20/89	0001			0.01	L	0.01	-
	01/10/90	0001			0.02	L	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	03/30/90	0001	MG/L	<	0.05	IL	0.05	-
	08/23/90	0001		<	0.03	L	0.03	-
	01/13/91	0001		<	0.03	I	0.03	-
	04/22/91	0001		<	0.005	L	0.005	-
	07/12/91	0001		<	0.0021	L	0.0021	-
	01/14/92	0001		<	0.03	IL	0.03	-
	07/23/92	0001		<	0.003	L	0.003	-
MAGNESIUM	10/26/87	0001	MG/L		1.70	L	0.001	-
	01/07/88	0001			6.94	L	0.001	-
	07/16/88	0001			13.7	L	0.001	-
	03/12/89	0001			8.62	L	0.001	-
	09/20/89	0001			10.4	L	0.001	-
	01/10/90	0001			7.27	L	0.001	-
	03/30/90	0001			6.8	L	0.001	-
	08/23/90	0001			5.95	L	0.01	-
	01/13/91	0001			5.0		0.1	-
	04/22/91	0001			5.9	L	0.1	-
	07/12/91	0001			3.9	L	0.028	-
	01/14/92	0001			5.4	L	0.1	-
	07/23/92	0001			5.8	L	0.1	-
MANGANESE	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.21	L	0.01	-
	07/16/88	0001			0.08	L	0.01	-
MERCURY	07/16/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.04	L	0.01	-
	07/16/88	0001			0.03	L	0.01	-
	03/12/89	0001			0.02	L	0.01	-
	09/20/89	0001			0.01	L	0.01	-
	01/10/90	0001			0.03	L	0.01	-
	03/30/90	0001			0.02	L	0.01	-
	08/23/90	0001			0.01	L	0.01	-
	01/13/91	0001			0.02		0.01	-
	04/22/91	0001			0.02	L	0.01	-
	07/12/91	0001			0.025	L	0.0057	-
	01/14/92	0001			0.02	L	0.01	-
	07/23/92	0001			0.015	L	0.01	-
NET GROSS ALPHA *	10/26/87	0001	PCI/L		-3.43		-	-
	01/07/88	0001			7.26		-	-
	07/16/88	0001			-0.82		-	-
	03/12/89	0001			8.15		-	-
	09/20/89	0001			43.87		-	-
	01/10/90	0001			8.18		-	-
	03/30/90	0001			42.97		-	-
	08/23/90	0001			9.11		-	-
	01/13/91	0001			-0.69		-	-
	04/22/91	0001			4.26		-	-
	07/12/91	0001			33.73		-	-
	01/14/92	0001			0.93		-	-
	07/23/92	0001			8.76		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	03/12/89	0001	MG/L	<	0.04	L	0.04	-
	09/20/89	0001		<	0.04	L	0.04	-
	01/10/90	0001		<	0.04	L	0.04	-
	03/30/90	0001		<	0.04	L	0.04	-
	08/23/90	0001		<	0.04	L	0.04	-
	01/13/91	0001		<	0.04	L	0.04	-
	04/22/91	0001		<	0.04	JL	0.04	-
	07/12/91	0001		<	0.014	IL	0.014	-
	01/14/92	0001		<	0.04	L	0.04	-
	07/23/92	0001		<	0.04	L	0.04	-
NITRATE	10/26/87	0001	MG/L		1.0	HL	1.	-
	01/07/88	0001		<	0.1	JL	1.	-
	07/16/88	0001			11.	L	1.	-
	03/12/89	0001			17.	HL	1.	-
	09/20/89	0001		<	1.0	L	1.	-
	01/10/90	0001		<	0.1	JL	1.	-
	03/30/90	0001			1.3	HL	1.	-
	08/23/90	0001			1.4	HJL	1.	-
	01/13/91	0001		<	1.		1.	-
	04/22/91	0001		<	1.0	L	1.	-
	07/12/91	0001			6.2	JL	0.22	-
	01/14/92	0001			1.6	L	1.	-
	07/23/92	0001			2.5	L	1	-
PH	10/26/87	0001	SU		8.3	L	-	-
	01/07/88	0001			8.05	L	-	-
	07/16/88	0001			8.22	L	-	-
	03/12/89	0001			8.44	L	-	-
	09/20/89	0001			8.24	L	-	-
	01/10/90	0001			8.18	L	-	-
	03/30/90	0001			8.20	L	-	-
	08/23/90	0001			8.22	L	-	-
	01/13/91	0001			8.13		-	-
	04/22/91	0001			8.13	L	-	-
	07/12/91	0001			8.25	L	-	-
	01/14/92	0001			8.66	L	-	-
	07/23/92	0001			8.28	L	-	-
	01/17/94	0001			8.30	L	-	-
PHOSPHATE	07/23/92	0001	MG/L		1.96	L	0.1	-
POTASSIUM	10/26/87	0001	MG/L		1.25	L	0.01	-
	01/07/88	0001			2.5	L	0.01	-
	07/16/88	0001			3.8	L	0.01	-
	03/12/89	0001			3.05	L	0.01	-
	09/20/89	0001			2.2	L	0.01	-
	01/10/90	0001			2.2	L	0.01	-
	03/30/90	0001			1.98	L	0.01	-
	08/23/90	0001			1.93	L	0.01	-
	01/13/91	0001			1.61		0.01	-
	04/22/91	0001			1.93	L	0.01	-

• NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	07/12/91	0001	MG/L		2.2	L	0.5	-
	01/14/92	0001			1.63	L	0.01	-
	07/23/92	0001			2.66	L	0.1	-
RADIUM-226	10/26/87	0001	PCI/L		0.1	L	1.	0.2
	01/07/88	0001			0.2	L	1.	0.2
	07/16/88	0001			0.4	L	1.	0.2
	03/12/89	0001			0.1	L	1.	0.1
	09/20/89	0001			0.1	L	1.	0.2
	01/10/90	0001			0.1	L	1.	0.2
	03/30/90	0001			0.2	L	1.	0.2
	08/23/90	0001			0.1	L	1.	0.2
	01/13/91	0001			0.1	Jc	0.2	0.1
	04/22/91	0001			0.2	L	1.	0.3
	07/12/91	0001			0.4	L	1.	0.2
	01/14/92	0001			0.5	L	1.	0.4
	07/23/92	0001			0.1	L	0.3	0.2
RADIUM-226 + RADIUM-228	10/26/87	0001	PCI/L		1.10		-	-
	01/07/88	0001			1.50		-	-
	07/16/88	0001			0.90		-	-
	03/12/89	0001			0.10		-	-
	09/20/89	0001			0.10		-	-
	01/10/90	0001			1.00		-	-
	03/30/90	0001			0.20		-	-
	08/23/90	0001			6.00		-	-
	01/13/91	0001			8.40		-	-
	04/22/91	0001			16.10		-	-
	07/12/91	0001			0.40		-	-
	01/14/92	0001			6.50		-	-
	07/23/92	0001			3.30		-	-
RADIUM-228	10/26/87	0001	PCI/L		1.0	L	1.	1.4
	01/07/88	0001			1.3	L	1.	0.9
	07/16/88	0001			0.5	L	1.	0.7
	03/12/89	0001			0.0	L	1.	0.6
	09/20/89	0001			0.0	JL	1.	1.8
	01/10/90	0001			0.9	L	1.	0.8
	03/30/90	0001			0.0	L	1.	2.1
	08/23/90	0001			5.9	L	1.	2.5
	01/13/91	0001			8.3	J	1.	2.2
	04/22/91	0001			15.9	JL	1.	2.4
	07/12/91	0001			0.0	L	1.	0.8
	01/14/92	0001			6.0	L	1.	2.6
	07/23/92	0001			3.2	L	3.0	2.0
REDOX POTENTIAL	01/17/94	0001	mVOLTS		462	L	-	-
SELENIUM	10/26/87	0001	MG/L	<	0.005	L	0.005	-
	01/07/88	0001			0.083	JL	0.005	-
	07/16/88	0001			0.071	JL	0.005	-
	03/12/89	0001			0.018	LN	0.005	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/10/90	0001			0.079	L	0.005	-
	03/30/90	0001		<	0.05	IL	0.05	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
- c - CHANGED DETECTION LIMIT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	08/23/90	0001	MG/L	<	0.05	L	0.05	-
	01/13/91	0001		<	0.03	IW	0.03	-
	04/22/91	0001		<	0.03	IL	0.03	-
	07/12/91	0001		<	0.011	IL	0.011	-
	01/14/92	0001		<	0.005	L	0.005	-
	07/23/92	0001		<	0.005	L	0.005	-
	01/17/94	0001		<	0.005	L	0.005	-
SILICA - SiO2	01/08/94	0001	MG/L		8.81	L	0.10	-
SILVER	07/16/88	0001	MG/L	<	0.01	L	0.01	-
SODIUM	10/26/87	0001	MG/L		810.	L	0.002	-
	01/07/88	0001			1280.	L	0.002	-
	07/16/88	0001			1420.	L	0.002	-
	03/12/89	0001			1560.	L	0.002	-
	09/20/89	0001			1430.	L	0.002	-
	01/10/90	0001			1540.	L	0.002	-
	03/30/90	0001			1560.	L	0.002	-
	08/23/90	0001			1440.	L	1.	-
	01/13/91	0001			1340.	J	5.	-
	04/22/91	0001			1430.	L	50.	-
	07/12/91	0001			1100	L	0.027	-
	01/14/92	0001			1360.	L	20.	-
	07/23/92	0001			1430	L	1	-
SPECIFIC CONDUCTANCE	10/26/87	0001	UMHO/CM		4200.	L	-	-
	01/07/88	0001			4110.	L	-	-
	07/16/88	0001			5000.	L	-	-
	03/12/89	0001			4400.	L	-	-
	09/20/89	0001			2100.	LR	-	-
	01/10/90	0001			5000.	L	-	-
	03/30/90	0001			4600.	L	-	-
	08/23/90	0001			4590.	L	-	-
	01/13/91	0001			5700.	L	-	-
	04/22/91	0001			5500.	L	-	-
	07/12/91	0001			4610.	L	-	-
	01/14/92	0001			3910	L	-	-
	07/23/92	0001			4780	L	-	-
	01/17/94	0001			4030	L	-	-
SULFATE	10/26/87	0001	MG/L		620.	L	0.1	-
	01/07/88	0001			2140.	L	0.1	-
	07/16/88	0001			2790.	L	0.1	-
	03/12/89	0001			2930.	HL	0.1	-
	09/20/89	0001			2960.	L	0.1	-
	01/10/90	0001			2870.	L	0.1	-
	03/30/90	0001			2540.	HL	0.1	-
	08/23/90	0001			2300.	L	10.	-
	01/13/91	0001			1950.	L	10.	-
	04/22/91	0001			2340.	L	10.	-
	07/12/91	0001			1800	L	10.	-
	01/14/92	0001			2070.	L	10.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

R - UNUSABLE DATA POINT

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	07/23/92	0001	MG/L		2330	L	1	-
	01/08/94	0001			2020.	L	1.0	-
SULFIDE	07/16/88	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	10/26/87	0001	C - DEGREE		16.0	L	-	-
	01/07/88	0001			14.3	L	-	-
	07/16/88	0001			21.0	L	-	-
	03/12/89	0001			16.	L	-	-
	09/20/89	0001			15.5	L	-	-
	01/10/90	0001			16.0	L	-	-
	03/30/90	0001			16.0	L	-	-
	08/23/90	0001			12.6	L	-	-
	01/13/91	0001			12.9		-	-
	04/22/91	0001			17.3	L	-	-
	07/12/91	0001			16.9	L	-	-
	01/14/92	0001			13.6	L	-	-
	07/23/92	0001			16.7	L	-	-
	01/17/94	0001			13.2	HL	-	-
TOTAL DISSOLVED SOLIDS	10/26/87	0001	MG/L		2740.	L	10.	-
	01/07/88	0001			3970.	HL	10.	-
	07/16/88	0001			4700.	HL	10.	-
	03/12/89	0001			4780.	HL	10.	-
	09/20/89	0001			4810.	L	10.	-
	01/10/90	0001			4570.	L	10.	-
	03/30/90	0001			4370.	HL	10.	-
	08/23/90	0001			3970.	HL	10.	-
	01/13/91	0001			3760.		10.	-
	04/22/91	0001			4080.	L	10.	-
	07/12/91	0001			3200	L	10.	-
	01/14/92	0001			3840.	L	10.	-
	07/23/92	0001			4150	L	10	-
	01/08/94	0001			3820.	L	10.	-
TOTAL KJELDAHL NITROGEN	01/14/92	0001	MG/L	<	2.	IL	2.	-
TOTAL ORGANIC CARBON	10/26/87	0001	MG/L		3.	L	1.	-
	01/07/88	0001			99.6	L	1.	-
	07/16/88	0001			101.	L	1.	-
	03/12/89	0001			88.9	L	1.	-
	09/20/89	0001			56.	L	1.	-
	01/10/90	0001			37.	L	1.	-
	03/30/90	0001			6.	L	1.	-
	08/23/90	0001			2.	L	1.	-
	01/13/91	0001			5.		1.	-
	04/22/91	0001			4.	L	1.	-
	07/12/91	0001		<	1.0	L	1.	-
	01/14/92	0001			3.	L	1.	-
	07/23/92	0001			45	L	1	-
URANIUM	10/26/87	0001	MG/L		0.005	L	0.003	-
	01/07/88	0001			0.004	L	0.003	-
	07/16/88	0001			0.0012	JL	0.003	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0810 OFF-SITE MONITOR WELL
 NORTH COORDINATE: 60011.6 FT
 EAST COORDINATE: 57868.6 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	03/12/89	0001	MG/L		0.0027	JL	0.003	-
	09/20/89	0001		<	0.003	L	0.003	-
	01/10/90	0001			0.0012	JL	0.003	-
	03/30/90	0001		<	0.003	L	0.003	-
	08/23/90	0001			0.001	L	0.001	-
	01/13/91	0001			0.001		0.001	-
	04/22/91	0001		<	0.001	L	0.001	-
	07/12/91	0001			0.0004	L	0.0003	-
	01/14/92	0001			0.002	L	0.001	-
	07/23/92	0001		<	0.001	L	0.001	-
VANADIUM	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001		<	0.01	L	0.01	-
	07/16/88	0001		<	0.01	L	0.01	-
	03/12/89	0001		<	0.01	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/10/90	0001			0.02	L	0.01	-
	03/30/90	0001		<	0.01	L	0.01	-
	08/23/90	0001		<	0.01	L	0.01	-
	01/13/91	0001		<	0.01		0.01	-
	04/22/91	0001		<	0.01	L	0.01	-
	07/12/91	0001		<	0.011	IL	0.011	-
	01/14/92	0001		<	0.01	L	0.01	-
	07/23/92	0001		<	0.01	L	0.01	-
ZINC	10/26/87	0001	MG/L	<	0.005	L	0.005	-
	01/07/88	0001			0.127	L	0.005	-
	07/16/88	0001			0.013	L	0.005	-
	03/12/89	0001			0.010	JL	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/22/87	0001	MG/L CACO3		1019.		-	-
	01/11/88	0001			937.		-	-
	07/21/88	0001			993.	L	-	-
	03/31/89	0001			1025.	L	-	-
	09/17/89	0001			1054.	L	-	-
	01/07/90	0001			1007.	L	-	-
	03/15/90	0001			1031.	L	-	-
	08/26/90	0001			1033.	L	-	-
	01/09/91	0001			1021.		-	-
	04/17/91	0001			985.		-	-
	07/10/91	0001			983.		-	-
	01/11/92	0001			990		-	-
	07/23/92	0001			985	L	-	-
ALUMINUM	10/22/87	0001	MG/L	<	0.1		0.1	-
	01/11/88	0001		<	0.1		0.1	-
	07/21/88	0001		<	0.01	JL	0.1	-
	07/22/92	0001			0.0912	L	0.05	-
AMMONIUM	10/22/87	0001	MG/L		0.3		0.1	-
	01/11/88	0001		<	0.1		0.1	-
	07/21/88	0001		<	0.1	L	0.1	-
	03/31/89	0001			0.1	L	0.1	-
	09/17/89	0001			0.4	L	0.1	-
	01/07/90	0001		<	0.1	L	0.1	-
	03/15/90	0001			0.5	HL	0.1	-
	08/26/90	0001			0.32	JL	0.1	-
	01/09/91	0001			0.38		0.01	-
	04/17/91	0001			0.5		0.1	-
	07/10/91	0001			0.14		0.03	-
	01/11/92	0001			0.4		0.1	-
	07/22/92	0001			0.2	L	0.1	-
ARSENIC	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/11/88	0001		<	0.01		0.01	-
	07/21/88	0001			0.005	JL	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.02	IL	0.02	-
	08/26/90	0001		<	0.05	L	0.05	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.03	I	0.03	-
	07/10/91	0001		<	0.0023		0.0023	-
	01/11/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.005	L	0.005	-
BARIUM	07/21/88	0001	MG/L		0.10	L	0.1	-
BORON	10/22/87	0001	MG/L		0.7		0.1	-
	01/11/88	0001			0.81		0.1	-
	07/21/88	0001			0.8	L	0.1	-
BROMIDE	12/15/93	0001	MG/L		0.45		0.10	-
CADMIUM	07/21/88	0001	MG/L		0.025	L	0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	03/31/89	0001	MG/L		0.003	L	0.001	-
	09/17/89	0001		<	0.001	L	0.001	-
	01/07/90	0001			0.005	L	0.001	-
	03/15/90	0001		<	0.001	L	0.001	-
	08/26/90	0001		<	0.001	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/17/91	0001		<	0.001		0.001	-
	07/10/91	0001		<	0.0046	I	0.0046	-
	01/11/92	0001		<	0.001		0.001	-
	07/22/92	0001		<	0.001	L	0.001	-
CALCIUM	10/22/87	0001	MG/L		4.1		0.01	-
	01/11/88	0001			4.17		0.01	-
	07/21/88	0001			4.60	L	0.01	-
	03/31/89	0001			4.82	L	0.01	-
	09/17/89	0001			3.93	L	0.01	-
	01/07/90	0001			4.27	L	0.01	-
	03/15/90	0001			4.62	L	0.01	-
	08/26/90	0001			4.52	L	0.01	-
	01/09/91	0001			4.4		0.1	-
	04/17/91	0001			4.1		0.1	-
	07/10/91	0001			4.9		0.014	-
	01/11/92	0001			4.8		0.1	-
	07/22/92	0001			4.6	L	0.5	-
CHLORIDE	10/22/87	0001	MG/L		159.		1.	-
	01/11/88	0001			150.		1.	-
	07/21/88	0001			170.	L	1.	-
	03/31/89	0001			170.	L	1.	-
	09/17/89	0001			138.	L	1.	-
	01/07/90	0001			169.	L	1.	-
	03/15/90	0001			152.	HL	1.	-
	08/26/90	0001			151.	HL	1.	-
	01/09/91	0001			132.		0.5	-
	04/17/91	0001			141.		0.5	-
	07/10/91	0001			190		0.5	-
	01/11/92	0001			143.		1.	-
	07/22/92	0001			139	L	0.5	-
	12/15/93	0001			138.		0.50	-
CHROMIUM	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/11/88	0001			0.07		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
	03/31/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.016	I	0.016	-
	01/11/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
COBALT	03/31/89	0001	MG/L	<	0.05	L	0.05	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
NORTH COORDINATE: 60818.9 FT
EAST COORDINATE: 60300.0 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COPPER	07/21/88	0001	MG/L	<	0.01	JL	0.02	-
	03/31/89	0001		<	0.02	L	0.02	-
DISSOLVED ORGANIC CARBON	07/10/91	0001	MG/L	<	1.0		1.	-
FLUORIDE	10/22/87	0001	MG/L		2.3		0.1	-
	01/11/88	0001			2.19		0.1	-
	07/21/88	0001			2.5	L	0.1	-
GROSS ALPHA	10/22/87	0001	PCI/L		27.		0.2	32.
	01/11/88	0001			4.3		0.2	9.7
	07/21/88	0001			36.	L	0.2	19.
	03/31/89	0001			7.	L	0.2	20.
	09/17/89	0001			6.5	L	1.	14.2
	01/07/90	0001			0.	L	1.	12.
	03/15/90	0001			17.8	L	1.	18.1
	08/26/90	0001			31.6	L	1.	17.2
	01/09/91	0001			0.0		1.	9.8
	04/17/91	0001			0.0		1.	24.6
	07/10/91	0001			0		1.	21
	01/11/92	0001			18.2		1.	24.4
	07/22/92	0001			4.6	L	23.4	14.9
GROSS BETA	10/22/87	0001	PCI/L		39.		1.	25.
	01/11/88	0001			3.5		1.	6.7
	07/21/88	0001			21.	L	1.	8.
	03/31/89	0001			30.	L	1.	12.
	09/17/89	0001			20.2	L	0.5	9.0
	01/07/90	0001			7.1	L	0.5	7.5
	03/15/90	0001			10.4	L	0.5	9.6
	08/26/90	0001			11.5	L	0.5	10.1
	01/09/91	0001			32.5		0.5	11.1
	04/17/91	0001			0.0		0.5	15.3
	07/10/91	0001			0		0.5	15
	01/11/92	0001			12.3		0.5	17.0
	07/22/92	0001			6.1	L	17.9	11.1
IRON	10/22/87	0001	MG/L	<	0.03		0.03	-
	01/11/88	0001			0.3		0.03	-
	07/21/88	0001			0.02	JL	0.03	-
	03/31/89	0001		<	0.03	L	0.03	-
	09/17/89	0001			0.04	L	0.03	-
	01/07/90	0001		<	0.03	L	0.03	-
	03/15/90	0001			0.05	L	0.03	-
	08/26/90	0001			0.08	L	0.03	-
	01/09/91	0001		<	0.03		0.03	-
	04/17/91	0001		<	0.03		0.03	-
	07/10/91	0001			0.094	J	0.005	-
	01/11/92	0001			0.06		0.03	-
	07/22/92	0001		<	0.03	L	0.03	-
LEAD	07/21/88	0001	MG/L	<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001			0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.005	JL	0.01	-
	01/09/91	0001		<	0.03	I	0.03	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE S1.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	04/17/91	0001	MG/L	<	0.005		0.005	-
	07/10/91	0001		<	0.0021		0.0021	-
	01/11/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.003	L	0.003	-
MAGNESIUM	10/22/87	0001	MG/L		1.33		0.001	-
	01/11/88	0001			1.24		0.001	-
	07/21/88	0001			1.33	L	0.001	-
	03/31/89	0001			1.40	L	0.001	-
	09/17/89	0001			1.28	L	0.001	-
	01/07/90	0001			1.37	L	0.001	-
	03/15/90	0001			1.56	L	0.001	-
	08/26/90	0001			1.55	L	0.001	-
	01/09/91	0001			1.4		0.1	-
	04/17/91	0001			1.3		0.1	-
	07/10/91	0001			1.4		0.028	-
	01/11/92	0001			1.6		0.1	-
	07/22/92	0001			1.5	L	0.1	-
MANGANESE	10/22/87	0001	MG/L		0.01		0.01	-
	01/11/88	0001			0.02		0.01	-
	07/21/88	0001			0.02	L	0.01	-
MERCURY	07/21/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/11/88	0001			0.02		0.01	-
	07/21/88	0001			0.02	L	0.01	-
	03/31/89	0001			0.02	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001			0.03	L	0.01	-
	03/15/90	0001			0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001			0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/11/92	0001		<	0.01		0.01	-
	07/22/92	0001			3	L	0.01	-
NET GROSS ALPHA *	10/22/87	0001	PCI/L		25.97		-	-
	01/11/88	0001			3.27		-	-
	07/21/88	0001			35.79		-	-
	03/31/89	0001			5.97		-	-
	09/17/89	0001			5.47		-	-
	01/07/90	0001			-0.21		-	-
	03/15/90	0001			16.77		-	-
	08/26/90	0001			29.54		-	-
	01/09/91	0001			-0.34		-	-
	04/17/91	0001			-0.34		-	-
	07/10/91	0001			-0.10		-	-
	01/11/92	0001			16.83		-	-
	07/22/92	0001			4.26		-	-
NICKEL	03/31/89	0001	MG/L	<	0.04	L	0.04	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	09/17/89	0001	MG/L	<	0.04	L	0.04	-
	01/07/90	0001		<	0.04	L	0.04	-
	03/15/90	0001		<	0.04	L	0.04	-
	08/26/90	0001		<	0.04	L	0.04	-
	01/09/91	0001		<	0.04		0.04	-
	04/17/91	0001		<	0.04		0.04	-
	07/10/91	0001		<	0.014	I	0.014	-
	01/11/92	0001		<	0.04		0.04	-
	07/22/92	0001		<	0.04	L	0.04	-
NITRATE	10/22/87	0001	MG/L	<	1.0	H	1.	-
	01/11/88	0001		<	0.1	J	1.	-
	07/21/88	0001			2.7	L	1.	-
	03/31/89	0001		<	1.0	L	1.	-
	09/17/89	0001			4.4	L	1.	-
	01/07/90	0001		<	0.1	JL	1.	-
	03/15/90	0001		<	1.	HL	1.	-
	08/26/90	0001			2.0	HJL	1.	-
	01/09/91	0001			1.3		1.	-
	04/17/91	0001		<	1.0		1.	-
	07/10/91	0001			5.3	J	0.22	-
	01/11/92	0001		<	1.0		1.	-
	07/22/92	0001			2.2	L	1	-
PH	10/22/87	0001	SU		8.0		-	-
	01/11/88	0001			8.1		-	-
	07/21/88	0001			8.05	L	-	-
	03/31/89	0001			8.27	L	-	-
	09/17/89	0001			8.20	L	-	-
	01/07/90	0001			8.20	L	-	-
	03/15/90	0001			8.17	L	-	-
	08/26/90	0001			8.23	L	-	-
	01/09/91	0001			8.06		-	-
	04/17/91	0001			8.11		-	-
	07/10/91	0001			8.02		-	-
	01/11/92	0001			8.15		-	-
	07/23/92	0001			8.01	L	-	-
PHOSPHATE	07/22/92	0001	MG/L	<	0.1	L	0.1	-
POTASSIUM	10/22/87	0001	MG/L		1.35		0.01	-
	01/11/88	0001			1.45		0.01	-
	07/21/88	0001			1.3	L	0.01	-
	03/31/89	0001			1.65	L	0.01	-
	09/17/89	0001			1.25	L	0.01	-
	01/07/90	0001			1.6	L	0.01	-
	03/15/90	0001			1.58	L	0.01	-
	08/26/90	0001			1.46	L	0.01	-
	01/09/91	0001			1.43		0.01	-
	04/17/91	0001			1.50		0.01	-
	07/10/91	0001			2.1		0.5	-
	01/11/92	0001			1.32		0.01	-
	07/22/92	0001			1.62	L	0.1	-
RADIUM-226	10/22/87	0001	PCI/L		0.1		1.	0.1

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	01/11/88	0001	PCI/L		0.1		1.	0.1
	07/21/88	0001			0.1	L	1.	0.2
	03/31/89	0001			0.0	L	1.	0.1
	09/17/89	0001			0.2	JL	1.	0.5
	01/07/90	0001			0.2	JL	1.	0.2
	03/15/90	0001			0.4	L	1.	0.2
	08/26/90	0001			0.0	L	1.	0.1
	01/09/91	0001			0.0		1.	0.2
	04/17/91	0001			0.1		1.	0.1
	07/10/91	0001			0.1		1.	0.2
	01/11/92	0001			0.1		1.	0.3
	07/22/92	0001			0.2	L	0.3	0.2
RADIUM-226 + RADIUM-228	10/22/87	0001	PCI/L		2.20		-	-
	01/11/88	0001			0.10		-	-
	07/21/88	0001			0.10		-	-
	03/31/89	0001			0.70		-	-
	09/17/89	0001			0.20		-	-
	01/07/90	0001			1.60		-	-
	03/15/90	0001			0.40		-	-
	08/26/90	0001			6.50		-	-
	01/09/91	0001			0.00		-	-
	04/17/91	0001			1.50		-	-
	07/10/91	0001			0.10		-	-
	01/11/92	0001			0.10		-	-
	07/22/92	0001			1.60		-	-
RADIUM-228	10/22/87	0001	PCI/L		2.1	J	1.	1.1
	01/11/88	0001			0.		1.	0.8
	07/21/88	0001			0.0	L	1.	0.9
	03/31/89	0001			0.7	L	1.	0.8
	09/17/89	0001			0.0	L	1.	1.9
	01/07/90	0001			1.4	L	1.	0.8
	03/15/90	0001			0.0	L	1.	2.1
	08/26/90	0001			6.5	JL	1.	1.7
	01/09/91	0001			0.0	J	1.	1.9
	04/17/91	0001			1.4	J	1.	2.0
	07/10/91	0001			0.0		1.	0.9
	01/11/92	0001			0.0		1.	2.2
	07/22/92	0001			1.4	L	3.0	1.9
SELENIUM	10/22/87	0001	MG/L	<	0.005		0.005	-
	01/11/88	0001			0.033		0.005	-
	07/21/88	0001			0.022	L	0.005	-
	03/31/89	0001		<	0.005	L	0.005	-
	09/17/89	0001		<	0.03	L	0.03	-
	01/07/90	0001			0.014	L	0.005	-
	03/15/90	0001		<	0.01	IL	0.01	-
	08/26/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/17/91	0001		<	0.005		0.005	-
	07/10/91	0001		<	0.0022		0.0022	-
	01/11/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.005	L	0.005	-
	12/15/93	0001		<	0.005		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SiO2	12/15/93	0001	MG/L		11.5	E	0.10	-
SILVER	07/21/88	0001	MG/L	<	0.01	L	0.01	-
SODIUM	10/22/87	0001	MG/L		740.		0.002	-
	01/11/88	0001			756.		0.002	-
	07/21/88	0001			809.	L	0.002	-
	03/31/89	0001			799.	L	0.002	-
	09/17/89	0001			760.	L	0.002	-
	01/07/90	0001			821.	L	0.002	-
	03/15/90	0001			820.	L	0.002	-
	08/26/90	0001			826.	L	0.002	-
	01/09/91	0001			774.		5.	-
	04/17/91	0001			755.		5.	-
	07/10/91	0001			790		0.027	-
	01/11/92	0001			849.		5.	-
	07/22/92	0001			871	L	1	-
SPECIFIC CONDUCTANCE	10/22/87	0001	UMHO/CM		2700.		-	-
	01/11/88	0001			2460.		-	-
	07/21/88	0001			2775.	L	-	-
	03/31/89	0001			2350.	L	-	-
	09/17/89	0001			1070.	LR	-	-
	01/07/90	0001			2500.	L	-	-
	03/15/90	0001			2600.	L	-	-
	08/26/90	0001			2710.	L	-	-
	01/09/91	0001			3250.		-	-
	04/17/91	0001			3310.		-	-
	07/10/91	0001			3310.		-	-
	01/11/92	0001			2630		-	-
	07/23/92	0001			3020	L	-	-
SULFATE	10/22/87	0001	MG/L		450.		0.1	-
	01/11/88	0001			532.		0.1	-
	07/21/88	0001			637.	L	0.1	-
	03/31/89	0001			640.	L	0.1	-
	09/17/89	0001			426.	L	0.1	-
	01/07/90	0001			599.	L	0.1	-
	03/15/90	0001			617.	HL	0.1	-
	08/26/90	0001			582.	L	0.1	-
	01/09/91	0001			280.		0.1	-
	04/17/91	0001			508.		10.	-
	07/10/91	0001			620		10.	-
	01/11/92	0001			593.		10.	-
	07/22/92	0001			624	L	1	-
	12/15/93	0001			511.	I	10.	-
SULFIDE	07/21/88	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	10/22/87	0001	C - DEGREE		15.5		-	-
	01/11/88	0001			14.3		-	-
	07/21/88	0001			17.5	L	-	-
	03/31/89	0001			18.	L	-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	09/17/89	0001	C - DEGREE		16.5	L	-	-
	01/07/90	0001			15.0	L	-	-
	03/15/90	0001			16.0	L	-	-
	08/26/90	0001			13.5	L	-	-
	01/09/91	0001			15.0		-	-
	04/17/91	0001			17.6		-	-
	07/10/91	0001			17.7		-	-
	01/11/92	0001			13.4		-	-
	07/23/92	0001			18.8	L	-	-
TOTAL DISSOLVED SOLIDS	10/22/87	0001	MG/L		2050.		10.	-
	01/11/88	0001			2120.	H	10.	-
	07/21/88	0001			2190.	L	10.	-
	03/31/89	0001			2220.	HL	10.	-
	09/17/89	0001			1970.	L	10.	-
	01/07/90	0001			2150.	L	10.	-
	03/15/90	0001			2170.	HL	10.	-
	08/26/90	0001			2100.	HL	10.	-
	01/09/91	0001			1820.		10.	-
	04/17/91	0001			2080.		10.	-
	07/10/91	0001			2200		10.	-
	01/11/92	0001			1740.		10.	-
	07/22/92	0001			6580	L	10	-
	12/15/93	0001			2160.		10.	-
TOTAL KJELDAHL NITROGEN	01/11/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	10/22/87	0001	MG/L	<	1.		1.	-
	01/11/88	0001			229.		1.	-
	07/21/88	0001			219.	L	1.	-
	03/31/89	0001			218.	L	1.	-
	09/17/89	0001			8.	L	1.	-
	01/07/90	0001			117.	L	1.	-
	03/15/90	0001			4.	L	1.	-
	08/26/90	0001			2.	L	1.	-
	01/09/91	0001			42.		1.	-
	04/17/91	0001			3.		1.	-
	07/10/91	0001			1.2		1.	-
	01/11/92	0001			2.		1.	-
	07/22/92	0001			3	L	1	-
URANIUM	10/22/87	0001	MG/L	<	0.003		0.003	-
	01/11/88	0001		<	0.0003	J	0.003	-
	07/21/88	0001			0.0003	JL	0.003	-
	03/31/89	0001		<	0.0003	JL	0.003	-
	09/17/89	0001		<	0.003	L	0.003	-
	01/07/90	0001			0.0003	JL	0.003	-
	03/15/90	0001		<	0.003	L	0.003	-
	08/26/90	0001			0.003	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/17/91	0001		<	0.001		0.001	-
	07/10/91	0001		<	0.0003		0.0003	-
	01/11/92	0001			0.002		0.001	-
	07/22/92	0001		<	0.001	L	0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0811 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60818.9 FT
 EAST COORDINATE: 60300.0 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/11/88	0001		<	0.01		0.01	-
	07/21/88	0001		<	0.01	L	0.01	-
	03/31/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/07/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/17/91	0001		<	0.01		0.01	-
	07/10/91	0001		<	0.011	I	0.011	-
	01/11/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
ZINC	10/22/87	0001	MG/L		0.006		0.005	-
	01/11/88	0001			0.009		0.005	-
	07/21/88	0001		<	0.005	L	0.005	-
	03/31/89	0001			0.014	JL	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/06/87	0001	MG/L CaCO3		670.		-	-
	01/07/88	0001			651.		-	-
	05/10/88	0001			671.	L	-	-
	03/29/89	0001			710.	L	-	-
	09/20/89	0001			828.	L	-	-
	01/08/90	0001			736.	L	-	-
	03/13/90	0001			854.	L	-	-
	08/28/90	0001			758.	L	-	-
	01/09/91	0001			720.		-	-
	04/20/91	0001			733.		-	-
	07/10/91	0001			762.		-	-
	01/12/92	0001			746		-	-
	07/22/92	0001			769	L	-	-
	01/28/93	0001			746		-	-
	06/26/93	0001			739		-	-
ALUMINUM	10/06/87	0001	MG/L	<	0.1		0.1	-
	01/07/88	0001			0.2		0.1	-
	05/10/88	0001			0.19	L	0.1	-
	07/22/92	0001		<	0.05	L	0.05	-
	01/28/93	0001		<	0.05		0.05	-
	06/26/93	0001		<	0.05		0.05	-
	06/08/94	0001		<	0.05		0.05	-
AMMONIUM	10/06/87	0001	MG/L		0.2		0.1	-
	01/07/88	0001		<	0.1		0.1	-
	05/10/88	0001		<	0.1	L	0.1	-
	03/29/89	0001		<	0.1	L	0.1	-
	09/20/89	0001			0.2	L	0.1	-
	01/08/90	0001		<	0.1	JL	0.1	-
	03/13/90	0001			0.2	HL	0.1	-
	08/28/90	0001			0.17	JL	0.1	-
	01/09/91	0001			0.18		0.01	-
	04/20/91	0001			0.2		0.1	-
	07/12/91	0001			0.060		0.03	-
	01/12/92	0001			0.1		0.1	-
	07/22/92	0001			0.15	L	0.1	-
	01/28/93	0001			0.14		0.1	-
	06/26/93	0001			0.2		0.1	-
ARSENIC	10/06/87	0001	MG/L		0.01		0.01	-
	01/07/88	0001			0.023		0.01	-
	05/10/88	0001			0.016	L	0.01	-
	09/20/89	0001			0.06	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/13/90	0001		<	0.1	IL	0.1	-
	08/28/90	0001		<	0.1	L	0.1	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.05	I	0.05	-
	07/12/91	0001			0.043		0.0023	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001			0.0705	L	0.005	-
	01/28/93	0001			0.0734	IS	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/26/93	0001	MG/L	<	0.03	IW	0.03	-
	06/08/94	0001			0.039	S	0.005	-
BARIUM	05/10/88	0001	MG/L		0.01	JL	0.1	-
BORON	10/06/87	0001	MG/L		0.8		0.1	-
	01/07/88	0001			0.7		0.1	-
	05/10/88	0001			0.83	L	0.1	-
BROMIDE	01/07/94	0001	MG/L		0.85		0.10	-
CADMIUM	05/10/88	0001	MG/L		0.005	L	0.001	-
	03/29/89	0001			0.006	L	0.001	-
	09/20/89	0001		<	0.001	L	0.001	-
	01/08/90	0001			0.012	L	0.001	-
	03/13/90	0001		<	0.001	L	0.001	-
	08/28/90	0001		<	0.001	L	0.001	-
	01/09/91	0001		<	0.001		0.001	-
	04/20/91	0001		<	0.001		0.001	-
	07/12/91	0001		<	0.0046	I	0.0046	-
	01/12/92	0001		<	0.001		0.001	-
	07/22/92	0001		<	0.001	L	0.001	-
	01/28/93	0001		<	0.001	W	0.001	-
	06/26/93	0001		<	0.0005		0.0005	-
	06/08/94	0001		<	0.001		0.001	-
CALCIUM	10/06/87	0001	MG/L		210.		0.01	-
	01/07/88	0001			212.		0.01	-
	05/10/88	0001			253.	L	0.01	-
	03/29/89	0001			224.	L	0.01	-
	09/20/89	0001			237.	L	0.01	-
	01/08/90	0001			213.	L	0.01	-
	03/13/90	0001			232.	L	0.01	-
	08/28/90	0001			244.	L	0.01	-
	01/09/91	0001			226.		0.5	-
	04/20/91	0001			235.		0.5	-
	07/12/91	0001			240		0.014	-
	01/12/92	0001			238.		0.5	-
	07/22/92	0001			220	L	0.5	-
	01/28/93	0001			217		0.5	-
	06/26/93	0001			256.		1.0	-
	06/08/94	0001			246		0.5	-
CHLORIDE	10/06/87	0001	MG/L		116.	J	1.	-
	01/07/88	0001			110.		1.	-
	05/10/88	0001			130.	L	1.	-
	03/29/89	0001			130.	L	1.	-
	09/20/89	0001			130.	L	1.	-
	01/08/90	0001			150.	L	1.	-
	03/13/90	0001			130.	HL	1.	-
	08/28/90	0001			129.	HL	1.	-
	01/09/91	0001			130.		0.5	-
	04/20/91	0001			130.		0.5	-
	07/12/91	0001			130		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	01/12/92	0001	MG/L		127.		1.	-
	07/22/92	0001			129	L	0.5	-
	01/28/93	0001			128		0.5	-
	06/26/93	0001			140.		1.	-
	01/07/94	0001			135.		0.50	-
	06/08/94	0001			149		0.5	-
CHROMIUM	10/06/87	0001	MG/L	<	0.01		0.01	-
	01/07/88	0001			0.01		0.01	-
	05/10/88	0001			0.08	JL	0.01	-
	03/29/89	0001		<	0.01	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/13/90	0001		<	0.01	L	0.01	-
	08/28/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.016	I	0.016	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001		<	0.01	L	0.01	-
	01/28/93	0001		<	0.01		0.01	-
	06/26/93	0001		<	0.01		0.01	-
	06/08/94	0001		<	0.01		0.01	-
COBALT	05/10/88	0001	MG/L		0.02	JL	0.05	-
	03/29/89	0001		<	0.05	L	0.05	-
	06/26/93	0001		<	0.03		0.03	-
COPPER	05/10/88	0001	MG/L		0.01	JL	0.02	-
	03/29/89	0001		<	0.02	L	0.02	-
DISSOLVED ORGANIC CARBON	07/12/91	0001	MG/L		21		1.	-
	06/08/94	0001			41		1	-
DISSOLVED OXYGEN	01/28/93	0001	MG/L		0.0		-	-
	06/26/93	0001			0.0		-	-
FLUORIDE	10/06/87	0001	MG/L		1.0		0.1	-
	01/07/88	0001			0.96		0.1	-
	05/10/88	0001			0.95	L	0.1	-
GROSS ALPHA	10/06/87	0001	PCI/L		44.		0.2	67.
	01/07/88	0001			150.		0.2	50.
	03/29/89	0001			120.	L	0.2	50.
	09/20/89	0001			93.0	L	1.	50.8
	01/08/90	0001			120.	L	1.	60.
	03/13/90	0001			138.	L	1.	56.
	08/28/90	0001			31.5	L	1.	35.6
	01/09/91	0001			89.7		1.	39.8
	04/20/91	0001			0.0		1.	165.
	07/10/91	0001			48		1.	38
	01/12/92	0001			60.7		1.	61.3
	07/22/92	0001			50.0	L	70.3	51.2
	01/28/93	0001			113.		59.4	56.6
	06/26/93	0001			54		1	52

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
NORTH COORDINATE: 59622.2 FT
EAST COORDINATE: 58669.9 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	01/07/94	0001	PCI/L		28.2		54.8	35.4
	06/08/94	0001			47.8	JN	25.7	17.7
GROSS BETA	10/06/87	0001	PCI/L		31.		1.	48.
	01/07/88	0001			52.		1.	32.
	03/29/89	0001			43.	L	1.	18.
	09/20/89	0001			134.1	L	0.5	28.2
	01/08/90	0001			64.	L	0.5	29.
	03/13/90	0001			52.8	L	0.5	23.3
	08/28/90	0001			0.	L	0.5	21.5
	01/09/91	0001			58.9		0.5	26.6
	04/20/91	0001			0.0		0.5	79.3
	07/10/91	0001			30		0.5	37
	01/12/92	0001			44.7		0.5	34.3
	07/22/92	0001			47.2	L	53.8	34.9
	01/28/93	0001			72.8		79.9	51.2
	06/26/93	0001			0		0.5	55
	01/07/94	0001			59.6		58.6	38.4
IRON	10/06/87	0001	MG/L	<	0.03		0.03	-
	01/07/88	0001			0.19		0.03	-
	05/10/88	0001			0.08	JL	0.03	-
	03/29/89	0001			0.32	L	0.03	-
	09/20/89	0001			0.82	L	0.03	-
	01/08/90	0001			0.69	L	0.03	-
	03/13/90	0001			0.73	L	0.03	-
	08/28/90	0001			0.87	L	0.03	-
	01/09/91	0001			0.77		0.03	-
	04/20/91	0001			0.61		0.03	-
	07/12/91	0001			0.64		0.005	-
	01/12/92	0001			0.23		0.03	-
	07/22/92	0001			0.838	L	0.03	-
	01/28/93	0001			1.19		0.03	-
	06/26/93	0001			1.35		0.03	-
	06/08/94	0001			0.33		0.03	-
LEAD	05/10/88	0001	MG/L		0.02	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/08/90	0001			0.03	L	0.01	-
	03/13/90	0001		<	0.01	L	0.01	-
	08/28/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.005		0.005	-
	07/12/91	0001		<	0.0021		0.0021	-
	01/12/92	0001		<	0.03	I	0.03	-
	07/22/92	0001		<	0.003	L	0.003	-
	01/28/93	0001		<	0.03	I	0.03	-
	06/26/93	0001		<	0.003	W	0.003	-
	06/08/94	0001		<	0.003		0.003	-
MAGNESIUM	10/06/87	0001	MG/L		122.		0.001	-
	01/07/88	0001			111.		0.001	-
	05/10/88	0001			114.	L	0.001	-
	03/29/89	0001			122.	L	0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
- N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
- W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM	09/20/89	0001	MG/L		119.	L	0.001	-
	01/08/90	0001			123.	L	0.001	-
	03/13/90	0001			131.	L	0.001	-
	08/28/90	0001			141.	L	0.001	-
	01/09/91	0001			126.		0.5	-
	04/20/91	0001			130.		0.5	-
	07/12/91	0001			120		0.028	-
	01/12/92	0001			133.		0.5	-
	07/22/92	0001			123	L	0.1	-
	01/28/93	0001			122		0.1	-
	06/26/93	0001			125.		0.1	-
	06/08/94	0001			137		0.1	-
MANGANESE	10/06/87	0001	MG/L		0.17		0.01	-
	01/07/88	0001			0.15		0.01	-
	05/10/88	0001			0.17	L	0.01	-
	01/28/93	0001			0.208		0.01	-
	06/26/93	0001			0.25		0.01	-
	06/08/94	0001			0.29		0.01	-
MERCURY	05/10/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/06/87	0001	MG/L		0.07		0.01	-
	01/07/88	0001			0.22		0.01	-
	05/10/88	0001			0.13	L	0.01	-
	03/29/89	0001			0.08	L	0.01	-
	09/20/89	0001			0.04	L	0.01	-
	01/08/90	0001			0.07	L	0.01	-
	03/13/90	0001			0.04	L	0.01	-
	08/28/90	0001			0.05	L	0.01	-
	01/09/91	0001			0.03		0.01	-
	04/20/91	0001			0.04		0.01	-
	07/12/91	0001			0.034		0.0057	-
	01/12/92	0001			0.04		0.01	-
	07/22/92	0001			0.0384	L	0.01	-
	01/28/93	0001			0.0356		0.01	-
	06/26/93	0001		<	0.01		0.01	-
	06/08/94	0001			0.03		0.01	-
NET GROSS ALPHA *	10/06/87	0001	PCI/L		-4.02		-	-
	01/07/88	0001			101.50		-	-
	03/29/89	0001			86.73		-	-
	09/20/89	0001			55.96		-	-
	01/08/90	0001			78.84		-	-
	03/13/90	0001			107.82		-	-
	08/28/90	0001			-4.86		-	-
	01/09/91	0001			54.03		-	-
	04/20/91	0001			-23.32		-	-
	07/10/91	0001			16.24		-	-
	01/12/92	0001			24.34		-	-
	07/22/92	0001			17.76		-	-
	01/28/93	0001			75.96		-	-
	06/26/93	0001			16.27		-	-
	01/07/94	0001			-2.67		-	-
	06/08/94	0001			12.13		-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	05/10/88	0001	MG/L		0.05	JL	0.04	-
	03/29/89	0001		<	0.04	L	0.04	-
	09/20/89	0001		<	0.04	L	0.04	-
	01/08/90	0001		<	0.04	L	0.04	-
	03/13/90	0001		<	0.04	L	0.04	-
	08/28/90	0001		<	0.04	L	0.04	-
	01/09/91	0001		<	0.04		0.04	-
	04/20/91	0001		<	0.04		0.04	-
	07/12/91	0001		<	0.014	I	0.014	-
	01/12/92	0001		<	0.04		0.04	-
	07/22/92	0001		<	0.04	L	0.04	-
	01/28/93	0001		<	0.04		0.04	-
	06/26/93	0001		<	0.04		0.04	-
	06/08/94	0001		<	0.04		0.04	-
NITRATE	10/06/87	0001	MG/L		67.	H	1.	-
	01/07/88	0001			12.		1.	-
	05/10/88	0001			56.	L	1.	-
	03/29/89	0001			10.	L	1.	-
	09/20/89	0001		<	1.0	L	1.	-
	01/08/90	0001			1.7	L	1.	-
	03/13/90	0001			2.6	HL	1.	-
	08/28/90	0001			7.1	HJL	1.	-
	01/09/91	0001			6.2		1.	-
	04/20/91	0001			4.9		1.	-
	07/12/91	0001			9.3	J	0.22	-
	01/12/92	0001			1.5		1.	-
	07/22/92	0001			1.8	L	1	-
	01/28/93	0001		<	1		1	-
	06/26/93	0001		<	1.0		1.0	-
PH	10/06/87	0001	SU		6.90		-	-
	01/07/88	0001			6.9		-	-
	05/10/88	0001			6.88	L	-	-
	03/29/89	0001			7.0	L	-	-
	09/20/89	0001			6.93	L	-	-
	01/08/90	0001			6.85	L	-	-
	03/13/90	0001			6.87	L	-	-
	08/28/90	0001			6.94	L	-	-
	01/09/91	0001			6.76		-	-
	04/20/91	0001			6.72		-	-
	07/10/91	0001			6.88		-	-
	01/12/92	0001			6.91		-	-
	07/22/92	0001			6.79	L	-	-
	01/28/93	0001			6.87		-	-
	06/26/93	0001			6.75		-	-
PHOSPHATE	05/10/88	0001	MG/L		0.3	L	0.1	-
	07/22/92	0001		<	0.1	L	0.1	-
	01/28/93	0001		<	0.1		0.1	-
	06/26/93	0001			0.2		0.1	-
POTASSIUM	10/06/87	0001	MG/L		6.3		0.01	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	01/07/88	0001	MG/L		6.68		0.01	-
	05/10/88	0001			7.24	L	0.01	-
	03/29/89	0001			7.87	L	0.01	-
	09/20/89	0001			5.8	L	0.01	-
	01/08/90	0001			7.2	L	0.01	-
	03/13/90	0001			6.2	L	0.01	-
	08/28/90	0001			6.0	L	0.01	-
	01/09/91	0001			5.9		0.01	-
	04/20/91	0001			6.4		0.01	-
	07/12/91	0001			6.5		0.5	-
	01/12/92	0001			5.7		0.01	-
	07/22/92	0001			6.74	L	0.1	-
	01/28/93	0001			6.8		0.1	-
	06/26/93	0001			6.02		0.01	-
	06/08/94	0001			6.5		0.1	-
RADIUM-226	10/06/87	0001	PCI/L		2.6		1.	0.5
	01/07/88	0001			0.1		1.	0.2
	03/29/89	0001			0.3	L	1.	0.2
	09/20/89	0001			1.3	JL	1.	1.0
	01/08/90	0001			0.2	JL	1.	0.2
	03/13/90	0001			3.2	L	1.	0.6
	08/28/90	0001			2.6	L	1.	0.6
	01/09/91	0001			3.5		1.	0.8
	04/20/91	0001			3.0		1.	0.6
	07/10/91	0001			0.5		1.	0.3
	01/12/92	0001			3.3		1.	0.7
	07/22/92	0001			3.5	L	0.3	0.7
	01/28/93	0001			2.4		1.1	0.9
	06/26/93	0001			5.6		1	0.9
	01/07/94	0001			3.2		0.1	0.3
	06/08/94	0001			3.9		0.1	0.5
RADIUM-226 + RADIUM-228	10/06/87	0001	PCI/L		3.90		-	-
	01/07/88	0001			1.50		-	-
	03/29/89	0001			1.70		-	-
	09/20/89	0001			1.30		-	-
	01/08/90	0001			1.30		-	-
	03/13/90	0001			3.20		-	-
	08/28/90	0001			4.40		-	-
	01/09/91	0001			4.50		-	-
	04/20/91	0001			3.90		-	-
	07/10/91	0001			1.70		-	-
	01/12/92	0001			6.50		-	-
	07/22/92	0001			7.50		-	-
	01/28/93	0001			2.80		-	-
	06/26/93	0001			6.60		-	-
	01/07/94	0001			4.10		-	-
	06/08/94	0001			5.90		-	-
RADIUM-228	10/06/87	0001	PCI/L		1.3		1.	0.8
	01/07/88	0001			1.4		1.	0.9
	03/29/89	0001			1.4	L	1.	0.8
	09/20/89	0001			0.0	L	1.	1.9
	01/08/90	0001			1.1	L	1.	0.8
	03/13/90	0001			0.0	L	1.	2.2

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	08/28/90	0001	PCI/L		1.8	JL	1.	1.8
	01/09/91	0001			1.0	J	1.	1.3
	04/20/91	0001			0.9	J	1.	2.0
	07/10/91	0001			1.2		1.	0.9
	01/12/92	0001			3.2		1.	2.4
	07/22/92	0001			4.0	JL	3.0	2.1
	01/28/93	0001			0.4		3.0	1.8
	06/26/93	0001			1		1	1.3
	01/07/94	0001			0.9		0.9	0.6
	06/08/94	0001			2.0		4.8	1.6
REDOX POTENTIAL	01/28/93	0001	mVOLTS		249.2		-	-
	06/26/93	0001			209		-	-
SELENIUM	10/06/87	0001	MG/L		0.007		0.005	-
	01/07/88	0001			0.178	J	0.005	-
	05/10/88	0001			0.134	L	0.005	-
	03/29/89	0001			0.021	L	0.005	-
	09/20/89	0001		<	0.05	L	0.05	-
	01/08/90	0001			0.068	L	0.005	-
	03/13/90	0001		<	0.05	IL	0.05	-
	08/28/90	0001		<	0.05	L	0.05	-
	01/09/91	0001		<	0.03	I	0.03	-
	04/20/91	0001		<	0.03	I	0.03	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/12/92	0001		<	0.005		0.005	-
	07/22/92	0001		<	0.005	L	0.005	-
	01/28/93	0001		<	0.05	I	0.05	-
	06/26/93	0001		<	0.02	I	0.02	-
	01/07/94	0001		<	0.005	W	0.005	-
	06/08/94	0001		<	0.005	JW	0.005	-
SILICA - SiO2	05/10/88	0001	MG/L		9.2	L	2.	-
	01/28/93	0001			9.52		0.5	-
	06/26/93	0001			9.5		0.1	-
	01/07/94	0001			11.0		0.10	-
	06/08/94	0001			9.9		0.1	-
SODIUM	10/06/87	0001	MG/L		1660.		0.002	-
	01/07/88	0001			1870.		0.002	-
	05/10/88	0001			1910.	L	0.002	-
	03/29/89	0001			1720.	L	0.002	-
	09/20/89	0001			1900.	L	0.002	-
	01/08/90	0001			1790.	L	0.002	-
	03/13/90	0001			1920.	L	0.002	-
	08/28/90	0001			1900.	L	0.002	-
	01/09/91	0001			1860.		5.	-
	04/20/91	0001			1870.		50.	-
	07/12/91	0001			1700		0.027	-
	01/12/92	0001			1870.		20.	-
	07/22/92	0001			1870	L	1	-
	01/28/93	0001			1820		1	-
	06/26/93	0001			1790.		5.	-
	06/08/94	0001			1680		1	-
SPECIFIC CONDUCTANCE	10/06/87	0001	UMHO/CM		7000.		-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	01/07/88	0001	UMHO/CM		6540.		-	-
	05/10/88	0001			6520.	L	-	-
	03/29/89	0001			4300.	L	-	-
	09/20/89	0001			2490.	LR	-	-
	01/08/90	0001			6500.	L	-	-
	03/13/90	0001			6000.	L	-	-
	08/28/90	0001			6200.	L	-	-
	01/09/91	0001			7590.		-	-
	04/20/91	0001			7810.		-	-
	07/10/91	0001			7640.		-	-
	01/12/92	0001			6490		-	-
	07/22/92	0001			7080	L	-	-
	01/28/93	0001			6310		-	-
	06/26/93	0001			6740		-	-
STRONTIUM	05/10/88	0001	MG/L		9.55	L	0.1	-
SULFATE	10/06/87	0001	MG/L		3900.		0.1	-
	01/07/88	0001			4140.		0.1	-
	05/10/88	0001			4200.	L	0.1	-
	03/29/89	0001			4100.	L	0.1	-
	09/20/89	0001			4180.	L	0.1	-
	01/08/90	0001			4300.	L	0.1	-
	03/13/90	0001			4140.	HL	0.1	-
	08/28/90	0001			4090.	L	0.1	-
	01/09/91	0001			3540.		10.	-
	04/20/91	0001			4120.		10.	-
	07/12/91	0001			4300		10.	-
	01/12/92	0001			4050.		10.	-
	07/22/92	0001			3950	L	1	-
	01/28/93	0001			3770		1	-
	06/26/93	0001			3810.		80.	-
	01/07/94	0001			3730.	I	16.	-
	06/08/94	0001			3800		1	-
SULFIDE	05/10/88	0001	MG/L	<	0.1	L	0.1	-
	01/28/93	0001		<	1		1	-
	06/26/93	0001			0.4		0.1	-
TEMPERATURE	10/06/87	0001	C - DEGREE		17.0		-	-
	01/07/88	0001			15.7		-	-
	05/10/88	0001			17.5	L	-	-
	03/29/89	0001			16.0	L	-	-
	09/20/89	0001			15.0	L	-	-
	01/08/90	0001			16.0	L	-	-
	03/13/90	0001			16.0	L	-	-
	08/28/90	0001			13.0	L	-	-
	01/09/91	0001			15.4		-	-
	04/20/91	0001			15.9		-	-
	07/10/91	0001			16.8		-	-
	01/12/92	0001			14.5		-	-
	07/22/92	0001			19.0	L	-	-
	01/28/93	0001			15.6		-	-
	06/26/93	0001			17.4		-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
NORTH COORDINATE: 59622.2 FT
EAST COORDINATE: 58669.9 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	10/06/87	0001	MG/L		6820.		10.	-
	01/07/88	0001			6770.	H	10.	-
	05/10/88	0001			6920.	L	10.	-
	03/29/89	0001			6690.	HL	10.	-
	09/20/89	0001			6700.	L	10.	-
	01/08/90	0001			6790.	L	10.	-
	03/13/90	0001			6730.	HL	10.	-
	08/28/90	0001			6720.	HL	10.	-
	01/09/91	0001			6820.		10.	-
	04/20/91	0001			6810.		10.	-
	07/12/91	0001			6800.		10.	-
	01/12/92	0001			6790.		10.	-
	07/22/92	0001			6680.	L	10.	-
	01/28/93	0001			6680.		10.	-
	06/26/93	0001			6740.		10.	-
	01/07/94	0001			6850.		10.	-
	06/08/94	0001			6890.		10.	-
TOTAL KJELDAHL NITROGEN	01/12/92	0001	MG/L	<	2.	I	2.	-
TOTAL ORGANIC CARBON	10/06/87	0001	MG/L		15.		1.	-
	01/07/88	0001			227.		1.	-
	03/29/89	0001			200.	L	1.	-
	09/20/89	0001			25.	L	1.	-
	01/08/90	0001			100.	L	1.	-
	03/13/90	0001			38.	L	1.	-
	08/28/90	0001			43.	L	1.	-
	01/09/91	0001			53.		1.	-
	04/20/91	0001			18.		1.	-
	07/12/91	0001			25.		1.	-
	01/12/92	0001			17.		1.	-
	07/22/92	0001			29.	L	1.	-
	01/28/93	0001			25.1	N	1.	-
	06/26/93	0001			26.		1.	-
URANIUM	10/06/87	0001	MG/L		0.070		0.003	-
	01/07/88	0001			0.0707		0.003	-
	05/10/88	0001			0.0390	L	0.003	-
	03/29/89	0001			0.0485	L	0.003	-
	09/20/89	0001			0.054	L	0.003	-
	01/08/90	0001			0.060	L	0.003	-
	03/13/90	0001			0.044	L	0.003	-
	08/28/90	0001			0.053	L	0.001	-
	01/09/91	0001			0.052		0.001	-
	04/20/91	0001			0.034		0.001	-
	07/10/91	0001			0.0463		0.0003	-
	01/12/92	0001			0.053		0.001	-
	07/22/92	0001			0.047	L	0.001	-
	01/28/93	0001			0.054		0.001	-
	06/26/93	0001			0.055		0.001	-
	01/07/94	0001			0.045		0.001	-
	06/08/94	0001			0.052		0.001	-
VANADIUM	10/06/87	0001	MG/L	<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0813 MONITOR WELL DOWN GRADIENT -DISP.ST
 NORTH COORDINATE: 59622.2 FT
 EAST COORDINATE: 58669.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN LOWER MEMBER (CM)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	01/07/88	0001	MG/L		0.03		0.01	-
	05/10/88	0001			0.04	JL	0.01	-
	03/29/89	0001			0.02	L	0.01	-
	09/20/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/13/90	0001		<	0.01	L	0.01	-
	08/28/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01		0.01	-
	04/20/91	0001		<	0.01		0.01	-
	07/12/91	0001		<	0.011	I	0.011	-
	01/12/92	0001		<	0.01		0.01	-
	07/22/92	0001			0.0151	L	0.01	-
	01/28/93	0001		<	0.01		0.01	-
	06/26/93	0001		<	0.01		0.01	-
	06/08/94	0001		<	0.01		0.01	-
ZINC	10/06/87	0001	MG/L		0.019		0.005	-
	01/07/88	0001			0.021		0.005	-
	05/10/88	0001			0.006	JL	0.005	-
	03/29/89	0001		<	0.005	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0816 ABANDONED
 NORTH COORDINATE: 59392.3 FT
 EAST COORDINATE: 59003.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	01/07/88	0001	MG/L CaCO3		485.		-	-
ALUMINUM	10/23/87	0001	MG/L		0.9	L	0.1	-
	01/07/88	0001			0.4		0.1	-
AMMONIUM	10/23/87	0001	MG/L		1.4	L	0.1	-
	01/07/88	0001		<	0.1		0.1	-
ARSENIC	10/23/87	0001	MG/L		0.01	L	0.01	-
	01/07/88	0001		<	0.014		0.01	-
BORON	10/23/87	0001	MG/L		0.6	L	0.1	-
	01/07/88	0001			0.52		0.1	-
CALCIUM	10/23/87	0001	MG/L		410.	JL	0.01	-
	01/07/88	0001			436.		0.01	-
CHLORIDE	10/23/87	0001	MG/L		165.	JL	1.	-
	01/07/88	0001			340.		1.	-
CHROMIUM	10/23/87	0001	MG/L		0.01	L	0.01	-
	01/07/88	0001		<	0.05		0.01	-
FLUORIDE	10/23/87	0001	MG/L		0.8	L	0.1	-
	01/07/88	0001			0.52		0.1	-
GROSS ALPHA	01/07/88	0001	PCI/L		21.		0.2	25.
GROSS BETA	01/07/88	0001	PCI/L		40.		1.	27.
IRON	10/23/87	0001	MG/L		0.43	L	0.03	-
	01/07/88	0001			0.4		0.03	-
MAGNESIUM	10/23/87	0001	MG/L		300.	L	0.001	-
	01/07/88	0001			542.		0.001	-
MANGANESE	10/23/87	0001	MG/L		0.21	L	0.01	-
	01/07/88	0001			0.1		0.01	-
MOLYBDENUM	10/23/87	0001	MG/L		0.02	L	0.01	-
	01/07/88	0001			0.05		0.01	-
NET GROSS ALPHA *	01/07/88	0001	PCI/L		15.92		-	-
NITRATE	10/23/87	0001	MG/L		85.	L	1.	-
	01/07/88	0001			93.		1.	-
PH	10/23/87	0001	SU		7.6	L	-	-
	01/07/88	0001			7.2		-	-
POTASSIUM	10/23/87	0001	MG/L		22.4	L	0.01	-
	01/07/88	0001			29.5		0.01	-
RADIUM-226	01/07/88	0001	PCI/L		0.1		1.	0.1

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0816 ABANDONED
 NORTH COORDINATE: 59392.3 FT
 EAST COORDINATE: 59003.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN UPPER MEMBER (CD)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228	01/07/88	0001	PCI/L		0.80		-	-
RADIUM-228	01/07/88	0001	PCI/L		0.7		1.	0.8
SELENIUM	10/23/87	0001	MG/L		0.72	L	0.005	-
	01/07/88	0001			2.5	J	0.005	-
SODIUM	10/23/87	0001	MG/L		790.	L	0.002	-
	01/07/88	0001			707.		0.002	-
SPECIFIC CONDUCTANCE	10/23/87	0001	UMHO/CM		3700.	L	-	-
	01/07/88	0001			5210.		-	-
SULFATE	10/23/87	0001	MG/L		3600.	L	0.1	-
	01/07/88	0001			3940.		0.1	-
TEMPERATURE	10/23/87	0001	C - DEGREE		15.0	L	-	-
	01/07/88	0001			13.3		-	-
TOTAL DISSOLVED SOLIDS	10/23/87	0001	MG/L		6220.	L	10.	-
	01/07/88	0001			7300.	H	10.	-
TOTAL ORGANIC CARBON	01/07/88	0001	MG/L		81.7		1.	-
URANIUM	10/23/87	0001	MG/L		0.038	L	0.003	-
	01/07/88	0001			0.0074		0.003	-
VANADIUM	10/23/87	0001	MG/L	<	0.01	L	0.01	-
	01/07/88	0001			0.08		0.01	-
ZINC	10/23/87	0001	MG/L		0.046	L	0.005	-
	01/07/88	0001			0.068		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/22/87	0001	MG/L CACO3		655.		-	-
	01/10/88	0001			688.		-	-
	07/18/88	0001			662.	L	-	-
	03/30/89	0001			692.	L	-	-
	09/17/89	0001			696.	L	-	-
	01/08/90	0001			689.	L	-	-
	03/15/90	0001			695.	L	-	-
	08/26/90	0001			681.	L	-	-
	01/09/91	0001			685.	L	-	-
	04/17/91	0001			674.	L	-	-
	07/11/91	0001			697.	L	-	-
	01/10/92	0001			696.	L	-	-
	07/19/92	0001			697.	L	-	-
ALUMINUM	10/22/87	0001	MG/L	<	0.1		0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/18/88	0001			0.01	JL	0.1	-
	07/19/92	0001			0.092	*L	0.05	-
AMMONIUM	10/22/87	0001	MG/L		0.2		0.1	-
	01/10/88	0001		<	0.1		0.1	-
	07/18/88	0001		<	0.1	L	0.1	-
	03/30/89	0001		<	0.1	L	0.1	-
	09/17/89	0001			0.2	L	0.1	-
	01/08/90	0001		<	0.1	JL	0.1	-
	03/15/90	0001			0.2	HL	0.1	-
	08/26/90	0001			0.22	JL	0.1	-
	01/09/91	0001			0.22	L	0.01	-
	04/17/91	0001			0.3	L	0.1	-
	07/10/91	0001			0.050	L	0.03	-
	01/10/92	0001			0.2	L	0.1	-
	07/19/92	0001			0.159	L	0.1	-
ARSENIC	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/18/88	0001			0.002	JL	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01	L	0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.0023	L	0.0023	-
	01/10/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.005	L	0.005	-
BARIUM	07/18/88	0001	MG/L		0.13	L	0.1	-
BORON	10/22/87	0001	MG/L		0.6		0.1	-
	01/10/88	0001			0.73		0.1	-
	07/18/88	0001			0.8	L	0.1	-
BROMIDE	12/12/93	0001	MG/L		0.80	L	0.10	-
CADMIUM	07/18/88	0001	MG/L		0.002	L	0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	03/30/89	0001	MG/L		0.003	L	0.001	-
	09/17/89	0001		<	0.001	L	0.001	-
	01/08/90	0001			0.005	L	0.001	-
	03/15/90	0001		<	0.001	L	0.001	-
	08/26/90	0001		<	0.001	LW	0.001	-
	01/09/91	0001		<	0.001	L	0.001	-
	04/17/91	0001		<	0.001	L	0.001	-
	07/10/91	0001		<	0.0023	L	0.0023	-
	01/10/92	0001		<	0.001	L	0.001	-
	07/19/92	0001		<	0.001	LW	0.001	-
CALCIUM	10/22/87	0001	MG/L		2.7		0.01	-
	01/10/88	0001			2.57		0.01	-
	07/18/88	0001			2.47	L	0.01	-
	03/30/89	0001			2.42	L	0.01	-
	09/17/89	0001			2.38	L	0.01	-
	01/08/90	0001			2.16	L	0.01	-
	03/15/90	0001			2.42	L	0.01	-
	08/26/90	0001			2.34	L	0.01	-
	01/09/91	0001			2.5	L	0.1	-
	04/17/91	0001			2.4	L	0.1	-
	07/10/91	0001			2.3	JL	0.014	-
	01/10/92	0001			2.4	L	0.1	-
	07/19/92	0001			2.4	L	0.5	-
CHLORIDE	10/22/87	0001	MG/L		320.		1.	-
	01/10/88	0001			310.		1.	-
	07/18/88	0001			360.	L	1.	-
	03/30/89	0001			310.	L	1.	-
	09/17/89	0001			302.	L	1.	-
	01/08/90	0001			325.	L	1.	-
	03/15/90	0001			302.	HL	1.	-
	08/26/90	0001			321.	HL	1.	-
	01/09/91	0001			300.	L	0.5	-
	04/17/91	0001			302.	L	0.5	-
	07/10/91	0001			350	L	0.5	-
	01/10/92	0001			298.	L	2.	-
	07/19/92	0001			301	L	0.5	-
	12/12/93	0001			270.	L	0.50	-
CHROMIUM	10/22/87	0001	MG/L	<	0.01		0.01	-
	01/10/88	0001			0.03		0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
	03/30/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01	L	0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.0080	L	0.008	-
	01/10/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
COBALT	03/30/89	0001	MG/L	<	0.05	L	0.05	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COPPER	07/18/88	0001	MG/L	<	0.01	JL	0.02	-
	03/30/89	0001		<	0.02	L	0.02	-
DISSOLVED ORGANIC CARBON	07/10/91	0001	MG/L	<	1.0	L	1.	-
FLUORIDE	10/22/87	0001	MG/L		5.6		0.1	-
	01/10/88	0001			4.94		0.1	-
	07/18/88	0001			6.1	L	0.1	-
GROSS ALPHA	10/22/87	0001	PCI/L		30.		0.2	22.
	01/10/88	0001			0.		0.2	6.6
	07/18/88	0001			0.	L	0.2	16.
	03/30/89	0001			11.	L	0.2	12.
	09/17/89	0001			27.0	L	1.	14.7
	01/08/90	0001			6.	L	1.	10.
	03/15/90	0001			10.5	L	1.	12.1
	08/26/90	0001			26.1	L	1.	12.4
	01/09/91	0001			0.0	L	1.	13.3
	04/17/91	0001			0.0	L	1.	17.6
	07/11/91	0001			0	L	1.	15
	01/10/92	0001			20.2	L	1.	20.2
	07/19/92	0001			17.7	L	19.5	14.8
GROSS BETA	10/22/87	0001	PCI/L		25.		1.	17.
	01/10/88	0001			0.		1.	4.9
	07/18/88	0001			9.0	L	1.	11.
	03/30/89	0001			13.	L	1.	6.
	09/17/89	0001			27.5	L	0.5	8.8
	01/08/90	0001			13.	L	0.5	6.
	03/15/90	0001			1.7	L	0.5	6.5
	08/26/90	0001			3.2	L	0.5	6.1
	01/09/91	0001			15.0	L	0.5	10.2
	04/17/91	0001			0.0	L	0.5	11.4
	07/11/91	0001			5.1	L	0.5	8.0
	01/10/92	0001			0.5	L	0.5	12.6
	07/19/92	0001			0.0	HL	33.1	19.6
IRON	10/22/87	0001	MG/L	<	0.03		0.03	-
	01/10/88	0001			0.15		0.03	-
	07/18/88	0001		<	0.01	JL	0.03	-
	03/30/89	0001			0.09	L	0.03	-
	09/17/89	0001			0.04	L	0.03	-
	01/08/90	0001		<	0.03	L	0.03	-
	03/15/90	0001		<	0.03	L	0.03	-
	08/26/90	0001		<	0.03	L	0.03	-
	01/09/91	0001		<	0.03	L	0.03	-
	04/17/91	0001		<	0.03	L	0.03	-
	07/10/91	0001			0.061	JL	0.005	-
	01/10/92	0001		<	0.03	L	0.03	-
	07/19/92	0001		<	0.03	L	0.03	-
LEAD	07/18/88	0001	MG/L		0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.005	JL	0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	01/09/91	0001	MG/L	<	0.03	IL	0.03	-
	04/17/91	0001		<	0.005	L	0.005	-
	07/10/91	0001		<	0.0021	L	0.0021	-
	01/10/92	0001		<	0.005	L	0.005	-
	07/19/92	0001		<	0.003	L	0.003	-
MAGNESIUM	10/22/87	0001	MG/L		0.71		0.001	-
	01/10/88	0001			0.61		0.001	-
	07/18/88	0001			0.53	L	0.001	-
	03/30/89	0001			0.55	L	0.001	-
	09/17/89	0001			0.62	L	0.001	-
	01/08/90	0001			0.57	L	0.001	-
	03/15/90	0001			0.61	L	0.001	-
	08/26/90	0001			0.57	L	0.001	-
	01/09/91	0001			0.6	L	0.1	-
	04/17/91	0001			0.6	L	0.1	-
	07/10/91	0001			0.56	JL	0.028	-
	01/10/92	0001			0.6	L	0.1	-
	07/19/92	0001			0.566	L	0.1	-
MANGANESE	10/22/87	0001	MG/L		0.02		0.01	-
	01/10/88	0001		<	0.01		0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
MERCURY	07/18/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/22/87	0001	MG/L		0.03		0.01	-
	01/10/88	0001			0.06		0.01	-
	07/18/88	0001			0.05	L	0.01	-
	03/30/89	0001			0.06	L	0.01	-
	09/17/89	0001			0.04	L	0.01	-
	01/08/90	0001			0.06	L	0.01	-
	03/15/90	0001			0.05	L	0.01	-
	08/26/90	0001			0.04	L	0.01	-
	01/09/91	0001			0.05	L	0.01	-
	04/17/91	0001			0.04	L	0.01	-
	07/10/91	0001			0.042	L	0.0057	-
	01/10/92	0001			0.04	L	0.01	-
	07/19/92	0001			0.0432	L	0.01	-
NET GROSS ALPHA *	10/22/87	0001	PCI/L		28.97		-	-
	01/10/88	0001			-1.03		-	-
	07/18/88	0001			-1.03		-	-
	03/30/89	0001			9.97		-	-
	09/17/89	0001			25.97		-	-
	01/08/90	0001			4.97		-	-
	03/15/90	0001			9.47		-	-
	08/26/90	0001			24.73		-	-
	01/09/91	0001			-0.34		-	-
	04/17/91	0001			-0.34		-	-
	07/11/91	0001			-0.10		-	-
	01/10/92	0001			19.51		-	-
	07/19/92	0001			17.01		-	-
NICKEL	03/30/89	0001	MG/L	<	0.04	L	0.04	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	09/17/89	0001	MG/L	<	0.04	L	0.04	-
	01/08/90	0001		<	0.04	L	0.04	-
	03/15/90	0001		<	0.04	L	0.04	-
	08/26/90	0001		<	0.04	L	0.04	-
	01/09/91	0001		<	0.04	L	0.04	-
	04/17/91	0001		<	0.04	L	0.04	-
	07/10/91	0001		<	0.0070	L	0.007	-
	01/10/92	0001		<	0.04	L	0.04	-
	07/19/92	0001		<	0.04	L	0.04	-
NITRATE	10/22/87	0001	MG/L	<	1.0	H	1.	-
	01/10/88	0001		<	0.1	J	1.	-
	07/18/88	0001		<	0.1	JL	1.	-
	03/30/89	0001		<	3.5	L	1.	-
	09/17/89	0001		<	1.0	L	1.	-
	01/08/90	0001		<	0.1	JL	1.	-
	03/15/90	0001		<	1.	HL	1.	-
	08/26/90	0001		<	1.8	HJL	1.	-
	01/09/91	0001		<	1.	L	1.	-
	04/17/91	0001		<	1.0	L	1.	-
	07/10/91	0001		<	5.3	JL	0.22	-
	01/10/92	0001		<	1.0	L	1.	-
	07/19/92	0001		<	1	L	1	-
PH	10/22/87	0001	SU		8.2		-	-
	01/10/88	0001			8.4		-	-
	07/18/88	0001			8.39	L	-	-
	03/30/89	0001			8.65	L	-	-
	09/17/89	0001			8.48	L	-	-
	01/08/90	0001			8.56	L	-	-
	03/15/90	0001			8.39	L	-	-
	08/26/90	0001			8.57	L	-	-
	01/09/91	0001			8.29	L	-	-
	04/17/91	0001			8.48	L	-	-
	07/11/91	0001			8.35	L	-	-
	01/10/92	0001			8.61	L	-	-
	07/19/92	0001			8.50	L	-	-
PHOSPHATE	07/19/92	0001	MG/L		0.15	L	0.1	-
POTASSIUM	10/22/87	0001	MG/L		1.11		0.01	-
	01/10/88	0001			0.87		0.01	-
	07/18/88	0001			2.6	L	0.01	-
	03/30/89	0001			0.72	L	0.01	-
	09/17/89	0001			0.67	L	0.01	-
	01/08/90	0001			0.7	L	0.01	-
	03/15/90	0001			0.76	L	0.01	-
	08/26/90	0001			0.74	L	0.01	-
	01/09/91	0001			0.71	L	0.01	-
	04/17/91	0001			0.85	L	0.01	-
	07/10/91	0001			0.97	L	0.5	-
	01/10/92	0001			0.73	L	0.01	-
	07/19/92	0001			0.79	L	0.1	-
RADIUM-226	10/22/87	0001	PCI/L		0.1		1.	0.1

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	01/10/88	0001	PCI/L		0.1		1.	0.2
	07/18/88	0001			0.1	L	1.	0.2
	03/30/89	0001			0.0	L	1.	0.1
	09/17/89	0001			0.0	JL	1.	0.5
	01/08/90	0001			0.1	JL	1.	0.1
	03/15/90	0001			0.1	L	1.	0.1
	08/26/90	0001			0.0	L	1.	0.2
	01/09/91	0001			0.2	L	1.	0.2
	04/17/91	0001			0.0	L	1.	0.1
	07/11/91	0001			0.0	L	1.	0.2
	01/10/92	0001			0.0	L	1.	0.3
	07/19/92	0001			0.0	L	0.3	0.2
RADIUM-226 + RADIUM-228	10/22/87	0001	PCI/L		0.60		-	-
	01/10/88	0001			0.10		-	-
	07/18/88	0001			0.10		-	-
	03/30/89	0001			0.10		-	-
	09/17/89	0001			0.00		-	-
	01/08/90	0001			0.40		-	-
	03/15/90	0001			0.10		-	-
	08/26/90	0001			10.80		-	-
	01/09/91	0001			0.40		-	-
	04/17/91	0001			7.70		-	-
	07/11/91	0001			0.00		-	-
	01/10/92	0001			0.80		-	-
	07/19/92	0001			0.00		-	-
RADIUM-228	10/22/87	0001	PCI/L		0.5	J	1.	0.9
	01/10/88	0001			0.		1.	0.8
	07/18/88	0001			0.0	L	1.	0.7
	03/30/89	0001			0.1	L	1.	0.7
	09/17/89	0001			0.0	L	1.	1.9
	01/08/90	0001			0.3	L	1.	0.8
	03/15/90	0001			0.0	L	1.	2.3
	08/26/90	0001			10.8	JL	1.	2.6
	01/09/91	0001			0.2	JL	1.	1.3
	04/17/91	0001			7.7	JL	1.	1.9
	07/11/91	0001			0.0	L	1.	1.1
	01/10/92	0001			0.8	L	1.	2.3
	07/19/92	0001			0.0	L	3.5	2.1
SELENIUM	10/22/87	0001	MG/L	<	0.005		0.005	-
	01/10/88	0001			0.007		0.005	-
	07/18/88	0001			0.008	L	0.005	-
	03/30/89	0001		<	0.005	L	0.005	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.005	L	0.005	-
	03/15/90	0001			0.01	L	0.005	-
	08/26/90	0001		<	0.005	LW	0.005	-
	01/09/91	0001		<	0.005	L	0.005	-
	04/17/91	0001		<	0.005	L	0.005	-
	07/10/91	0001		<	0.0022	L	0.0022	-
	01/10/92	0001		<	0.005	L	0.005	-
	07/19/92	0001		<	0.005	L	0.005	-
	12/12/93	0001		<	0.005	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
 W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SI02	12/12/93	0001	MG/L		11.6	L	0.10	-
SILVER	07/18/88	0001	MG/L	<	0.01	L	0.01	-
SODIUM	10/22/87	0001	MG/L		550.		0.002	-
	01/10/88	0001			557.		0.002	-
	07/18/88	0001			589.	L	0.002	-
	03/30/89	0001			572.	L	0.002	-
	09/17/89	0001			530.	L	0.002	-
	01/08/90	0001			545.	L	0.002	-
	03/15/90	0001			576.	L	0.002	-
	08/26/90	0001			594.	L	0.002	-
	01/09/91	0001			563.	L	5.	-
	04/17/91	0001			570.	L	5.	-
	07/10/91	0001			510	H	0.027	-
	01/10/92	0001			581.	L	5.	-
	07/19/92	0001			559	L	1	-
SPECIFIC CONDUCTANCE	10/22/87	0001	UMHO/CM		1950.		-	-
	01/10/88	0001			1960.		-	-
	07/18/88	0001			2000.	L	-	-
	03/30/89	0001			1700.	L	-	-
	09/17/89	0001			1000.	L	-	-
	01/08/90	0001			1900.	L	-	-
	03/15/90	0001			1350.	L	-	-
	08/26/90	0001			1990.	L	-	-
	01/09/91	0001			2400.	L	-	-
	04/17/91	0001			2410.	L	-	-
	07/11/91	0001			2410.	L	-	-
	01/10/92	0001			1933	L	-	-
	07/19/92	0001			2010	L	-	-
SULFATE	10/22/87	0001	MG/L		134.		0.1	-
	01/10/88	0001			137.		0.1	-
	07/18/88	0001			135.	L	0.1	-
	03/30/89	0001			143.	L	0.1	-
	09/17/89	0001			125.	L	0.1	-
	01/08/90	0001			118.	L	0.1	-
	03/15/90	0001			137.	HL	0.1	-
	08/26/90	0001			130.	L	0.1	-
	01/09/91	0001			104.	L	0.1	-
	04/17/91	0001			126.	L	10.	-
	07/10/91	0001			120	L	10.	-
	01/10/92	0001			123.	L	20.	-
	07/19/92	0001			117	L	1	-
	12/12/93	0001			126.	L	1.0	-
SULFIDE	07/18/88	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	10/22/87	0001	C - DEGREE		17.0		-	-
	01/10/88	0001			15.5		-	-
	07/18/88	0001			17.0	L	-	-
	03/30/89	0001			16.	L	-	-
	09/17/89	0001			17.0	L	-	-
	01/08/90	0001			16.5	L	-	-
	03/15/90	0001			16.0	L	-	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	08/26/90	0001	C - DEGREE		13.4	L	-	-
	01/09/91	0001			13.9	L	-	-
	04/17/91	0001			14.6	L	-	-
	07/11/91	0001			16.7	L	-	-
	01/10/92	0001			14.1	L	-	-
	07/19/92	0001			16.2	L	-	-
TOTAL DISSOLVED SOLIDS	10/22/87	0001	MG/L		1500.		10.	-
	01/10/88	0001			1500.	H	10.	-
	07/18/88	0001			1440.	HL	10.	-
	03/30/89	0001			1440.	HL	10.	-
	09/17/89	0001			1430.	L	10.	-
	01/08/90	0001			1350.	L	10.	-
	03/15/90	0001			1440.	HL	10.	-
	08/26/90	0001			1420.	HL	10.	-
	01/09/91	0001			1990.	L	10.	-
	04/17/91	0001			1440.	L	10.	-
	07/10/91	0001			1400	L	10.	-
	01/10/92	0001			1450.	L	10.	-
	07/19/92	0001			1400	L	10	-
	12/12/93	0001			1440.	L	10.	-
TOTAL KJELDAHL NITROGEN	01/10/92	0001	MG/L	<	2.	1L	2.	-
TOTAL ORGANIC CARBON	10/22/87	0001	MG/L	<	1.		1.	-
	01/10/88	0001			154.		1.	-
	07/18/88	0001			165.	L	1.	-
	03/30/89	0001			146.	L	1.	-
	09/17/89	0001			7.	L	1.	-
	01/08/90	0001			70.	L	1.	-
	03/15/90	0001			3.	L	1.	-
	08/26/90	0001		<	1.	L	1.	-
	01/09/91	0001			34.	L	1.	-
	04/17/91	0001			3.	L	1.	-
	07/10/91	0001			1.2	L	1.	-
	01/10/92	0001			1.	L	1.	-
	07/19/92	0001			1.3	*L	1	-
URANIUM	10/22/87	0001	MG/L	<	0.003		0.003	-
	01/10/88	0001		<	0.0003	J	0.003	-
	07/18/88	0001		<	0.0003	JL	0.003	-
	03/30/89	0001		<	0.0003	JL	0.003	-
	09/17/89	0001		<	0.003	L	0.003	-
	01/08/90	0001		<	0.0003	JL	0.003	-
	03/15/90	0001		<	0.003	L	0.003	-
	08/26/90	0001			0.002	L	0.001	-
	01/09/91	0001		<	0.001	L	0.001	-
	04/17/91	0001		<	0.001	L	0.001	-
	07/11/91	0001		<	0.0003	L	0.0003	-
	01/10/92	0001			0.001	L	0.001	-
	07/19/92	0001			0.001	L	0.001	-
VANADIUM	10/22/87	0001	MG/L	<	0.01		0.01	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

- * - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
- H - HOLD TIME EXPIRED, VALUE SUSPECT
- I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
- J - ESTIMATED VALUE
- L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0817 MONITOR WELL NE OF PROC. SITE
 NORTH COORDINATE: 60794.8 FT
 EAST COORDINATE: 60347.9 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	01/10/88	0001	MG/L	<	0.01		0.01	-
	07/18/88	0001		<	0.01	L	0.01	-
	03/30/89	0001		<	0.01	L	0.01	-
	09/17/89	0001		<	0.01	L	0.01	-
	01/08/90	0001		<	0.01	L	0.01	-
	03/15/90	0001		<	0.01	L	0.01	-
	08/26/90	0001		<	0.01	L	0.01	-
	01/09/91	0001		<	0.01	L	0.01	-
	04/17/91	0001		<	0.01	L	0.01	-
	07/10/91	0001		<	0.0056	L	0.0056	-
	01/10/92	0001		<	0.01	L	0.01	-
	07/19/92	0001		<	0.01	L	0.01	-
ZINC	10/22/87	0001	MG/L	<	0.005		0.005	-
	01/10/88	0001		<	0.009		0.005	-
	07/18/88	0001		<	0.005	L	0.005	-
	03/30/89	0001		<	0.005	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0818 ABANDONED
 NORTH COORDINATE: 59145.1 FT
 EAST COORDINATE: 59189.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/20/87	0001	MG/L CaCO3		541.	L	-	-
	01/05/88	0001			546.	L	-	-
	07/16/88	0001			513.	L	-	-
	03/30/89	0001			489.	GL	-	-
ALUMINUM	10/20/87	0001	MG/L	<	0.1	L	0.1	-
	01/05/88	0001		<	0.1	L	0.1	-
	07/16/88	0001		<	0.01	JL	0.1	-
AMMONIUM	10/20/87	0001	MG/L		0.2	L	0.1	-
	01/05/88	0001			0.3	L	0.1	-
	07/16/88	0001		<	0.1	L	0.1	-
	03/30/89	0001			0.4	GL	0.1	-
ARSENIC	10/20/87	0001	MG/L		0.01	L	0.01	-
	01/05/88	0001			0.01	L	0.01	-
	07/16/88	0001			0.151	L	0.01	-
BARIUM	07/16/88	0001	MG/L		0.03	JL	0.1	-
BORON	10/20/87	0001	MG/L		0.7	L	0.1	-
	01/05/88	0001			0.61	L	0.1	-
	07/16/88	0001			0.69	L	0.1	-
CADMIUM	07/16/88	0001	MG/L	<	0.001	L	0.001	-
	03/30/89	0001			0.005	GL	0.001	-
CALCIUM	10/20/87	0001	MG/L		6.4	L	0.01	-
	01/05/88	0001			8.59	L	0.01	-
	07/16/88	0001			12.5	L	0.01	-
	03/30/89	0001			18.1	GL	0.01	-
CHLORIDE	10/20/87	0001	MG/L		450.	JL	1.	-
	01/05/88	0001			600.	L	1.	-
	07/16/88	0001			880.	L	1.	-
	03/30/89	0001			1500.	GHL	1.	-
CHROMIUM	10/20/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.03	L	0.01	-
	07/16/88	0001		<	0.01	L	0.01	-
	03/30/89	0001		<	0.01	GL	0.01	-
COBALT	03/30/89	0001	MG/L	<	0.05	GL	0.05	-
COPPER	07/16/88	0001	MG/L	<	0.01	JL	0.02	-
	03/30/89	0001		<	0.02	GL	0.02	-
FLUORIDE	10/20/87	0001	MG/L		2.6	L	0.1	-
	01/05/88	0001			2.9	L	0.1	-
	07/16/88	0001			2.9	L	0.1	-
GROSS ALPHA	10/20/87	0001	PCI/L		0.0	L	0.2	2.1
	01/05/88	0001			2.	L	0.2	14.
	07/16/88	0001			0.	L	0.2	27.

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
 H - HOLD TIME EXPIRED, VALUE SUSPECT
 J - ESTIMATED VALUE
 L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0818 ABANDONED
 NORTH COORDINATE: 59145.1 FT
 EAST COORDINATE: 59189.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	03/30/89	0001	PCI/L		47.	GL	0.2	48.
GROSS BETA	10/20/87	0001	PCI/L		0.2	L	1.	2.4
	01/05/88	0001			23.	L	1.	16.
	07/16/88	0001			0.	L	1.	18.
	03/30/89	0001			50.	GL	1.	25.
IRON	10/20/87	0001	MG/L	<	0.03	L	0.03	-
	01/05/88	0001			0.15	L	0.03	-
	07/16/88	0001			0.01	JL	0.03	-
	03/30/89	0001		<	0.03	GL	0.03	-
LEAD	07/16/88	0001	MG/L		0.17	L	0.01	-
MAGNESIUM	10/20/87	0001	MG/L		1.39	L	0.001	-
	01/05/88	0001			1.65	L	0.001	-
	07/16/88	0001			2.31	L	0.001	-
	03/30/89	0001			3.96	GL	0.001	-
MANGANESE	10/20/87	0001	MG/L		0.03	L	0.01	-
	01/05/88	0001			0.02	L	0.01	-
	07/16/88	0001			0.02	L	0.01	-
MERCURY	07/16/88	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	10/20/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.04	L	0.01	-
	07/16/88	0001			0.01	L	0.01	-
	03/30/89	0001			0.01	GL	0.01	-
NET GROSS ALPHA *	10/20/87	0001	PCI/L		-3.43		-	-
	01/05/88	0001			1.25		-	-
	07/16/88	0001			-0.21		-	-
	03/30/89	0001			46.66		-	-
NICKEL	03/30/89	0001	MG/L	<	0.04	GL	0.04	-
NITRATE	10/20/87	0001	MG/L	<	1.0	HL	1.	-
	01/05/88	0001		<	0.1	JL	1.	-
	07/16/88	0001			6.3	L	1.	-
	03/30/89	0001		<	1.0	GL	1.	-
PH	10/20/87	0001	SU		8.3	L	-	-
	01/05/88	0001			8.35	L	-	-
	07/16/88	0001			8.45	L	-	-
	03/30/89	0001			8.94	GL	-	-
POTASSIUM	10/20/87	0001	MG/L		1.41	L	0.01	-
	01/05/88	0001			2.1	L	0.01	-
	07/16/88	0001			2.4	L	0.01	-
	03/30/89	0001			7.1	GL	0.01	-
RADIUM-226	10/20/87	0001	PCI/L		0.3	L	1.	0.1

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
SITE: GRN01 GREEN RIVER
LOCATION: 0818 ABANDONED
NORTH COORDINATE: 59145.1 FT
EAST COORDINATE: 59189.7 FT
06/04/86 TO 06/08/94
REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	01/05/88	0001	PCI/L		0.1	L	1.	0.1
	07/16/88	0001			0.2	L	1.	0.2
	03/30/89	0001			0.2	GL	1.	0.2
RADIUM-226 + RADIUM-228	10/20/87	0001	PCI/L		0.90		-	-
	01/05/88	0001			0.90		-	-
	07/16/88	0001			0.70		-	-
	03/30/89	0001			1.00		-	-
RADIUM-228	10/20/87	0001	PCI/L		0.6	L	1.	1.4
	01/05/88	0001			0.8	L	1.	0.8
	07/16/88	0001			0.5	L	1.	0.8
	03/30/89	0001			0.8	GL	1.	0.8
SELENIUM	10/20/87	0001	MG/L		0.007	L	0.005	-
	01/05/88	0001			0.018	JL	0.005	-
	07/16/88	0001		<	0.001	JL	0.005	-
	03/30/89	0001		<	0.005	GL	0.005	-
SILVER	07/16/88	0001	MG/L	<	0.01	L	0.01	-
SODIUM	10/20/87	0001	MG/L		810.	L	0.002	-
	01/05/88	0001			906.	L	0.002	-
	07/16/88	0001			1040.	LR	0.002	-
	03/30/89	0001			1310.	GL	0.002	-
SPECIFIC CONDUCTANCE	10/20/87	0001	UMHO/CM		2900.	L	-	-
	01/05/88	0001			3160.	L	-	-
	07/16/88	0001			3800.	L	-	-
	03/30/89	0001			3900.	GL	-	-
SULFATE	10/20/87	0001	MG/L		620.	L	0.1	-
	01/05/88	0001			599.	L	0.1	-
	07/16/88	0001			535.	L	0.1	-
	03/30/89	0001			474.	GL	0.1	-
SULFIDE	07/16/88	0001	MG/L		11.	L	0.1	-
TEMPERATURE	10/20/87	0001	C - DEGREE		18.0	L	-	-
	01/05/88	0001			16.2	L	-	-
	07/16/88	0001			18.0	L	-	-
	03/30/89	0001			16.5	GL	-	-
TOTAL DISSOLVED SOLIDS	10/20/87	0001	MG/L		2170.	L	10.	-
	01/05/88	0001			2420.	HL	10.	-
	07/16/88	0001			2800.	HL	10.	-
	03/30/89	0001			3500.	GHL	10.	-
TOTAL ORGANIC CARBON	10/20/87	0001	MG/L		6.	L	1.	-
	01/05/88	0001			146.	L	1.	-
	07/16/88	0001			120.	L	1.	-
	03/30/89	0001			87.8	GL	1.	-
URANIUM	10/20/87	0001	MG/L		0.005	L	0.003	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
R - UNUSABLE DATA POINT

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0818 ABANDONED
 NORTH COORDINATE: 59145.1 FT
 EAST COORDINATE: 59189.7 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	01/05/88	0001	MG/L		0.0011	JL	0.003	-
	07/16/88	0001			0.0003	JL	0.003	-
	03/30/89	0001			0.0005	GJL	0.003	-
VANADIUM	10/20/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001		<	0.01	L	0.01	-
	07/16/88	0001		<	0.01	L	0.01	-
	03/30/89	0001		<	0.01	GL	0.01	-
ZINC	10/20/87	0001	MG/L		0.005	L	0.005	-
	01/05/88	0001		<	0.005	L	0.005	-
	07/16/88	0001		<	0.005	L	0.005	-
	03/30/89	0001			0.006	GJL	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

G - PH > 9, POSSIBLE GROUT CONTAMINATION

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0819 ABANDONED
 NORTH COORDINATE: 60583.3 FT
 EAST COORDINATE: 58230.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	10/26/87	0001	MG/L CaCO3		500.	L	-	-
	01/05/88	0001			547.	L	-	-
ALUMINUM	10/26/87	0001	MG/L	<	0.1	L	0.1	-
	01/05/88	0001		<	0.1	L	0.1	-
AMMONIUM	10/26/87	0001	MG/L		0.4	L	0.1	-
	01/05/88	0001			0.3	L	0.1	-
ARSENIC	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.002	JL	0.01	-
BORON	10/26/87	0001	MG/L		0.5	L	0.1	-
	01/05/88	0001			0.62	L	0.1	-
CALCIUM	10/26/87	0001	MG/L		24.	L	0.01	-
	01/05/88	0001			6.63	L	0.01	-
CHLORIDE	10/26/87	0001	MG/L		146.	JL	1.	-
	01/05/88	0001			630.	L	1.	-
CHROMIUM	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.02	L	0.01	-
FLUORIDE	10/26/87	0001	MG/L		2.9	L	0.1	-
	01/05/88	0001			5.58	L	0.1	-
GROSS ALPHA	10/26/87	0001	PCI/L		0.0	L	0.2	18.
	01/05/88	0001			0.	L	0.2	9.0
GROSS BETA	10/26/87	0001	PCI/L		0.0	L	1.	19.
	01/05/88	0001			0.	L	1.	14.
IRON	10/26/87	0001	MG/L	<	0.03	L	0.03	-
	01/05/88	0001			0.11	L	0.03	-
MAGNESIUM	10/26/87	0001	MG/L		11.6	L	0.001	-
	01/05/88	0001			1.31	L	0.001	-
MANGANESE	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.01	L	0.01	-
MOLYBDENUM	10/26/87	0001	MG/L		0.01	L	0.01	-
	01/05/88	0001			0.04	L	0.01	-
NET GROSS ALPHA *	10/26/87	0001	PCI/L		-6.17		-	-
	01/05/88	0001			-1.03		-	-
NITRATE	10/26/87	0001	MG/L		6.5	HL	1.	-
	01/05/88	0001		<	0.1	JL	1.	-
PH	10/26/87	0001	SU		8.0	L	-	-
	01/05/88	0001			8.2	L	-	-

* NET GROSS ALPHA (GROSS ALPHA - URANIUM) WITH 1 MG URANIUM = 686 PCI

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:

0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

TABLE SI.4. GROUND WATER QUALITY DATA BY LOCATION
 SITE: GRN01 GREEN RIVER
 LOCATION: 0819 ABANDONED
 NORTH COORDINATE: 60583.3 FT
 EAST COORDINATE: 58230.8 FT
 06/04/86 TO 06/08/94
 REPORT DATE: 06/29/95

FORMATION OF COMPLETION: CEDAR MOUNTAIN BUCKHORN MEMBER (CB)
 HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	10/26/87	0001	MG/L		2.6	L	0.01	-
	01/05/88	0001			1.3	L	0.01	-
RADIUM-226	10/26/87	0001	PCI/L		0.3	L	1.	0.2
	01/05/88	0001			0.2	L	1.	0.2
RADIUM-226 + RADIUM-228	10/26/87	0001	PCI/L		0.30		-	-
	01/05/88	0001			0.80		-	-
RADIUM-228	10/26/87	0001	PCI/L		0.0	L	1.	1.1
	01/05/88	0001			0.6	L	1.	0.9
SELENIUM	10/26/87	0001	MG/L	<	0.005	L	0.005	-
	01/05/88	0001			0.019	JL	0.005	-
SODIUM	10/26/87	0001	MG/L		1160.	L	0.002	-
	01/05/88	0001			908.	L	0.002	-
SPECIFIC CONDUCTANCE	10/26/87	0001	UMHO/CM		3300.	L	-	-
	01/05/88	0001			3150.	L	-	-
SULFATE	10/26/87	0001	MG/L		2120.	L	0.1	-
	01/05/88	0001			578.	L	0.1	-
TEMPERATURE	10/26/87	0001	C - DEGREE		16.0	L	-	-
	01/05/88	0001			14.3	L	-	-
TOTAL DISSOLVED SOLIDS	10/26/87	0001	MG/L		3820.	L	10.	-
	01/05/88	0001			2480.	HL	10.	-
TOTAL ORGANIC CARBON	10/26/87	0001	MG/L		12.	L	1.	-
	01/05/88	0001			108.	L	1.	-
URANIUM	10/26/87	0001	MG/L	<	0.009	L	0.003	-
	01/05/88	0001			0.0003	JL	0.003	-
VANADIUM	10/26/87	0001	MG/L	<	0.01	L	0.01	-
	01/05/88	0001			0.01	L	0.01	-
ZINC	10/26/87	0001	MG/L	<	0.005	L	0.005	-
	01/05/88	0001			0.02	L	0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:

H - HOLD TIME EXPIRED, VALUE SUSPECT

J - ESTIMATED VALUE

L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

DATA FILE NAME: \DART\GRN01\GWQ10024.DAT

TABLE SI.4. GROUND WATER QUALITY BY LOCATION
 LYSIMETER GRN-01-0714
 SITE: GRN01 GREEN RIVER
 LOCATION: 0714 ABANDONED
 NORTH COORDINATE: UNKNOWN
 EAST COORDINATE: UNKNOWN
 09/11/86 TO 12/02/88
 REPORT DATE: 06/30/95

MATERIAL OF SAMPLING: URANIUM MILL TAILINGS (TA)
 HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM	09/11/86	0001	MG/L		1840.		0.1	-
	03/12/87	0001			6300.		0.1	-
AMMONIUM	09/11/86	0001	MG/L		11.		0.1	-
	03/12/87	0001			14.		0.1	-
	07/21/88	0001			13.		0.1	-
ANTIMONY	09/11/86	0001	MG/L	<	0.003		0.003	-
ARSENIC	09/11/86	0001	MG/L		0.03		0.01	-
BARIUM	09/11/86	0001	MG/L	<	0.1		0.1	-
BORON	09/11/86	0001	MG/L	<	0.1		0.1	-
	03/12/87	0001			0.5		0.1	-
CADMIUM	09/11/86	0001	MG/L		0.032		0.001	-
CALCIUM	09/11/86	0001	MG/L		385.		0.01	-
	03/12/87	0001			457.		0.01	-
CHLORIDE	09/11/86	0001	MG/L		2900.		1.	-
	03/12/87	0001			113.		1.	-
CHROMIUM	09/11/86	0001	MG/L		1.14		0.01	-
	03/12/87	0001			2.61		0.01	-
	12/02/88	0001			4.00		0.01	-
COBALT	09/11/86	0001	MG/L		30.9		0.05	-
COPPER	09/11/86	0001	MG/L		45.8		0.02	-
FLUORIDE	09/11/86	0001	MG/L		0.2		0.1	-
	03/12/87	0001		<	0.1		0.1	-
IRON	09/11/86	0001	MG/L		267.		0.03	-
	03/12/87	0001			2200.		0.03	-
LEAD	09/11/86	0001	MG/L		0.02		0.01	-
MAGNESIUM	09/11/86	0001	MG/L		1090.		0.001	-
	03/12/87	0001			2640.		0.001	-
MANGANESE	09/11/86	0001	MG/L		122.		0.01	-
	03/12/87	0001			360.		0.01	-
MERCURY	09/11/86	0001	MG/L		0.	J	0.0002	-
MOLYBDENUM	09/11/86	0001	MG/L		0.10		0.01	-
	03/12/87	0001			0.2		0.01	-
	12/02/88	0001			0.1		0.1	-
NICKEL	09/11/86	0001	MG/L		25.3		0.04	-
NITRATE	09/11/86	0001	MG/L		2.		1.	-
	03/12/87	0001			4500.		1.	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

OTHER PARAMETER VALUE FLAGS:
 J - ESTIMATED VALUE

TABLE SI.4. GROUND WATER QUALITY BY LOCATION
 LYSIMETER GRN-01-0714
 SITE: GRN01 GREEN RIVER
 LOCATION: 0714 ABANDONED
 NORTH COORDINATE: UNKNOWN
 EAST COORDINATE: UNKNOWN
 09/11/86 TO 12/02/88
 REPORT DATE: 06/30/95

MATERIAL OF SAMPLING: URANIUM MILL TAILINGS (TA)
 HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	07/21/88	0001	MG/L		6100.		1.	-
NITRITE	09/11/86	0001	MG/L	<	0.1		0.1	-
PH	12/02/88	0001	SU		2.14		-	-
PHOSPHATE	09/11/86	0001	MG/L	<	0.1		0.1	-
POTASSIUM	09/11/86 03/12/87	0001 0001	MG/L		16.0 0.19		0.01 0.01	- -
SELENIUM	09/11/86 03/12/87 12/02/88	0001 0001 0001	MG/L		0.208 0.092 40.		0.005 0.005 0.005	- - -
SILICA - SIO2	09/11/86	0001	MG/L		60.		2.	-
SILVER	09/11/86	0001	MG/L	<	0.01		0.01	-
SODIUM	09/11/86 03/12/87	0001 0001	MG/L		111. 89.2		0.002 0.002	- -
SPECIFIC CONDUCTANCE	12/02/88	0001	UMHO/CM		15000.		-	-
STRONTIUM	09/11/86	0001	MG/L		0.1		0.1	-
SULFATE	09/11/86 03/12/87	0001 0001	MG/L		16000. 56200.		0.1 0.1	- -
TEMPERATURE	12/02/88	0001	C - DEGREE		10.0		-	-
TIN	09/11/86	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	09/11/86 03/12/87	0001 0001	MG/L		26100. 80800.		10. 10.	- -
URANIUM	09/11/86 03/12/87 12/02/88	0001 0001 0001	MG/L		221. 675. 650.		0.003 0.003 0.003	- - -
VANADIUM	09/11/86	0001	MG/L		178.		0.01	-
ZINC	09/11/86	0001	MG/L		259.		0.005	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT

SAMPLE ID CODES:
 0001 - FILTERED SAMPLE (.45 MICRONS)

DATA FILE NAME: \DART\GRN01\LYS10000.DAT