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DOE/AL/62350-162
REV. 0

SITE OBSERVATIONAL WORK PLAN FOR THE UMTRA PROJECT SITE AT RIVERTON, WYOMING

September 1994

DISCLAIMER

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September 1994

Prepared for
U.S. Department of Energy
UMTRA Project Office
Albuquerque, New Mexico

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EXECUTIVE SUMMARY

The site observational work plan (SOWP) for the Riverton, Wyoming, Uranium Mill Tailings Remedial Action (UMTRA) Project Site is the first document for the UMTRA Ground Water Project to address site-specific activities to meet compliance with the U.S. Environmental Protection Agency (EPA) proposed ground water standards (52 FR 36000 (1987)). In support of the activities the regulatory framework and drivers are presented along with a discussion of the relationship of this SOWP to other UMTRA Ground Water Project programmatic documents.

A combination of the two compliance strategies that will be recommended for this site are no remediation with the application of alternate concentration levels (ACL) and natural flushing in conjunction with institutional controls. ACLs are to be applied to constituents that occur at concentrations above background levels but which are essential nutrients and occur within nutritional ranges and/or have very low toxicity and high dietary intake rates compared to the levels detected in the ground water. The essential premise of natural flushing is that ground water movement and natural attenuation processes will reduce the detected contamination to background levels within 100 years. These two recommended compliance strategies were evaluated by applying Riverton site-specific data to the compliance framework developed in the UMTRA Ground Water programmatic environmental impact statement (PEIS) (DOE, 1994a).

There are three aquifers beneath the site: a surficial unconfined aquifer, a middle semiconfined aquifer, and a deeper confined aquifer. The site conceptual model demonstrates that the milling-related contamination at the site has affected both the surficial and semiconfined aquifers, although the leaky shale aquitard separating these units limits the downward migration of contamination into the semiconfined aquifer. The semiconfined aquifer is separated from the underlying confined aquifer by a shale aquitard. The confined aquifer has not been contaminated by milling-related constituents. Contaminant distribution is controlled largely by ground water movement, which is generally to the southeast towards the Little Wind River. Ground water from the surficial and semiconfined aquifers ultimately discharges into the Little Wind River.

The Baseline Risk Assessment for the Riverton site identified 10 potential contaminants of concern: arsenic, lead-210, manganese, molybdenum, polonium-210, sulfate, thorium-230, uranium, and vanadium. The risk assessment determined that risks to human health can be mitigated by applying institutional controls to restrict access to contaminated ground water in the vicinity of the site. Additional data are needed to evaluate ecological risks.

The identified data gaps and associated data needs are related to the distribution of hydraulic conductivities within the aquifers; seasonal variations in hydraulic gradients; effects of the aquifer matrix on the attenuation and transport of contaminants; definition of background ground water quality entering the site from the west and near the Little Wind River; impacts to surface water and sediments; and the feasibility of institutional controls.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ac	acre
ACL	alternate concentration level
As	arsenic
ASTM	American Society for Testing Materials
BLRA	baseline risk assessment
°C	degrees Celsius
C & NW	Chicago & Northwestern
cm	centimeter
dia.	diameter
DOE	U.S. Department of Energy
DQO	data quality objective
EA	environmental assessment
EC_{50}	sublethal concentrations affecting 50 percent of test organisms
elev.	elevation
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
FR	Federal Register
ft	foot
ft^3	cubic foot
gal	gallon
GWPP	Groundwater Project Plan
ha	hectare
IAH	International Association of Hydrogeologists
ID	identification
JEG	Jacobs Engineering Group Inc.
km	kilometer
L	liter
LC_{50}	lethal concentrations affecting 50 percent of test organisms
LOAEL	lowest observed adverse effect levels
m	meter
m^3	cubic meter
MCL	maximum concentration limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mi	mile
Mn	manganese
Mo	molybdenum
MSL	mean sea level
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOAEL	no observed adverse effect levels
NRC	U.S. Nuclear Regulatory Commission
O	oxygen

LIST OF ACRONYMS AND ABBREVIATIONS (Concluded)

Acronym	Definition
pCi/g	picocuries per gram
PEIS	programmatic environmental impact statement
QA	quality assurance
RAP	remedial action plan
RRM	residual radioactive material
S	sulfur
SOP	standard operating procedure
SOWP	site observational work plan
TAC	Technical Assistance Contractor
TAGR	Technical Approach to Ground Water Restoration
TDS	total dissolved solids
TER	Technical Evaluation Report
UMTRA	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act
USGS	U.S. Geological Survey
V	vanadium
WDEQ	Wyoming Department of Environmental Quality
WRTEQC	Wind Rivers Tribes' Environmental Quality Commission
WSAP	Water Sampling and Analysis Plan
yd^3	cubic yard

1.0 INTRODUCTION

The Riverton, Wyoming, Uranium Mill Tailings Remedial Action (UMTRA) Project site observational work plan (SOWP) is the first document for the UMTRA Ground Water Project to address site-specific activities to meet compliance with U.S. Environmental Protection Agency (EPA) proposed ground water standards (52 FR 36000 (1987)) at this UMTRA Project site.

This SOWP, Revision 0 presents a summary of site hydrogeological data and presents a conceptual model of the milling-related ground water contamination and the aquifer system. The SOWP defines 1) the potential environmental and health risks, 2) data gaps in the conceptual model, and 3) identifies appropriate site-specific compliance strategies. Relevant data in support of the recommended compliance strategies are also presented, along with a plan for collecting and assessing additional required data.

Section 2.0 of this SOWP describes the requirements for meeting standards at UMTRA Project sites. Section 3.0 provides site-specific data and the related conceptual model. Section 4.0 provides the justification for the recommended ground water compliance strategies for the Riverton site. Section 5.0 provides the justification and process for collection and assessment of additional required data. Section 6.0 provides a list of the references cited. The appendixes include data on monitor wells and lithography, ground water, surface water, and sediment quality.

1.1 GROUND WATER COMPLIANCE STRATEGY

The ground water compliance strategy recommended for the Riverton site consists of a combination of two compliance strategies for the 24 hazardous constituents identified: 1) no remediation with application of alternate concentration limits (ACL) and 2) natural flushing with institutional controls.

No remediation is the recommended compliance strategy for 14 of the constituents that are potential candidates for the ACLs list of constituents. Application of ACLs is appropriate for these 14 constituents because they are essential nutrients and the concentrations at which they occur in the ground water are within nutritional ranges and/or because they have very low toxicity and relatively high dietary intake ranges in comparison to the levels detected in the ground water.

Natural flushing is the second recommended compliance strategy and is proposed for the remaining 10 constituents that are not ACL candidates. The hydrogeologic and geochemical data collected from the Riverton site and preliminary ground water and geochemical modeling indicate that natural ground water movement and geochemical processes will decrease the contaminant concentrations to background levels, maximum concentration limits (MCL), or ACLs within 100 years. During that period of time, effective monitoring and institutional controls will need to be maintained to prevent domestic use of ground water in the affected aquifer.

1.2 RELATIONSHIP TO OTHER PROGRAMMATIC DOCUMENTS

Programmatic documents that provide guidance for this SOWP include the U.S. Department of Energy (DOE) *UMTRA Groundwater Project Plan* (GWPP) (DOE, 1992), *Programmatic Environmental Impact Statement for the Uranium Mill Tailings Remedial Action Ground Water Project* (PEIS) (DOE, 1994a), and the *Technical Approach to Ground Water Restoration* (TAGR) (DOE, 1993a). The GWPP states the mission need and objectives for the UMTRA Ground Water Compliance Program and provides an overall technical and management approach for conducting the program. The PEIS provides an objective programmatic decision-making framework for conducting the UMTRA Ground Water Project, assesses the potential programmatic impacts of conducting the project, provides a method for determining the site-specific ground water compliance strategies, and provides data and information that can be used to prepare site-specific National Environmental Policy Act (NEPA) of 1969 (42 USC §4321 *et seq.*) more efficiently. The TAGR provides technical guidance for conducting the ground water program.

Preliminary results from the baseline risk assessment (BLRA), including the identified constituents of potential concern, were used in this SOWP to evaluate hazards resulting from milling-related constituents in ground water at the site (DOE, 1994b).

The environmental impacts from the recommended ground water action presented in this SOWP will be assessed in a site-specific environmental assessment (EA) prepared by the DOE that will meet the requirements of the NEPA. The site-specific EA will be based on the framework in the approved PEIS. A record of decision on the PEIS framework is anticipated in 1995. The preferred alternative from the PEIS for conducting the UMTRA Ground Water Project will be published as a record of decision in the Federal Register.

1.3 CONTENT OF SOWP REVISIONS

This SOWP, Revision 0 presents a summary of existing data, describes the conceptual model, proposes a compliance strategy based on this information, and identifies data needed to further support the selected strategy. Upon approval of this SOWP, a 1-year field program will be initiated to satisfy the data needs. A program will also be devised to evaluate and calibrate the rate of natural flushing and assess the effectiveness of institutional controls.

The results of these activities will be discussed in the annual water sampling and analysis plans and the annual site environmental report. The final SOWP will be prepared to present the comprehensive results of data gathering and pilot testing, and provide the final plan for compliance with general design parameters. The final revision will be prepared after review by affected stakeholders and comment resolution.

It is the intent of the DOE to provide copies of the SOWPs to the U.S. Nuclear Regulatory Commission (NRC) and to the potentially affected public, states, or Indian tribes for comment. Public meetings will also be conducted during the SOWP process to ensure close coordination and consultation with the potentially affected stakeholders. These interactions should result in an expedited and more informative decision-making process for the Riverton site.

2.0 REGULATORY FRAMEWORK

This section identifies the requirements for recommending a ground water compliance strategy for the Riverton site to achieve compliance with Subpart B of the EPA "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings" (40 CFR Part 192 (1994)), the EPA proposed 1987 standards (52 FR 36000), and the 1994 draft final rule (EPA, 1994).

2.1 URANIUM MILL TAILINGS RADIATION CONTROL ACT

The U.S. Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA) (42 USC §7901 *et seq.*) in 1978 in response to public concerns about the potential health hazards from exposure to uranium mill tailings over long periods of time. The UMTRCA authorized the DOE to stabilize, dispose of, and control uranium mill tailings and other contaminated materials at uranium mill processing sites.

The UMTRCA has three titles that apply to uranium processing sites. Title I of the Act designates 24 inactive processing sites that will undergo remediation; directs the EPA to promulgate standards; mandates remedial action in accordance with standards prescribed by the EPA; directs the NRC, states, and Indian tribes to concur in the remedial actions; directs the NRC to license the disposal sites for long-term care; and directs the DOE to enter into cooperative agreements with the affected states and Indian tribes. Title II applies to active uranium mills, and Title III applies to certain uranium mills in New Mexico. The UMTRA Project has responsibility for administering only Title I of the UMTRCA.

In 1988, Congress passed the Uranium Mill Tailings Remedial Action Amendments Act (Amendments Act; 42 USC §7923 *et seq.*), authorizing the DOE to extend without limitation the time needed to complete ground water remediation activities at the processing sites. Section 108 of the UMTRCA requires that the DOE comply with the proposed EPA standards in the absence of final standards.

2.1.1 EPA ground water compliance standards

The UMTRCA requires that the EPA promulgate standards for protecting human health and the environment from hazardous constituents associated with the processing of uranium and the resulting residual radioactive materials (RRM).

On January 5, 1983, the EPA published standards (40 CFR Part 192 (1994)) for the disposal and cleanup of RRMs. On September 3, 1985, the Tenth Circuit Court of Appeals set aside the ground water provisions of 40 CFR §192.20(a)(2)(3) (1994) and remanded them to the EPA. The EPA proposed new standards to replace the remanded sections in the Federal Register on September 24, 1987 (52 FR 36000).

The proposed standards address two ground water contamination scenarios. The first addresses future ground water contamination that may occur from tailings piles after disposal, and the second addresses the cleanup of contamination that occurred at the processing sites before disposal of the tailings piles (52 FR 36000 (1987)). Protection of the ground water at the disposal sites is being addressed in the UMTRA Surface Project. The UMTRA Ground Water Project addresses the contamination that occurred at the processing sites and is regulated by Subparts B and C of the proposed standards.

Subpart B, "Standards for Cleanup of Land and Buildings Contaminated with Residual Radioactive Materials from Inactive Uranium Processing Sites" (52 FR 36000 (1987)), requires that remedial action at processing sites be conducted to ensure that the amounts of RRMs in ground water meet any one of the three criteria:

- Background levels — concentrations of constituents in nearby ground water that was not affected by processing activities.

- Maximum concentration limits — the EPA's maximum limits for concentration of certain hazardous constituents in ground water, as proposed for the UMTRA Project. The MCLs for inorganic constituents that apply to the UMTRA Project sites are given in Table 2.1.

- Alternate concentration limits — an alternate limit for a hazardous constituent that does not pose a substantial present or potential hazard to human health or the environment, as long as the limit is not exceeded.

Under certain specific conditions, the DOE may apply supplemental standards in lieu of background levels, MCLs, or ACLs (52 FR 36000 (1987)). Subpart B of the proposed standards defines "limited-use" ground water as ground water that is not a current or potential source of drinking water because the concentration of total dissolved solids (TDS) is in excess of 10,000 milligrams per liter (mg/L); or because widespread, ambient contamination not due to activities involving RRMs from a designated processing site exists that cannot be cleaned up using treatment methods reasonably employed in public water supply systems; or because the quantity of water available is less than 150 gallons (gal) (570 liters [L]) per day (40 CFR §192.11(e) (1994); 52 FR 36000 (1987)).

When supplemental standards apply, implementing agencies shall apply any remedial actions for the restoration of contaminated ground water by RRMs that is required to assure, at a minimum, protection of human health and the environment. In addition, when limited-use ground water applies, supplemental standards shall ensure that current and reasonably projected uses of the affected ground water are preserved (EPA, 1994).

Table 2.1 Maximum concentrations of inorganic constituents for ground water protection at UMTRA Project sites[a]

Constituent	Maximum concentration[b]
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Molybdenum	0.1
Nitrate (as N)	10.0[c]
Selenium	0.01
Silver	0.05
Combined radium-226 and radium-228	5 pCi/L
Combined uranium-234 and uranium-238	30 pCi/L[d]
Gross alpha-particle activity (excluding radon and uranium)	15 pCi/L

[a]40 CFR §264.94 (1994), 52 FR 36007 (1987).
[b]Miligrams per liter (mg/L) unless otherwise noted.
[c]Equivalent to 44 mg/L nitrate as nitrate.
[d]Equivalent to 0.044 mg/L.

pCi/L - picocuries per liter.

Subpart B also provides for selecting natural flushing as a means to meet the proposed standards. Natural flushing means allowing natural ground water processes to reduce the contamination in ground water to the standards (background levels, MCLs, or ACLs). Natural flushing must allow standards to be met within 100 years. In addition, ground water must not be currently, or projected to become, a source of drinking water during the period of natural flushing (40 CFR §192.12(c)(4) (1994); 52 FR 36000 (1987)). Institutional controls (measures that restrict access to contamination, protect human health, and satisfy beneficial uses of ground water) must be established and maintained during the period of natural flushing.

Subpart C, "Implementation," provides guidance for implementing methods and procedures to provide reasonable assurance that the provisions of Subpart B are satisfied. Subpart C requires that the conditions of Subpart B should be met on a site-specific basis using information gathered from site characterization and monitoring. Subpart C also requires the plan to meet the conditions of Subpart B, which should be stated in the compliance strategy plan or remedial action plan (RAP) that contains the proposed compliance strategy, a demonstration of effectiveness, and a monitoring program.

2.1.2 Cooperative agreements

The UMTRCA requires that remedial action be accomplished with the full participation of the affected states (Section 103, State Cooperative Agreements) and Indian tribes (Section 105, Indian Tribe Cooperative Agreements) on whose lands the uranium mill tailings are located. The UMTRCA also directed the DOE to enter into cooperative agreements with the states and Indian tribes. A cooperative agreement for the Surface Project with the state of Wyoming was executed December 23, 1983 (Cooperative Agreement Number DE-FC04-83AL19454, as amended) (DOE, 1983). Indian tribal land was not involved in the UMTRA Surface Project.

2.2 NATIONAL ENVIRONMENTAL POLICY ACT

Implementation of the UMTRCA represents a major federal action subject to the requirements of NEPA of 1969 (42 USC §4321 *et seq.*). The Council on Environmental Quality's regulations that implement the NEPA are codified in 40 CFR §§1500-1508 (1994). The regulations require that each federal agency develop its own implementing procedures (40 CFR §1507.3 (1994)). The DOE NEPA regulations are contained in "National Environmental Policy Act Implementing Procedures" (10 CFR Part 1021 (1994)). DOE guidance is provided in *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements* (DOE, 1993b).

Pursuant to the NEPA, the DOE drafted a PEIS in 1994 for the UMTRA Ground Water Project to analyze the potential impacts of implementing four programmatic alternatives for conducting ground water compliance at the UMTRA Project processing sites. The preferred alternative will be selected by

the DOE, following a public participation effort, and published in a record of decision. All subsequent actions on the UMTRA Ground Water Project must comply with this record of decision.

The environmental impacts from implementing the proposed compliance strategies presented in the final Riverton SOWP will be addressed in an EA that will meet the requirements of the NEPA and tier off applicable issues discussed in the PEIS.

3.0 CONCEPTUAL SITE MODEL

This section presents the conceptual site model and describes the history of the former milling operations and surface remediation, the surrounding land uses, the physiographic and hydrogeologic settings and the ground water quality and geochemical properties of the aquifer as they control the fate and transport of the contaminants, and the risks associated with the contaminants. A summary of the site conceptual model is presented below. The details are presented in subsequent subsections.

3.1 SUMMARY OF SITE CONCEPTUAL MODEL

The former Riverton uranium processing site encompasses about 190 acres (ac) (76.9 hectares [ha]) on a level, alluvial terrace between the Wind River and the Little Wind River, approximately 2.3 miles (mi) (3.7 kilometers [km]) southwest of Riverton, Wyoming (Figures 3.1 and 3.2). The uranium mill at the Riverton site operated from 1958 until mid-1963. The storage of uranium ore and seepage from the tailings pile following the sulfuric acid and alkaline leaching processes resulted in the contamination of the ground water with arsenic, lead-210, manganese, molybdenum, nickel, polonium-210, sulfate, thorium-230, uranium, and vanadium. The tailings pile and associated contaminated soils were removed in 1988 and 1989.

Ground water occurs in an unconfined surficial aquifer, an underlying semiconfined sandstone aquifer, and a deeper confined sandstone aquifer. These aquifers are recharged primarily by inflow from the Wind River to the northwest. The ground water in the surficial aquifer is the most contaminated, and some contamination exists in the semiconfined aquifer. No contamination has been detected in the deep confined aquifer. Potable water in the Riverton area is withdrawn from the Wind River and from the confined sandstone aquifer. Ground water from the surficial and semiconfined aquifers appears to discharge into the Little Wind River. Figure 3.3 is a representation of the site conceptual model.

Ground water analyses indicate that the contaminated ground water extends from the former tailings pile area all the way to the Little Wind River, approximately 4200 feet (ft) (1500 meters [m]) southeast of the northwestern corner of the former tailings pile. Data on water quality and flow in the Little Wind river suggest that the river will dilute the discharging ground water to below concentrations that present risks to wildlife or the environment. The contaminated ground water plume does not appear to extend beyond the river.

Data collected between 1987 and 1994 suggest that the natural ground water flow, probably enhanced by infiltration from irrigation canals along the upgradient side of the former mill site, is flushing contaminants out of the affected aquifers into the Little Wind River. Based on ground water modeling, the mass of contaminated ground water should be flushed to the river in 100 years. It is anticipated that geochemical reactions as well as dilution and

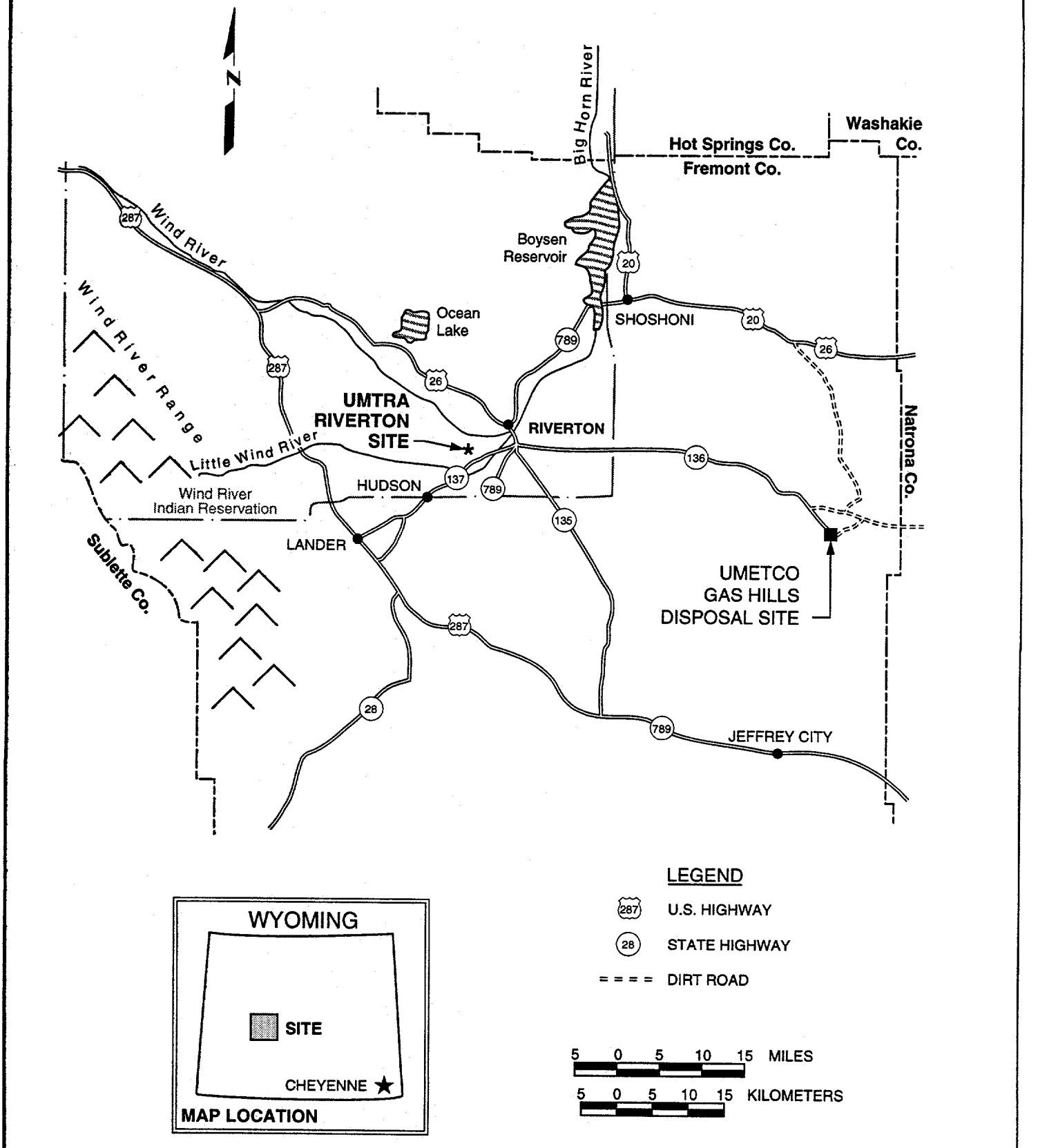
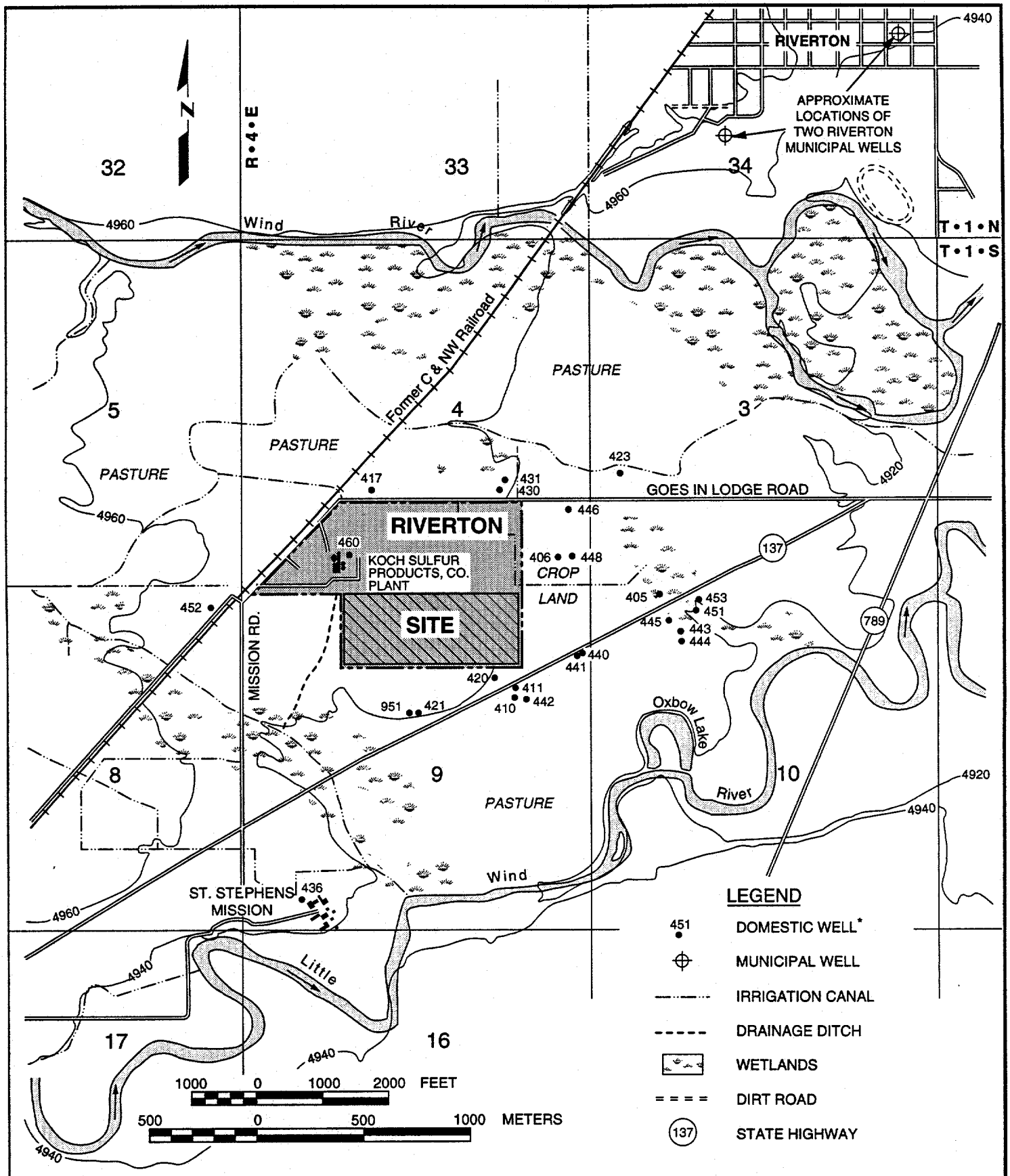


FIGURE 3.1
RIVERTON SITE LOCATION MAP
RIVERTON, WYOMING



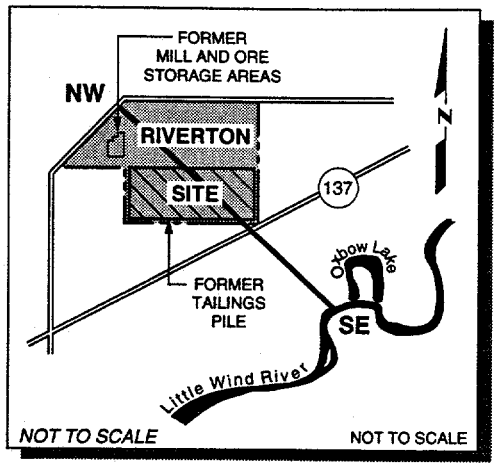
MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES

* SEE TABLE 3.1 FOR WELL DETAILS AND SAMPLING DATES.

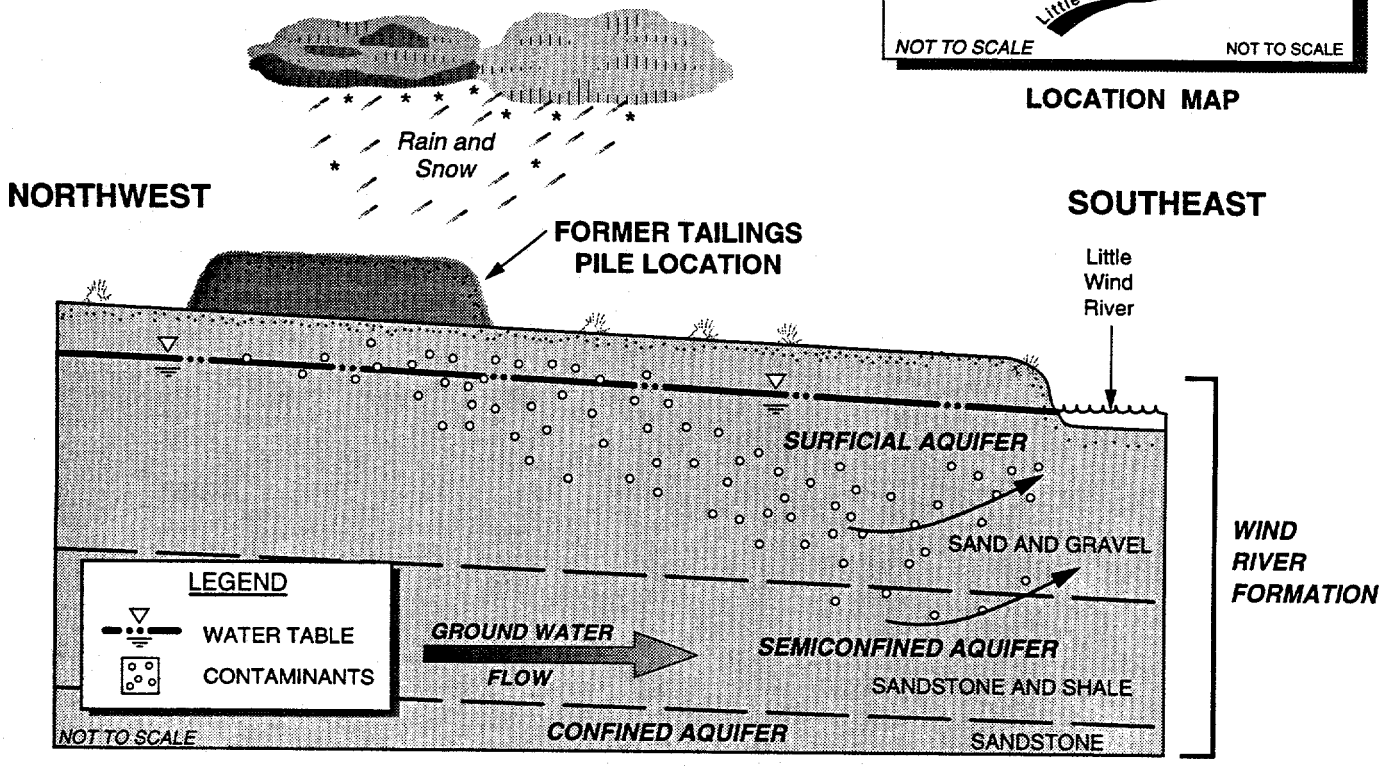
FIGURE 3.2
LAND USE AND WATER WELL LOCATION MAP
RIVERTON, WYOMING, SITE

ON THE SURFACE:

- Approximately 1.5 million cubic yards of contaminated materials were taken to a disposal site in Gas Hills located 55 miles *east-southeast* of Riverton. Surface remedial action was completed in 1989.
- The primary source of domestic water in the Riverton area is from an area of the Wind River Formation that is not contaminated.



LOCATION MAP



RIVERTON SITE CROSS SECTION

BELOW THE SURFACE:

- Ground water occurs in the shallow sand, gravel, and in the deeper rock of the Wind River Formation under the site. The surficial aquifer is contaminated.
- The underlying sandstone and shale semiconfined aquifer is contaminated to a limited extent.
- Ground water discharges into the Little Wind River.
- The deep confined sandstone aquifer is not contaminated

FIGURE 3.3
DIAGRAM OF THE CONCEPTUAL SITE MODEL
RIVERTON, WYOMING, SITE

dispersion are also effective in reducing the concentrations beneath and downgradient of the site. Institutional controls implemented to prevent use of the contaminated ground water during the remediation period will avoid risks to human health.

3.2 SITE HISTORY

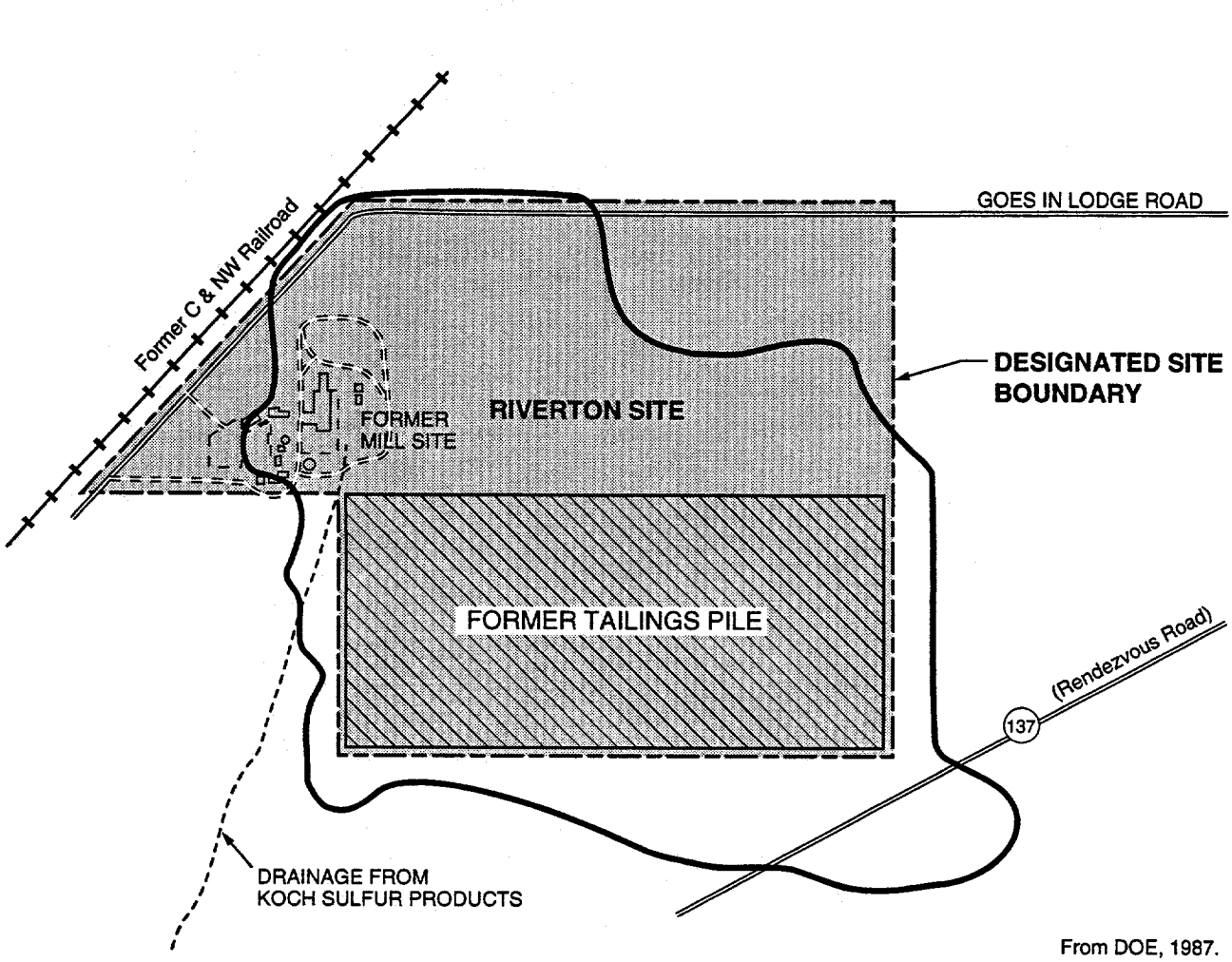
The surficial and semiconfined ground water aquifers underlying the Riverton site became contaminated as a result of the former uranium milling processes and disposal practices. The BLRA identified the following contaminants of concern: arsenic, lead-210, manganese, molybdenum, nickel, polonium-210, sulfate, thorium-230, uranium, and vanadium. This section discusses the activities at the site resulting in the ground water degradation and the steps taken to remove the surface source of contamination. It also describes the activities in the vicinity of the site and uses of the ground water.

The Riverton site, including the former mill site and tailings pile area, is located approximately 2.3 mi (3.7 km) southwest of the center of Riverton on the north side of Highway 137 (Rendezvous Road) in Fremont County, Wyoming (Figure 3.1). The site is on private land within the boundaries of the Wind River Indian Reservation (Northern Arapaho and Shoshone Indian tribes). It is located in Township 1 South, Range 4 East, Sections 4 and 9 (Figure 3.2).

The mill at the Riverton tailings site was constructed in 1958 and was operated initially by Fremont Minerals, Inc., and Susquehanna Western, Inc., to treat a variety of uranium ores extracted from the surrounding area. A sulfuric acid plant that used sulfur made from sour gas was also part of the mill facilities. The uranium mill was closed in mid-1963. The sulfuric acid plant is still being operated by Koch Sulfur Products.

The mill operations included both sulfuric acid and alkaline leach circuits to provide flexibility for the many types of uranium ore received. Clarified solutions from the acid leaching process were fed to a solvent extraction circuit using an amine-decanol-kerosene extractant. The extractant was subsequently stripped with caustic soda to precipitate the uranium. Consequently sulfate, uranium, and trace elements (such as molybdenum) should be present in ground water beneath the tailings. During its 5 years of operation, approximately 900,000 tons (800,000 tonnes) of ore were processed at the mill. The waste solids from the milling of the uranium ores were transferred to a tailings pile located adjacent to and southeast of the mill (Figure 3.4).

The rectangular tailings pile covered about 70 ac (30 ha) and contained approximately 1 million cubic yards (yd^3) (800,000 cubic meters [m^3]) of tailings. An additional 70 ac (30 ac) of the land surface to the north of the tailings pile were also contaminated from ore storage. Dispersion of the tailings by wind resulted in soil contamination on about 50 additional ac (20 ha) outside the site boundaries, especially to the southeast (Figure 3.4).



From DOE, 1987.

LEGEND

- EXTENT OF 5 pCi/g LIMIT IN THE 0 to 6-INCH LAYER
- = = = = DIRT ROAD
- - - - - DRAINAGE DITCH
- (137) STATE HIGHWAY

500 0 500 1000 1500 FEET

250 0 250 500 METERS

FIGURE 3.4
EXTENT OF SURFACE CONTAMINATION
RIVERTON, WYOMING, SITE

Between 1988 and 1990, the uranium mill was demolished and the tailings pile and contaminated soils were removed from the site and surrounding area. The soils were excavated until the radium concentrations were less than 5.0 picocuries per gram (pCi/g) in the first 6 inches (15 centimeters [cm]) in accordance with UMTRA guidelines (DOE, 1989; 40 CFR §192.12 (1994)) (Figure 3.4). Approximately 1.8 million yd^3 (1.4 million m^3) of contaminated material were removed from the site and disposed at Umetco's Gas Hill Disposal Site (Figure 3.1). The excavation was backfilled with clean fill. The finished land surface was graded to form a crown and planted with rye grass. Surface remediation was completed in November 1989.

3.3 SURROUNDING LAND AND WATER USES

3.3.1 Land uses

The current predominant land use in the vicinity of the site is agricultural. Much of the area is used as pasture for cattle and horses. Hay is the primary crop in the area, while some of the residences have vegetable gardens.

3.3.2 Water uses

The city of Riverton is located approximately 2 mi (3 km) northeast of the former milling site. The city draws water from one of the irrigation canals fed by the Wind River during the summer growing season (May through September). It pumps water from wells during the rest of the year. There are a total of 12 active city wells located between 1.5 and 9 mi (2 and 15 km) from the site. Only two of these wells are within 2 mi (3.2 km) of the site (Figure 3.2). The Riverton municipal wells are completed in the confined aquifers of the Wind River Formation and are commonly 400 to 900 ft (120 to 270 m) deep (Anderson and Kelly, 1976). The city has total water rights from the wells of 4.5 million gal (17 million L) per day. In 1993, the city pumped a total of approximately 3.3 million gal (12.5 million L) per day from the municipal well field from January to April and from November to December (Saban, 1994).

Water used for livestock and domestic purposes in the vicinity of the site is withdrawn from drilled wells. The locations of known residential wells are shown on Figure 3.2. Information on the wells, including total depths, casing depths, supply aquifers, and the uses of the water, is presented on Table 3.1. All the wells used for potable water are at least 100 ft (60 m) deep and are completed in the confined sandstone aquifer.

St. Stephen's Mission is located south of Highway 137, approximately 3200 ft (975 m) southeast of the site (Figure 3.2). St. Stephen's has a well (436) completed in the confined sandstone aquifer that is used for potable and domestic water. A shallow alluvial well that refills with water from an irrigation canal is used for watering the recreational fields (Brown, 1994).

Table 3.1 Domestic wells, details, and sampling dates, Riverton, Wyoming, site

Domestic wells[a] TAC ID #	Date(s) sampled	Total/casing depth (ft)	Aquifer	Water use[b]
405	1981, 1983, 1984(2X), 1985, 1990, 1991(3X), 1992(2X), 1993	274/?	Confined sandstone bedrock	Potable
406	1981, 1990, 1991(3X), 1992(2X), 1993	350/?	Confined sandstone bedrock	Potable
410	1982, 1983, 1984(3X), 1990(2X), 1992(2X), 1993	100/?	Confined sandstone bedrock	Domestic
411	1985, 1988, 1990, 1991(3X), 1992(2X), 1993	270/261	Confined sandstone bedrock	Domestic
417	1981, 1990, 1991, 1992, 1993	400/350	Confined sandstone bedrock	Potable?
420	1981, 1983, 1984(3X), 1985, 1990(2X), 1991(3X), 1992(2X)	273/228	Confined sandstone bedrock	Potable
421	1981, 1985	200/?	Confined sandstone bedrock	Potable
423	1984, 1985, 1988, 1990, 1991(3X), 1992(2X), 1993	290/?	Confined sandstone bedrock	Potable
430	1981, 1983, 1984(2X), 1985, 1990, 1991(2X), 1992(2X), 1993	284/320	Confined sandstone bedrock	Potable
431	1984, 1985, 1992, 1993	Approximately 15/? (installed with backhoe)	Surficial	Stock
436	1982, 1991(3X), 1892(2X), 1993	525/?	Confined sandstone bedrock	Potable
440	1984, 1985(2X), 1988, 1990(2X),	267/?	Confined sandstone bedrock	Potable?
441	1985	100/?	Confined sandstone bedrock	N/A
442	1994	405/?	Confined sandstone bedrock	Domestic
443	1994	397/356.5	Confined sandstone bedrock	Potable

Table 3.1 Domestic wells, details, and sampling dates, Riverton, Wyoming, site (Concluded)

Domestic wells[a] TAC ID #	Date(s) sampled	Total/casing depth (ft)	Aquifer	Water use[b]
444	1994	375/365	Confined sandstone bedrock	Domestic
445	1994	35/?	Surficial	Stock
446	1994	410/370	Confined sandstone bedrock	Potable
448	1985	405/?	Confined sandstone bedrock	Potable
451	1994	360/338	Confined sandstone bedrock	Potable
452	1994	?/?	?	Potable
453	1994	?/?	?	Potable
460	1993	450/?	Confined sandstone bedrock	Process
951	1988, 1992(2X)	273/246	?	Potable?

[a]See Figure 3.2 for well locations.

[b]Water uses:
- Potable = Drinking and other uses.
- Domestic = Bathing, washing dishes and other uses, but not drinking.
- Stock = Watering livestock, irrigation, but not drinking or domestic.
- Irrigate = Crop irrigation but no drinking or domestic.
- ? = Information needs to be collected or confirmed. Where water use is not certain, suggest potable to be conservative.
- Process = Industrial use.

Water use from interviews with resident or inferred from well characteristics.

The Koch Sulfur Products Company plant is located near the northwest corner of the Riverton site. This facility previously made acid for the uranium process mill and is still in production. This facility uses the same water supply well that supplied the former uranium mill. This well is reportedly 345 ft (105 m) deep and produces an average of 110 gal (416 L) per minute (Slack, 1994). Approximately 70 gal (265 L) per minute of used process water from this facility flows into a retention pond south of the plant and then into an unlined drainage ditch that runs to the south under Highway 137 and into the Little Wind River (Figure 3.2). The remainder of the process water is recycled.

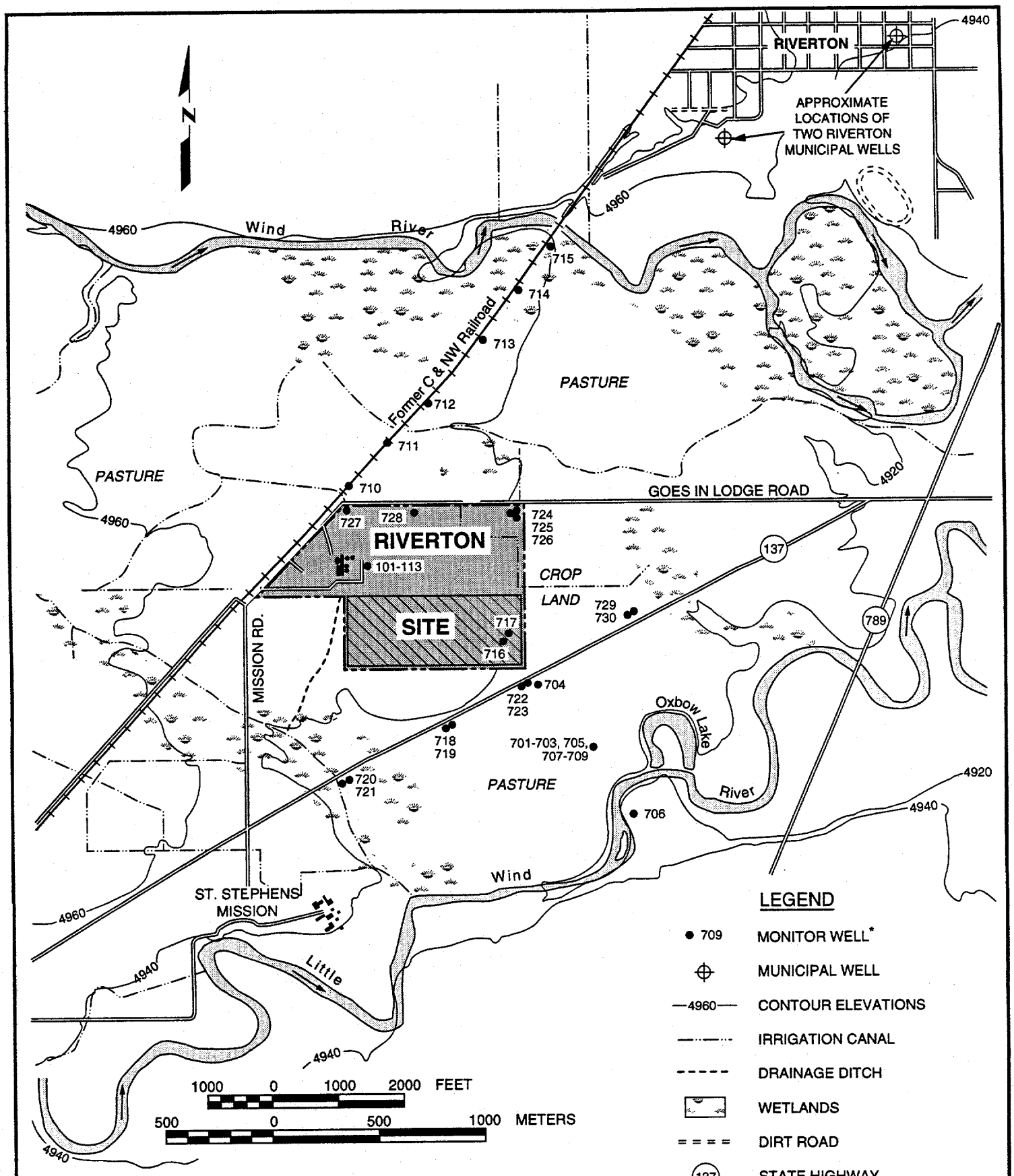
3.4 SOURCES OF EXISTING DATA

Ground water quality sampling has been performed at the Riverton site since the mid-1970s (FBD, 1983; FBDU, 1981; GECR, 1983; LBL, 1984; DOE, 1987). The Water Sampling and Analysis Plan (WSAP) (DOE, 1994c) summarizes much of the data. During 1993 and 1994, DOE conducted a BLRA to evaluate the potential impacts to human health and the environment (DOE, 1994b). The Technical Evaluation Report (TER) prepared by the NRC (NRC, 1989) to summarize or present was also reviewed. As stated in the TER, the NRC requires that DOE assess the need for further remedial action to bring the ground water into compliance with EPA standards for Title I sites "in a timely manner."

Most monitor wells installed during the pre-1990 investigations were decommissioned during the surface remedial actions at the site. There are 26 monitor wells presently available for sampling. These are identified on Figure 3.5 as monitor wells 100 through 113 near the former mill site; monitor wells 701 through 703, 705, and 707 through 709 near the Little Wind River; monitor well 706 on the south side of the river; monitor wells 710 through 715 along the former Chicago & Northwestern (C & NW) railroad right-of-way northwest of the site; and monitor wells 716 through 730 within and downgradient of the site. Monitor well 704, south of Highway 137, is no longer available for sampling because of a dispute with the landowner.

Selected monitor wells from each of these groups have been sampled during the last several years and will continue to be sampled in the future to monitor changes in ground water quality and water levels. Construction details for these wells are presented on Table 3.2. Data on the decommissioned wells are given in DOE, 1987.

Surface water and sediment samples were collected during previous investigations at the locations shown on Figure 3.6. A qualitative ecological survey that included visual observations of plants and wildlife was also conducted in the vicinity of the site. No plant or animal tissue samples were collected or analyzed during this survey.



MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

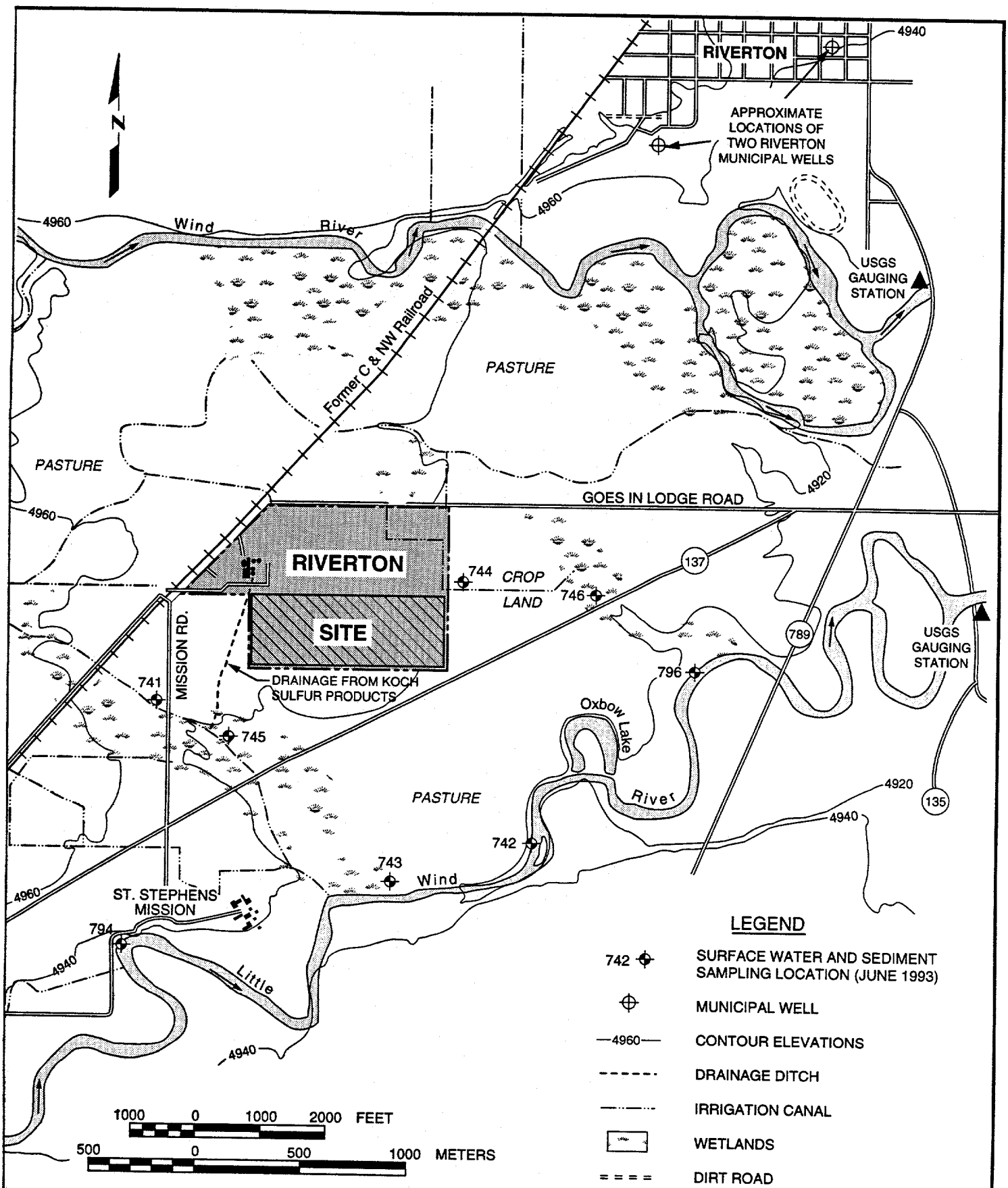
FIGURE 3.5
MONITOR WELL LOCATIONS
RIVERTON, WYOMING, SITE

Table 3.2 Monitor well information, Riverton, Wyoming, site

ID #	Ground Elev.	Bore Depth	Bore Dia.	Casing Elev.	Casing Dia.	Screened Interval	Filter Pack	Aquifer
100	4946.1	17.0	11.0	4646.21	6.0	6.0 -14.0	4.0 - 17.0	Surficial
101	4946.2	17.5	6.0	4946.58	2.0	10.5 - 15.5	5.5 - 17.5	Surficial
102	4946.3	17.5	6.3	4946.30	2.0	10.0 - 15.0	6.5 - 17.0	Surficial
103	4946.0	17.0	6.3	4946.43	2.0	10.0 - 15.0	6.5 - 17.0	Surficial
104	4945.3	15.5	6.3	4945.90	2.0	8.5 - 13.5	6.5 - 15.5	Surficial
105	4946.3	17.5	6.3	4946.79	2.0	10.5 - 15.5	6.0 - 17.5	Surficial
106	4946.2	100.0	6.0	4945.88	2.0	49.5 - 54.5	35.0 - 56.5	Semiconfined
107	4946.0	67.0	6.0	4945.98	2.0	49.5 54.5	36.5 - 56.5	Semiconfined
108	4946.2	56.0	6.0	4946.02	2.0	48.5 - 53.5	35.5 - 56.5	Semiconfined
109	4945.8	58.0	6.0	4946.08	2.0	49.0 - 54.0	40.0 - 56.0	Semiconfined
110	4946.2	72.0	6.0	4946.44	2.0	61.3 - 66.5	59.0 - 72.0	Confined
111	4946.1	56.0	9.8	4946.87	6.0	39.0 54.0	36.0 56.0	Semiconfined
112	4946.2	32.0	10.0	4947.27	6.0	8.5 - 28.5	5.0 - 32.0	Surficial
113	4946.2	34.0	6.0	4946.40	2.0	21.0 - 26.0	5.0 - 34.0	Surficial
701	4930.2	228.0	6.0	4930.80	2.0	25.4 - 30.4	23.0 - 31.0	Semiconfined
702	4930.2	215.0	6.0	4931.00	2.0	39.2 - 44.2	35.5 - 45.5	Semiconfined
703	4930.2	214.0	6.0	4930.70	2.0	93.0 - 98.0	87.0 - 98.0	Confined
705	4930.1	50.0	10.0	4930.80	6.0	38.0 - 48.0	35.5 - 50.0	Semiconfined
706	4931.1	21.5	6.0	4932.00	2.0	14.5 - 19.5	12.8 - 21.5	Surficial
707	4930.4	18.0	6.0	4931.00	2.0	9.8 - 14.8	7.5 - 16.8	Surficial
709	4930.2	111.0	10.0	4930.70	6.0	85.0 - 105.0	84.0 - 111.0	Confined
710	4947.2	20.0	6.0	4947.90	2.0	11.2 - 16.2	8.0 - 20.0	Surficial
711	4943.5	21.5	6.0	4944.50	2.0	10.8 - 15.8	6.0 - 21.5	Surficial
712	4943.5	19.5	6.0	4944.50	2.0	10.6 - 15.6	10.0 - 19.5	Surficial
713	4941.6	16.5	6.0	4942.70	2.0	9.5 - 14.5	4.5 - 16.5	Surficial
714	4941.2	18.0	6.0	4942.10	2.0	11.0 - 16.0	10.0 - 18.0	Surficial
715	4938.5	18.5	6.0	4939.40	2.0	11.5 - 16.5	6.8 - 18.5	Surficial
716	4936.4	12.5	6.0	4939.12	2.0	7.5 - 12.5	5.5 - 12.5	Surficial

Table 3.2 Monitor well information, Riverton, Wyoming, site (Concluded)

ID #	Ground Elev.	Bore Depth	Bore Dia.	Casing Elev.	Casing Dia.	Screened Interval	Filter Pack	Aquifer
717	4936.4	50.0	6.0	4938.80	2.0	37.5 - 47.5	29.0 - 49.5	Semiconfined
718	4937.0	18.0	6.0	4937.18	2.0	13.0 - 18.0	10.0 - 18.0	Surficial
719	4936.8	40.0	6.0	4936.94	2.0	28.0 - 38.0	23.0 - 40.0	Semiconfined
720	4937.9	10.5	6.0	4940.46	2.0	5.5 - 10.5	3.5 - 10.5	Surficial
721	4937.9	49.0	6.0	4940.47	2.0	37.0 - 47.0	27.0 - 49.0	Semiconfined
722	4935.2	18.0	6.0	4935.35	2.0	6.0 - 16.0	4.0 - 18.0	Surficial
723	4935.0	49.0	6.0	4935.26	2.0	35.5 - 45.5	31.0 - 47.5	Semiconfined
724	4939.4	16.0	6.0	4941.36	2.0	11.0 - 16.0	6.0 - 16.0	Surficial
725	4939.4	38.0	6.0	4941.36	2.0	24.5 - 34.5	19.5 - 36.5	Semiconfined
726	4939.5	133.0	6.0	4942.00	2.0	121.0 - 131	80.0 - 133.0	Confined
727	4949.5	40.0	6.0	4951.69	2.0	27.0 - 37.0	21.5 - 39.0	Semiconfined
728	4943.9	24.0	6.0	4946.01	2.0	12.0 - 22.0	9.0 - 24.0	Surficial
729	4932.1	17.0	6.0	4932.07	2.0	9.0 - 14.0	8.0 - 14.0	Surficial
730	4932.5	40.0	6.0	4932.48	2.0	28.0 - 38.0	21.0 - 40.0	Semiconfined



MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

FIGURE 3.6
1993 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS
RIVERTON, WYOMING, SITE

MAC: SITE/RVT/SOWP/BASE1-SURF&SAMPLOCS

3.5 PHYSIOGRAPHIC SETTING

The former Riverton uranium mill tailings site is located on a nearly level alluvial terrace between the Wind River (approximately 4000 ft [1000 m] to the north) site and the Little Wind River (approximately 3000 ft [900 m] to the southeast) (Figure 3.2). These two rivers join approximately 2.5 mi (4.0 km) east of the site. The land surface elevation at the site averages approximately 4950 ft (1510 m) above mean sea level (MSL) and slopes at less than 0.5 percent to the southeast.

The climate in the Riverton area is semiarid to arid (DOE, 1987) and is influenced both by cold air masses from Canada and by the prevailing, warm westerly winds. The highest and lowest temperatures recorded in Riverton from 1951 to 1980 were 104 degrees Fahrenheit (°F) (40 degrees Celsius [°C]) and -46°F (-43°C), and an average of 207 days per year have minimum temperatures less than or equal to 32°F (0°C), and an average of 37 days per year have maximum temperatures of 90°F (32°C) or greater. The average annual precipitation during the 30-year period from 1951 to 1980 was 8 inches (20 cm). The greatest amount of precipitation and ground water infiltration occurs in April, May, and June in the form of late spring snows, snow melt, and showers.

A man-made, unlined drainage channel carries discharge water from the sulfur processing plant on the western side of the site. This channel joins the regional irrigation canal system and natural wetlands areas before the canal passes under Highway 137 where the system joins the Little Wind River approximately 3500 ft (1100 m) due south of the property. A second wetlands area is located to the east of the site. Drainage from this wetland passes under Highway 137 approximately 2500 ft (760 m) east of the southeast corner of the property. A former meander in the Little Wind River has been cut off, leaving an oxbow lake southeast of the site.

A system of irrigation canals are located along the northern and eastern sides of the property. These canals carry water from the Wind River to the northwest and discharge into the wetlands area east of the site. The irrigation system operates from June to October. The flow in the canal where it enters the site and where it exits the site was approximately 1 cubic foot (ft^3) (0.028 m^3) per second in June 1994.

3.6 HYDROGEOLOGIC SETTING

There are five hydrogeologic units of interest underlying the Riverton site. They are, in descending order, a surficial, unconfined alluvial and sandstone aquifer; a leaky shale aquitard; a semiconfined sandstone aquifer; a second, more impermeable shale aquitard; and a confined sandstone aquifer (Figure 3.7). The rock units comprise the upper units of the Eocene age Wind River Formation.

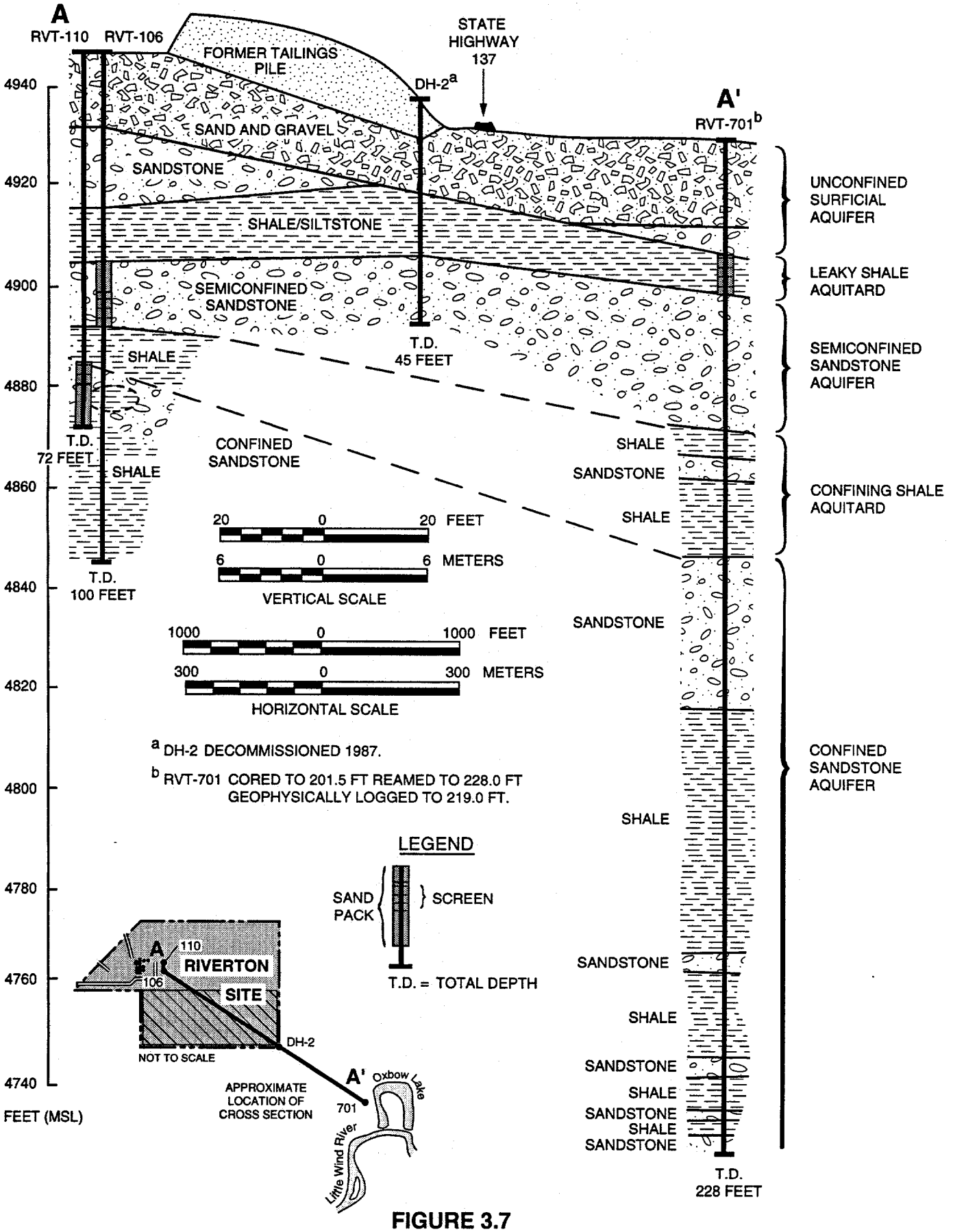


FIGURE 3.7
GEOLOGIC CROSS SECTION
RIVERTON, WYOMING, SITE

Analysis of deuterium and oxygen-18 isotopes in the ground water indicate that samples taken from all three aquifers in the vicinity of the site are isotopically similar (White et al., 1984). White postulates that from the slightly depleted ratios of deuterium and oxygen-18, the source of ground water for all three aquifers is the Wind River Mountains to the west. This suggests that there is a common source of recharge and communication between these three units upgradient from the site.

3.6.1 Surficial aquifer

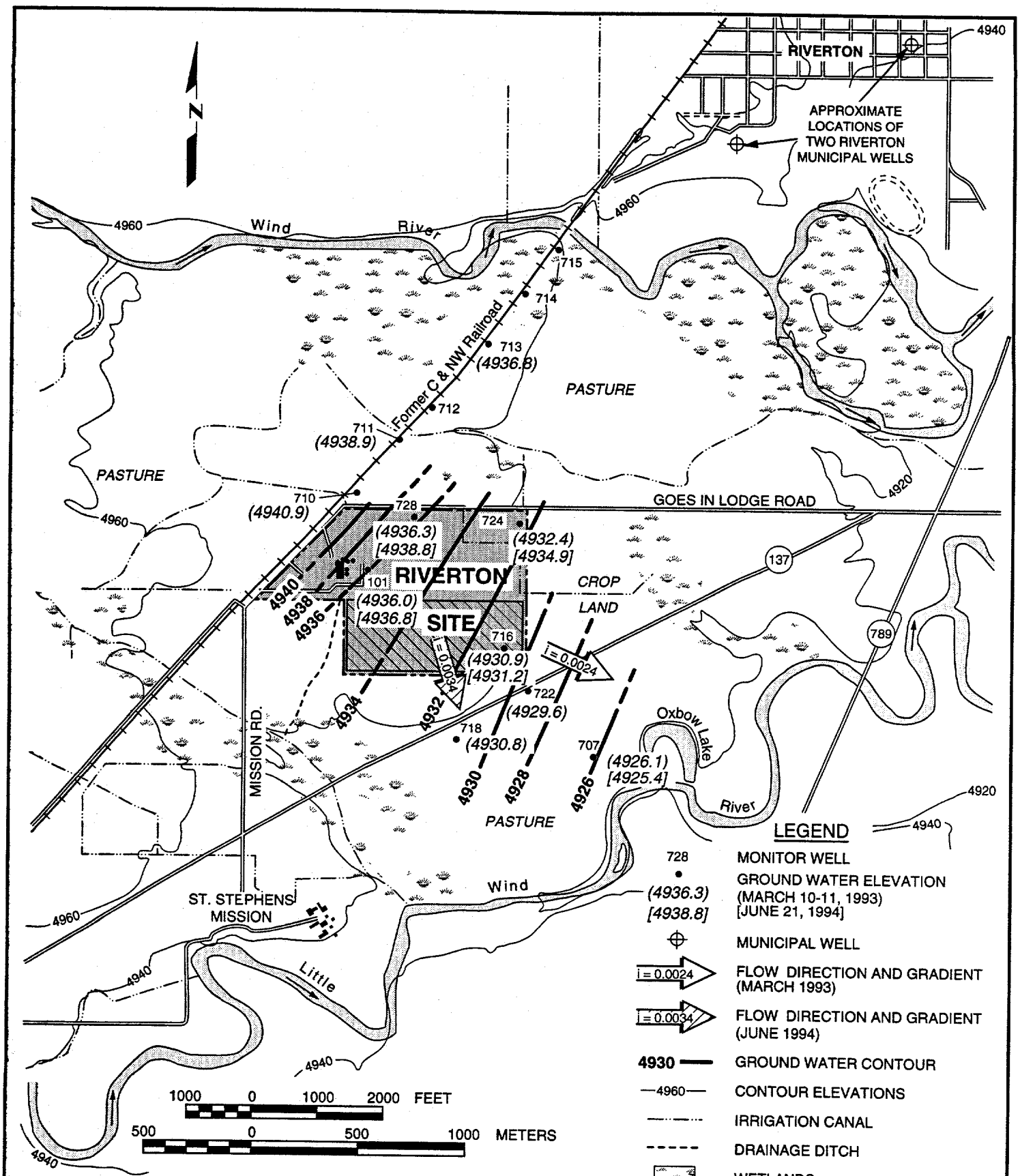
The surficial unconfined aquifer consists of 15 to 20 ft (5 to 6 m) of alluvial sand and gravel underlain by a discontinuous layer of sandstone. The sandstone layer exists both north and south of the former tailings pile, but pinches out and is absent for approximately 1500 ft (500 m) south of the southern edge of the pile. There is no aquitard between the alluvial sediments and this sandstone layer.

The water table in the surficial aquifer in March 1993 ranged from approximately 7.5 ft (2.3 m) below the ground surface (elevation 4936 ft [1504 m] MSL) at the middle of the northern edge of the property (monitor well 728) to about 5.5 ft (1.7 m) below ground surface (elevation 4930 ft [1503 m] MSL) near the southeast corner of the site (monitor well 716). The ground water flow was east-southeast with a gradient of approximately 0.0024, as shown in Figure 3.8.

In June 1994, the ground water level in both the surficial and semiconfined aquifers (monitor wells 728 and 727, respectively) at the northern edge of the site had risen 2 ft (0.6 m) above the March 1993 level (Table 3.2), while the water level in both aquifers near the middle and at the southeastern corner were about the same as in March 1993 (Figure 3.9). The ground water flow in June 1994 was almost due south and the gradient beneath the site increased by about 30 percent to 0.0034 (Figure 3.8). The rise in the water table is interpreted to be in response to infiltration from the nearby irrigation canal. A similar rise was seen in a well completed in the semiconfined aquifer at the northwest corner of the property, indicating hydraulic connection between the surficial and semiconfined aquifers in this area. Infiltration from the canals may also form hydraulic boundaries limiting the movement of ground water to the east during the irrigation season.

Ground water in the surficial aquifer discharges predominantly to the Little Wind River. When the irrigation canals are not in use, some of the ground water in the surficial aquifer may also discharge into the wetlands to the east. When the irrigation canals are in use, the water level in the wetlands may be high enough to reverse the flow direction and recharge the surficial aquifer.

A 24-hour, 5-gal (19-L) per minute aquifer pumping test was conducted in the surficial aquifer in monitor well RVT-112 near the northwest corner of the former tailings pile as part of the EA (DOE, 1987). Measurable drawdown was not observed in either the semiconfined or confined aquifers during the test. The



MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

NOTE: ELEVATIONS RELATIVE TO MEAN SEA LEVEL

FIGURE 3.8

GROUND WATER ELEVATIONS IN THE SURFICIAL AQUIFER RIVERTON, WYOMING, SITE

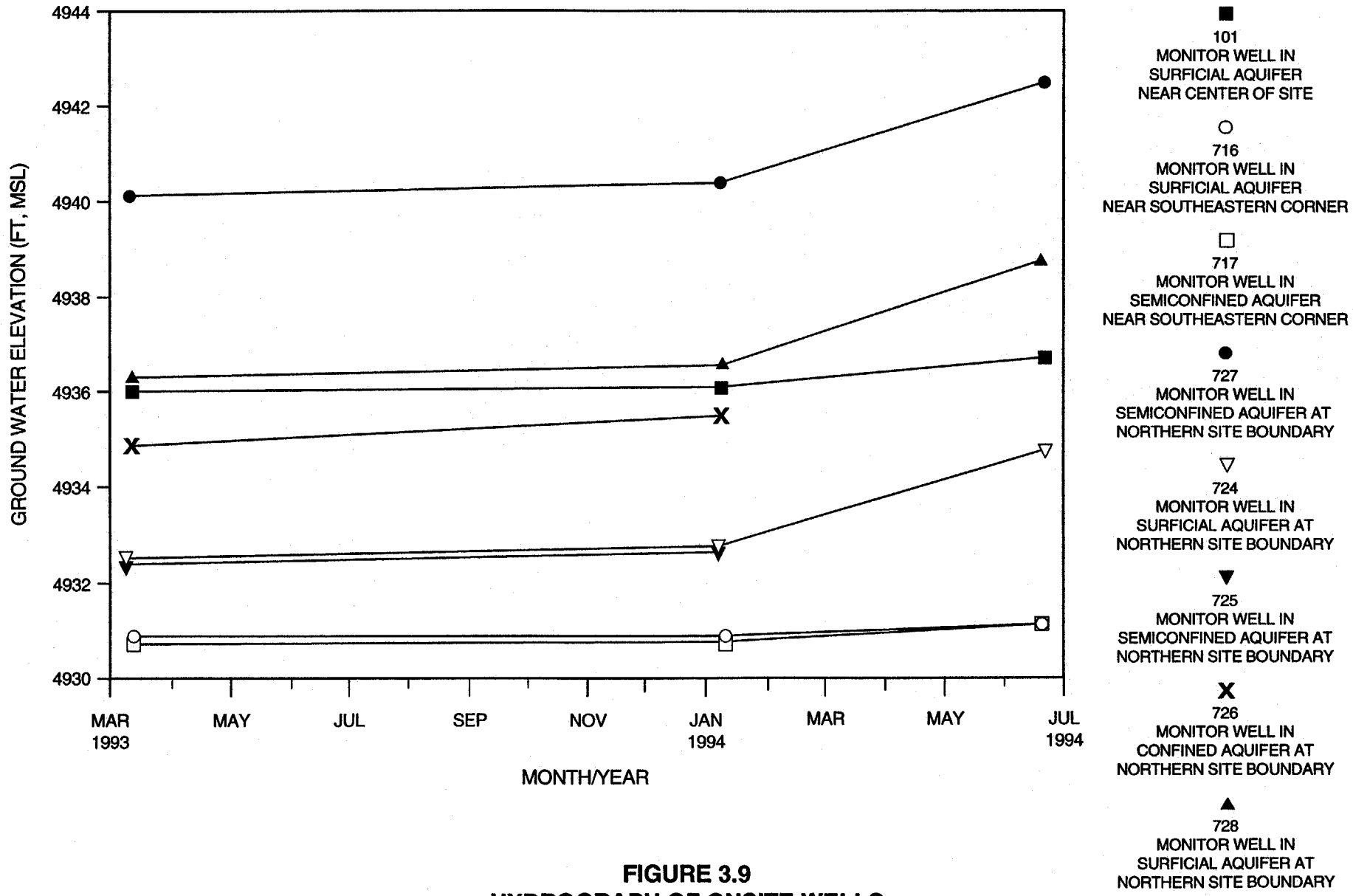


FIGURE 3.9
HYDROGRAPH OF ONSITE WELLS
RIVERTON, WYOMING, SITE

MAC: SITE/RVT/SOWP/HYDRO

test demonstrated a hydraulic conductivity of approximately 56 ft (17 m) per day. Using a porosity of 0.30 (DOE, 1987) for the alluvium and unconfined sandstone and the March 1993 gradient of 0.0024, the calculated ground water flow velocity is approximately 160 ft (55 m) per year. During the irrigation season, the steeper gradient of 0.0034 could increase the flow velocity to 230 ft (80 m) per year. At these rates, one pore volume of water will move from beneath the upgradient edge of the former tailings pile to the Little Wind River in 20 to 30 years. Approximately four pore volumes will flush beneath the site within 100 years.

3.6.2 Semiconfined aquifer

A semiconfining shale unit underlies the surficial aquifer. This leaky aquitard ranges in thickness from 5 to 10 ft (2 to 3 m). A semiconfined sandstone unit underlies this shale layer. This unit ranges in thickness from 15 to 30 ft (5 to 9 m) and is continuous throughout the Riverton site. The shale aquitard does not appear to completely separate the two units hydraulically, as the piezometric heads in the surficial and semiconfined aquifers are nearly identical in most areas, as shown in Figure 3.10 and in the hydrographs in Figure 3.9.

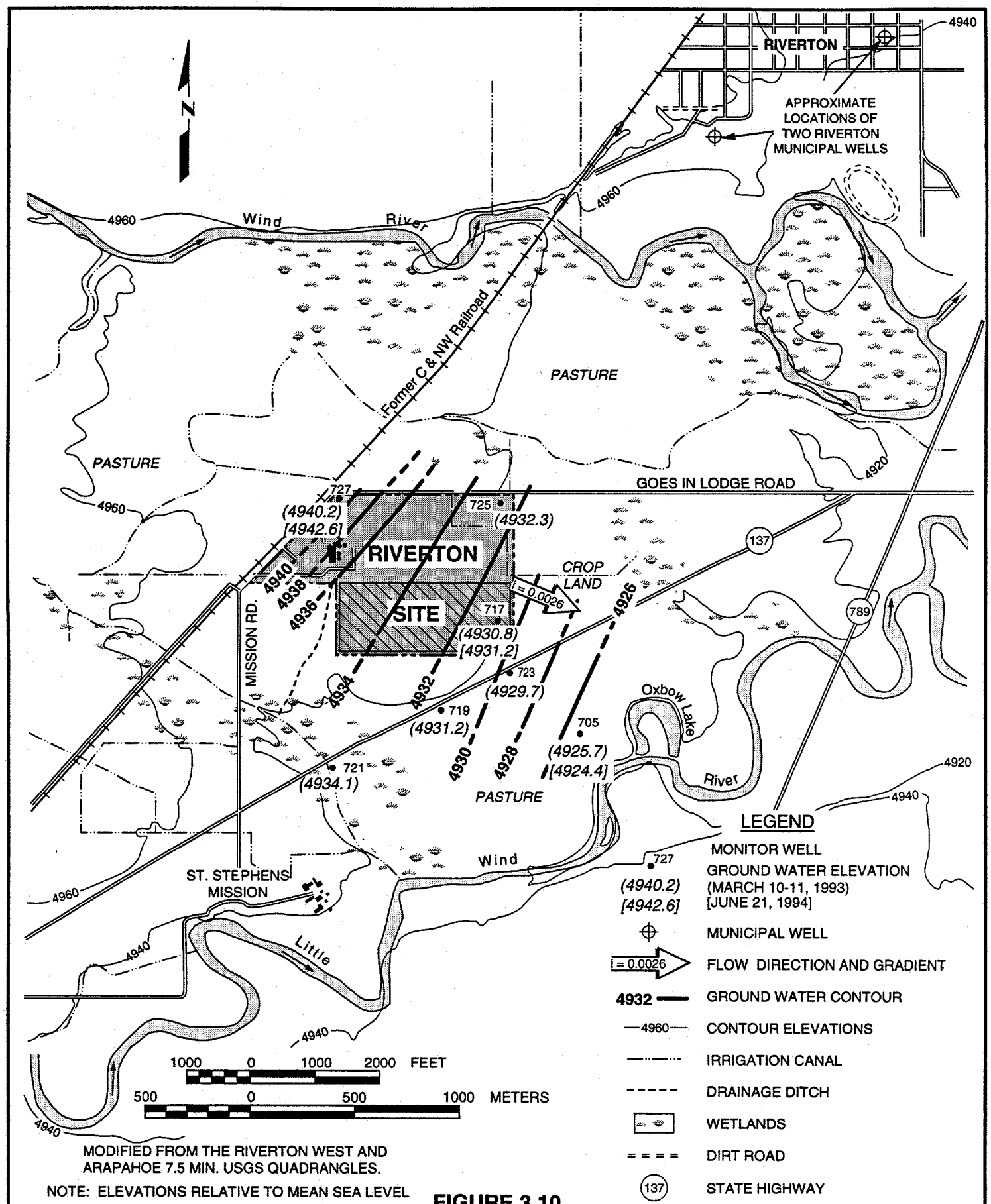
A 24-hour, 18-gal (68-L) per minute aquifer test in the semiconfined sandstone yielded a calculated hydraulic conductivity of about 30 ft (10 m) per day. No significant water level changes were noted in monitor wells in the surficial aquifer during this test.

Using a porosity of 15 percent (typical of sandstones according to Freeze and Cherry, 1987) and the March 1993 gradient of 0.0024, it is projected that the ground water will move with an approximate velocity of 175 ft (60 m) per year. The ground water in the semiconfined sandstone also appears to discharge into the Little Wind River, although additional data will be needed to confirm this assumption. At this rate, approximately one pore volume of ground water will flush through semiconfined aquifer every 25 years.

3.6.3 Confined aquifer

Approximately 10 to 25 ft (3 to 8 m) of shale aquitard with discontinuous sandstone lenses underlies the semiconfined sandstone. The confined sandstone aquifer underlies the shale aquitard. The sandstone is at least 50 ft (15 m) thick. Water level data from the monitor wells completed in the confined sandstone indicate that ground water flow in this unit is to the south with a gradient of approximately 0.002 (Figure 3.11). No aquifer tests have been performed in the confined aquifer.

Water levels observed in the monitor wells do not conclusively define the vertical ground water gradient between the aquifers. For example, in the well cluster south of the site near the Little Wind River, the piezometric head in deep monitor well 703 (4928.31 ft MSL) exhibits an upward gradient from the lower confined sandstone aquifer to the shallower aquifers (4926.05 ft MSL) in

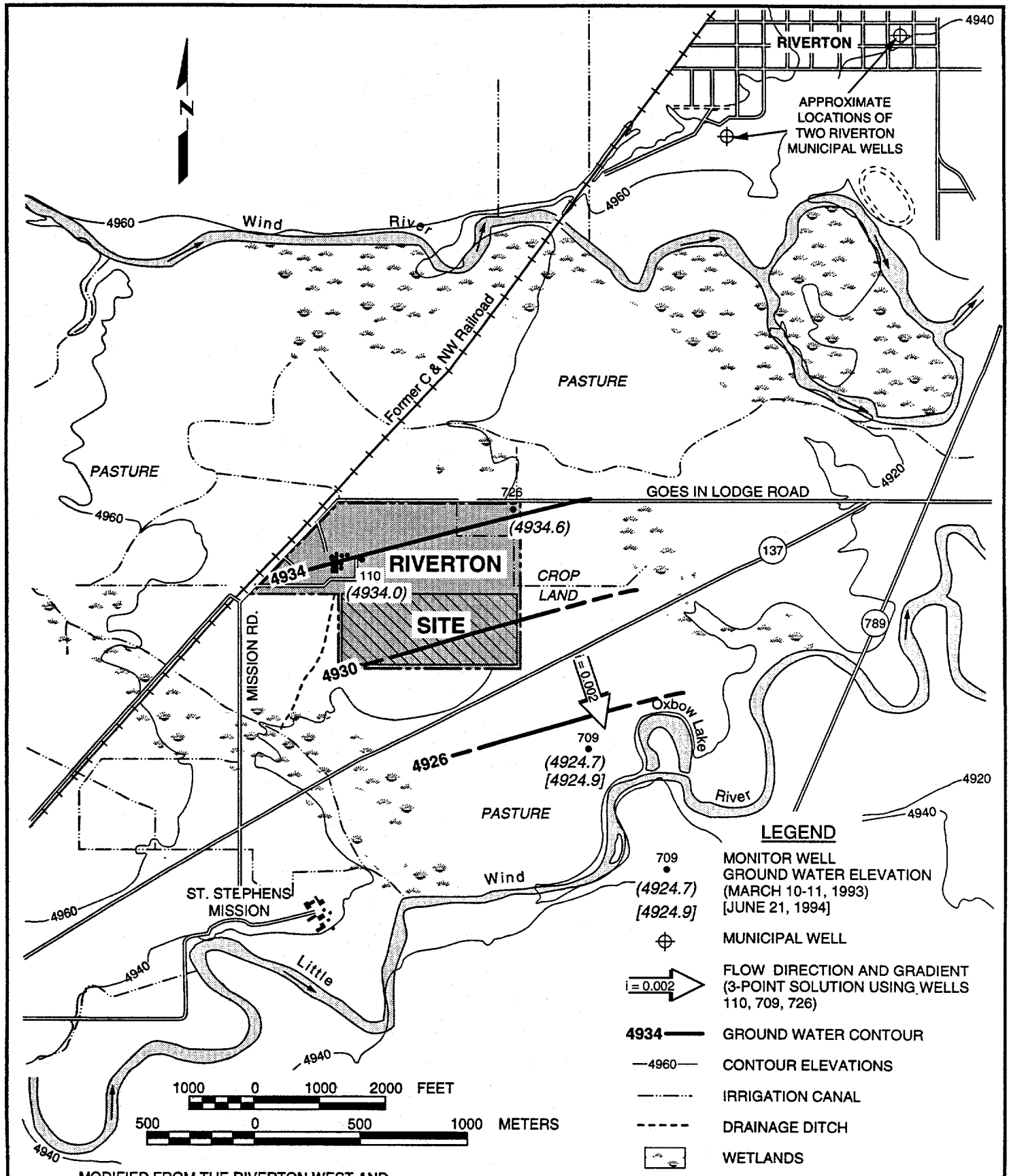


MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

NOTE: ELEVATIONS RELATIVE TO MEAN SEA LEVEL

FIGURE 3.10

GROUND WATER ELEVATIONS IN THE SEMICONFINED SANDSTONE AQUIFER RIVERTON, WYOMING, SITE



MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

NOTE: ELEVATIONS RELATIVE TO MEAN SEA LEVEL

FIGURE 3.11

GROUND WATER ELEVATIONS IN THE CONFINED SANDSTONE AQUIFER RIVERTON, WYOMING, SITE

monitor well 707). In contrast, the piezometric head in the nearby deep monitor well 709 (4924.65 ft MSL) exhibits a downward gradient even though it is screened at approximately the same depth. While vertical gradients between the surficial and semiconfined aquifers and the confined sandstone aquifer have not been conclusively defined, none of the deep monitor wells have ever shown any impacts associated with the former milling operations.

3.7 GROUND WATER QUALITY

This section discusses the natural, background ground water quality and the contamination resulting from the former milling operations.

3.7.1 Background ground water quality

Background ground water quality is the quality of ground water if uranium milling activities had not taken place. Table 3.3 lists the ranges and median background concentrations of the milling-related constituents measured in the surficial, semiconfined, and confined aquifers.

Surficial aquifer

Monitor wells 710 and 711 (Figure 3.8) represent background ground water quality based on their position upgradient from the former processing site and the low concentrations or absence of milling-related constituents in ground water samples. Background ground water quality in the surficial aquifer is a moderately oxidizing, calcium-sulfate-bicarbonate water characterized by near-neutral pH, ranging from 7.1 to 7.6, and low TDS.

Semiconfined aquifer

The background wells are located upgradient from the remediated tailings pile, but are still within the site along the northern perimeter of the site boundary (Figure 3.10) in an area that was contaminated with wind-blown material (Figure 3.4). Therefore, additional background water quality data may be needed.

Background ground water quality of the semiconfined aquifer, which can be described as a moderately oxidizing, sulfate-bicarbonate-calcium sodium type with a slightly basic pH, was determined from monitor wells 725 and 727.

Confined aquifer

Background ground water quality of the confined aquifer was determined from monitor well 726 located northwest and upgradient of the remediated tailings pile. Ground water in the confined aquifer is a moderately oxidizing sodium-sulfate water characterized by low TDS and high pH (9.3 to 9.9).

Table 3.3 Statistical summary of filtered groundwater quality in the surficial, semiconfined, and confined aquifers at the Riverton, Wyoming, site (1987 to 1994 water quality data)

Constituent	Surficial aquifer[a,b] Range[h] (mg/L)	Surficial aquifer[a,b] Median[c] (mg/L)	Semiconfined aquifer[e] Range (mg/L)	Semiconfined aquifer[e] Median[f] (mg/L)	Confined aquifer[g] Range[h] (mg/L)	Confined aquifer[g] Median[f] (mg/L)
Aluminum						
Background	–	–	<0.05	–	–	<0.05
Plume/Downgradient	–	–	<0.05	–	<0.05 - 0.46	0.05
Arsenic						
Background	0.002 - 0.007	–	<0.005	–	<0.005	<0.005
Plume/Downgradient	<0.001 - 0.032[d]	–	<0.005	–	<0.001 - 0.005	0.005
Boron						
Background	ND	ND	ND	ND	ND	ND
Plume/Downgradient	0.20 - 0.20	0.20	–	–	<0.1	<0.1
Bromide						
Background	–	–	<0.1 - 0.1	<0.1	–	0.1
Plume/Downgradient	<0.10 - 0.30	0.30	<0.1 - 0.28	0.2	<0.1 - 0.1	0.1
Calcium						
Background	53.2 - 271	71.7	30 - 98	64	–	13.1
Plume/Downgradient	345 - 605	403	106 - 401	181	104.0 - 649	235.0
Chloride						
Background	4.50 - 125	11.2	16 - 20	18	–	17.6
Plume/Downgradient	85.0 - 207	118	55 - 73	61	28.0 - 68	50.0
Fluoride						
Background	<0.10 - 0.40	0.20	0.2	0.2	–	0.70
Plume/Downgradient	0.70 - 1.00	0.80	0.1 - 0.2	0.2	0.70 - 1.70	1.10
Iron						
Background	<0.03 - 1.56	0.10	<0.03 - 0.04	<0.04	–	0.03
Plume/Downgradient	0.04 - 3.05[d]	0.20	<0.03 - 0.40	0.16	0.02 - 0.05	0.20
Magnesium						
Background	13.6 - 68.0	17.3	2.8 - 17	10	–	2.00
Plume/Downgradient	179 - 2011	198	7.5 - 32	13	0.01 - 0.72	0.05
Manganese						
Background	<0.01 - 3.56	0.70	0.02 - 0.06	0.04	<0.01	<0.01
Plume/Downgradient	4.26 - 6.40	4.78	0.13 - 0.91	0.26	<0.01 - 0.01	0.01

Table 3.3 Statistical summary of filtered groundwater quality in the surficial, semiconfined, and confined aquifers at the Riverton, Wyoming, site (1987 to 1994 water quality data) (Continued)

Constituent	Surficial aquifer[a,b] Range[h] (mg/L)	Surficial aquifer[a,b] Median[c] (mg/L)	Semiconfined aquifer[e] Range (mg/L)	Semiconfined aquifer[e] Median[f] (mg/L)	Confined aquifer[g] Range[h] (mg/L)	Confined aquifer[g] Median[f] (mg/L)
Molybdenum						
Background	0.003 - 0.020	–	<0.01	–	<0.01	<0.01
Plume/Downgradient	0.52 - 1.02	0.78	<0.01 - 1.27	0.03	<0.01 - 0.03	0.02
Nickel						
Background	<0.01 - 0.03	–	<0.04	–	0.04 - 0.04	0.04
Plume/Downgradient	<0.04 - 0.28	0.17	<0.04	–	0.20 - 0.02	0.02
Potassium						
Background	1.86 - 6.40	2.50	1.0 - 1.3	1.2	–	0.90
Plume/Downgradient	10.4 - 18.0	14.5	1.2 - 2.7	1.9	5.60 - 49.9	9.08
Selenium						
Background	<0.001 - 0.005	–	<0.005	–	–	0.005
Plume/Downgradient	<0.001 - 0.077	–	<0.005	–	0.002 - 0.0250	0.0025
Silica						
Background	15.0 - 19.0	17.8	ND	ND	–	12.80
Plume/Downgradient	26.0 - 30.3	30.0			0.60 - 1.10	1.00
Sodium						
Background	32 - 167	53	79 - 118	99	–	119.0
Plume/Downgradient	697 - 1360	856	108 - 665	288	154.0 - 356.0	188.5
Strontium						
Background	0.29 - 1.51	0.37	0.2 - 0.5	0.3	–	0.08
Plume/Downgradient	1.82 - 3.40	2.47	0.6 - 27	0.9	1.43 - 14.30	1.88
Sulfate						
Background	84.7 - 854	152	141 - 1940	1800	160 - 170	160
Plume/Downgradient	2570 - 4430	3010	590 - 1860	690	8 - 180	86
Uranium						
Background	<0.001 - 0.008	0.003	0.001 - 0.009	0.005	<0.001 - 0.001	0.001
Plume/Downgradient	0.719 - 1.970	1.152	<0.001 - 0.017	0.008	0.0003 - 0.005	0.001
Vanadium						
Background	<0.01 - 0.04	–	<0.01	–	<0.01	<0.01
Plume/Downgradient	<0.01 - 0.14	–	<0.01	–	<0.01 - 0.06	0.01

Table 3.3 Statistical summary of filtered groundwater quality in the surficial, semiconfined, and confined aquifers at the Riverton, Wyoming, site (1987 to 1994 water quality data) (Concluded)

Constituent	Surficial aquifer[a,b] Range[h] (mg/L)	Surficial aquifer[a,b] Median[c] (mg/L)	Semiconfined aquifer[e] Range (mg/L)	Semiconfined aquifer[e] Median[f] (mg/L)	Confined aquifer[g] Range[h] (mg/L)	Confined aquifer[g] Median[f] (mg/L)
Zinc						
Background	<0.005 - 0.021	—	0.008 - 0.012	0.010	—	0.007
Plume/Downgradient	<0.005 - 0.019[d]	—	0.008 - 0.013	0.010	<0.005 - 0.024	0.0055
Radionuclides						
Lead-210						
Background	0.00 - 0.90	0.15	0.3 - 1.5	0.9	—	3.00
Plume/Downgradient	0.20 - 4.00	3.00	0.0 - 1.5	0.7	1.50 - 1.50	1.50
Polonium-210						
Background	0.10 - 0.30	0.20	0.0	0.0	0	1.20
Plume/Downgradient	0.10 - 2.40	0.90	0.0 - 0.6	0.1	1.00 - 1.10	1.00
Thorium-230						
Background	0.00 - 3.80	0.20	0.1 - 1.6	0.9	—	0.4
Plume/Downgradient	0.00 - 6.82	0.60	0.0 - 0.6	0.2	0.5 - 3.13	0.5

[a]Surficial aquifer background ground water quality represented by monitor wells 710 and 711.
[b]Surficial aquifer groundwater quality in the centroid of the plume represented by monitor well 707.
[c]The median or 50th percentile of the sample data cannot be determined unless more than 50 percent of the data are above detection. A dash (—) in the median column indicates the median cannot be calculated.
[d]Maximum observed concentrations in unfiltered samples exceeded those obtained for filtered samples for these constituents in monitor well 707.
[e]Background water quality in semiconfined aquifer is defined by monitor wells 725 and 727. Downgradient groundwater impacted by milling is represented by monitor wells 108, 717, 719, and 723.
[f]The median is the 50th percentile of the data. Based on two data values, the median is only the arithmetic average. For four data values, the median is the average of the two middle values. A dash (—) in the median column indicates the median cannot be calculated.
[g]Background water quality in the confined aquifer is defined by monitor well 726. Downgradient water quality is represented by monitor well 709. Elevated pH in monitor well 709 may indicate grout contamination; this well is used because there are no other wells in the confined aquifer downgradient from the site.
[h]A dash (—) in the range column indicates only one measurement is available and is presented on the median column.

ND - no data available.
Note: Only constituents measured above background concentrations in the surficial aquifer are presented in this table.

3.8 NATURE AND EXTENT OF CONTAMINATION

Ground water quality data indicate that both the surficial and semiconfined aquifers have been impacted by milling activities (Table 3.3). This conclusion is based on the presence of milling-related contaminants at elevated concentrations. Because of their elevated concentrations, indicator parameters such as uranium, molybdenum, and sulfate are used to track plume migration.

3.8.1 Source of contamination

Ground water contamination was primarily caused by seepage of original mill process waters and tailings pore fluids into the underlying surficial aquifer. Isotopic analysis of pore fluid from the top meter of the tailings pile showed enrichment of oxygen-18 and hydrogen-2 from evaporation, indicating that infiltration and flow of precipitation through the tailings was insignificant relative to this seepage (White et al., 1984). The milling process consisted of both sulfuric acid and alkaline leach processes, resulting in a composite alkaline-acidic tailings pile. The mixed acidic and alkaline leachate (high in sulfate, carbonate species, uranium, and major anions and cations) seeped into the ground water, impacting ground water quality. The mobility of the indicator parameters (defined above) was enhanced under the existing alkaline conditions. Furthermore, because the base of the tailings pile rested within several feet of the water table, it is believed that fluctuations in water levels may have periodically flooded the tailings.

3.8.2 Contaminants of concern

In general, a constituent was placed on the list of contaminants of concern when the site was the likely source of the contamination and the average constituent concentrations measured in contaminated wells exceeded the average background levels at the 0.05 level of statistical significance. Inorganic constituents exceeding background concentrations in the surficial aquifer are aluminum, arsenic, boron, bromide, calcium, chloride, fluoride, iron, magnesium, manganese, molybdenum, nickel, potassium, selenium, silica, sodium, strontium, sulfate, uranium, vanadium, and zinc. Several of the chemical species detected above background were deleted from the list of contaminants of concern because they are essential nutrients and were detected at levels within nutritional ranges. These constituents are calcium, chloride, fluoride, iron, potassium, and zinc. Some of the remaining contaminants were removed from the list of contaminants of concern on the basis of very low toxicity and relatively high dietary intake compared to the values detected.

For the surficial aquifer, these screening criteria eliminated all the contaminants but the following contaminants of concern: arsenic, manganese, molybdenum, nickel, sulfate, uranium, vanadium, and several radioactive progeny of the uranium decay series, including lead-210, polonium-210, and thorium-230. The contaminants of concern for the semiconfined aquifer are manganese,

molybdenum, sulfate, and uranium. No contaminants of concern were detected in the confined aquifer.

3.8.3 Extent of contamination

The extent and distribution of milling-related contamination with the respect to the surficial, semiconfined, and confined aquifers and the surface water and sediments is presented subsequently.

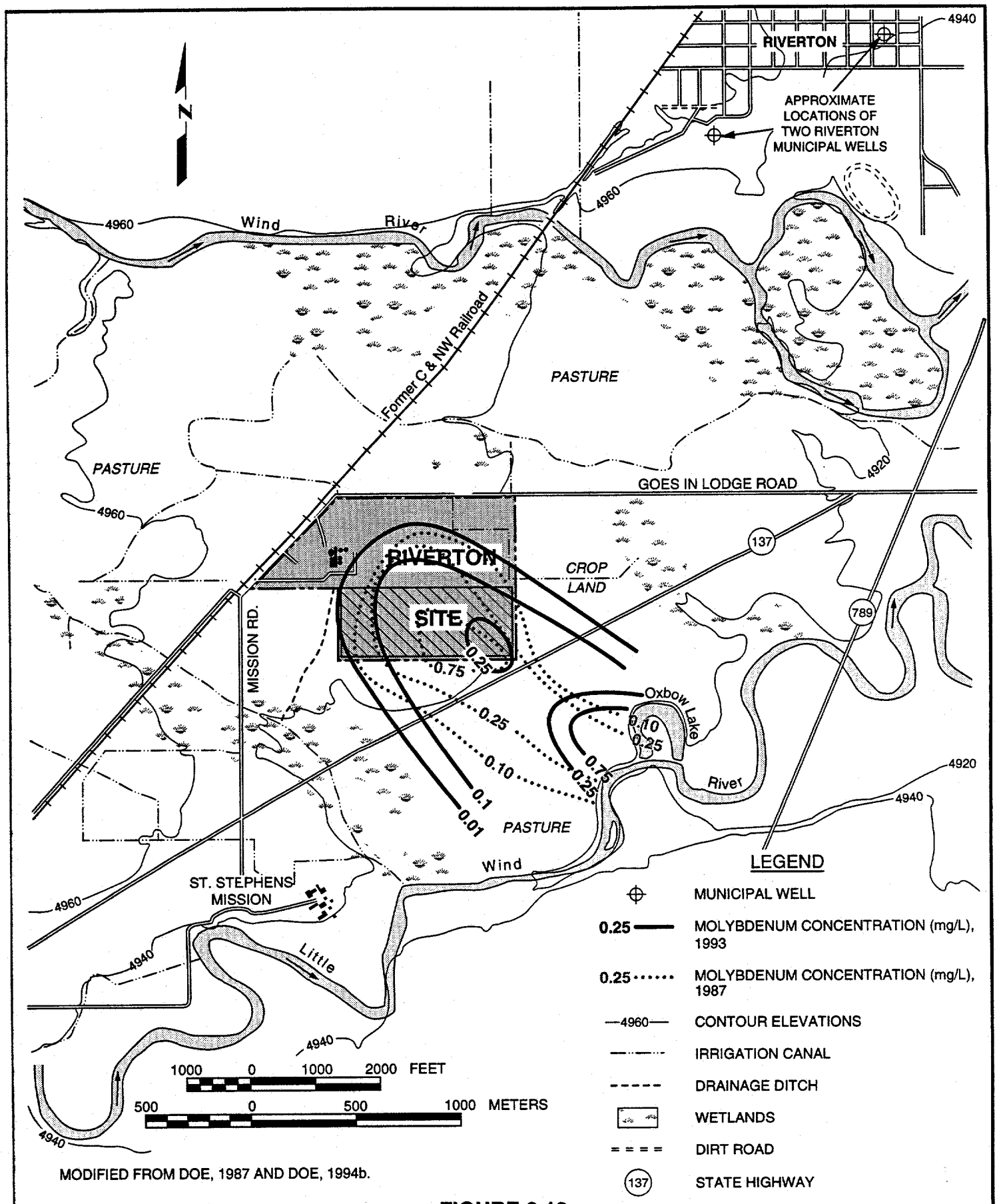
The centroid of the contaminant plume is currently located offsite near the Little Wind River, suggesting that the original pulse of contamination is moving with the ground water flow. This evidence provides a partial basis for the selection of natural flushing as the proposed remedial compliance strategy.

Surficial aquifer

Ground water contamination in the surficial aquifer downgradient from the former processing site (monitor well 707) is characterized by elevated concentrations of molybdenum, sulfate, and uranium. Figures 3.12, 3.13, and 3.14 show the concentrations of molybdenum, sulfate, and uranium, respectively, in surficial ground water. The analytical data are presented in Appendix B2. The other contaminants are not present in sufficient, widespread concentrations to be depicted. The figures indicate contamination migration southeast toward the Little Wind River.

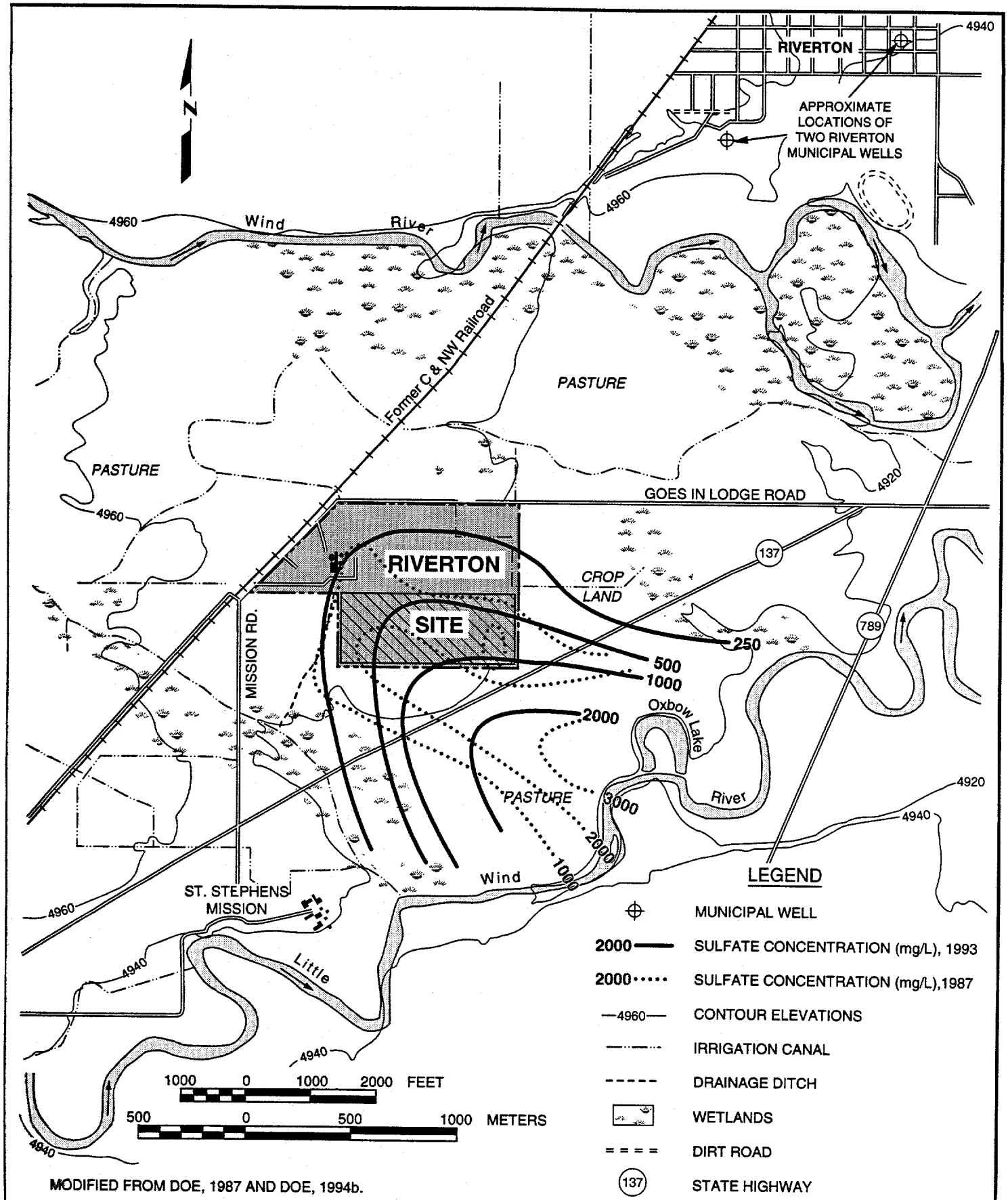
Semiconfined aquifer

Ground water in the semiconfined aquifer is also contaminated directly beneath and downgradient from the processing site. The potentiometric surface of the semiconfined aquifer is presently about the same as that of the surficial aquifer in the vicinity of the abandoned mill site. When the mill was in operation, however, the drainage from the tailings pile would have mounded the ground water in the surficial aquifer, resulting in a downward vertical gradient. This vertical hydraulic gradient has resulted in the contamination of the semiconfined aquifer. Milling-related contamination in the semiconfined aquifer is represented by water quality data from monitor wells 108, 717, 719, and 723 (Appendix B2). The most recent sampling in March 1993 showed that concentrations of calcium, chloride, iron, manganese, molybdenum, sodium, strontium, sulfate, and uranium are elevated with respect to background, although they are generally lower than those detected in the surficial aquifer (Table 3.3). Sulfate concentrations in the semiconfined aquifer are shown in Figure 3.15. These contours indicate that the contamination in the semiconfined aquifer is also moving offsite southeast toward the Little Wind River. Detected concentrations of the other constituents were not sufficiently well distributed to create similar figures.



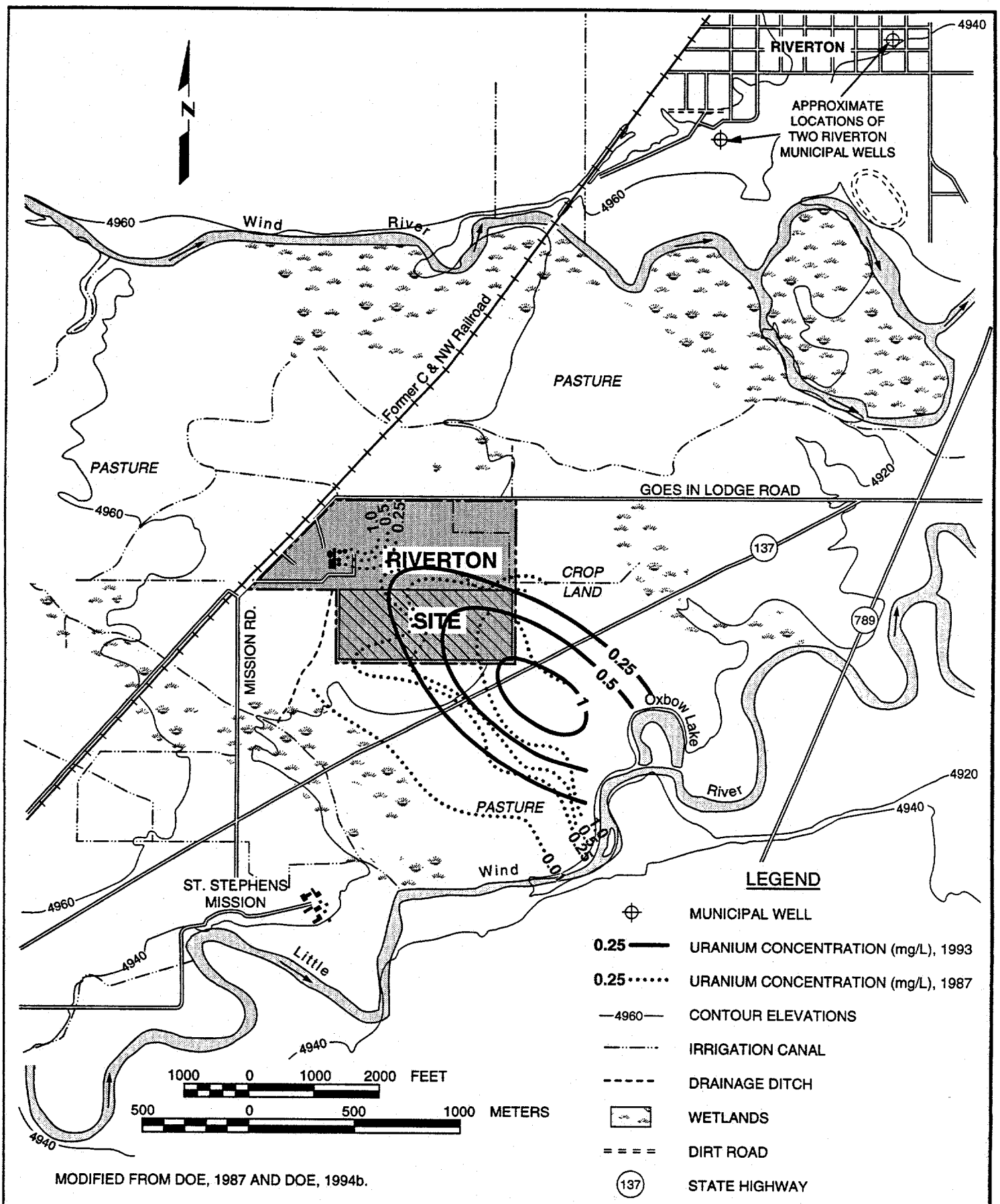
MODIFIED FROM DOE, 1987 AND DOE, 1994b.

FIGURE 3.12
1987 AND 1993 MOLYBDENUM CONCENTRATIONS IN THE SURFICIAL AQUIFER RIVERTON, WYOMING, SITE



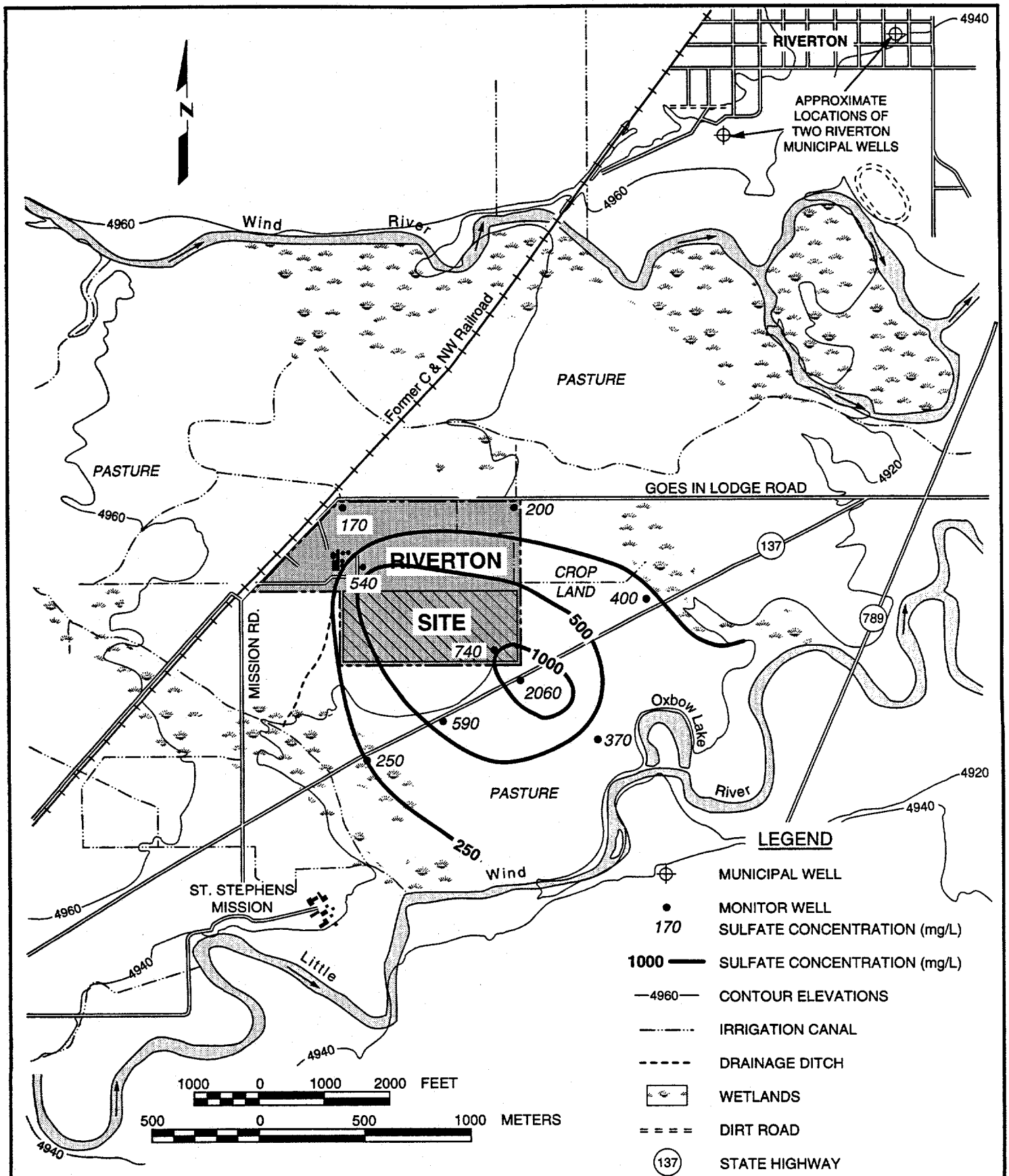
MODIFIED FROM DOE, 1987 AND DOE, 1994b.

FIGURE 3.13
1987 AND 1993 SULFATE CONCENTRATIONS IN THE SURFICIAL AQUIFER RIVERTON, WYOMING, SITE



MODIFIED FROM DOE, 1987 AND DOE, 1994b.

FIGURE 3.14
1987 AND 1993 URANIUM CONCENTRATIONS IN THE SURFICIAL AQUIFER RIVERTON, WYOMING, SITE



MODIFIED FROM THE RIVERTON WEST AND ARAPAHOE 7.5 MIN. USGS QUADRANGLES.

NOTE: WATER QUALITY DATE IS MARCH 1993 FOR ALL WELLS EXCEPT 108 (AUGUST 1992).

FIGURE 3.15

SULFATE CONCENTRATIONS IN THE SEMICONFINED AQUIFER RIVERTON, WYOMING, SITE

Confined aquifer

Ground water quality data from upgradient, onsite, and downgradient monitor wells (monitor wells 726, 110, and 709, respectively) indicate that this aquifer has not been affected by milling activities.

Surface water and sediments

Elevated concentrations of uranium (Appendix C) were detected in both the surface water and sediment samples collected from the Little Wind River in June 1993 at location 742 (Figure 3.6). The uranium concentrations in the surface water measured at this location (0.025 mg/L) were approximately one order of magnitude higher than the upstream background location 794 (0.002 mg/L), but still well below the MCL for drinking water standards (0.044 mg/L). Similarly, the uranium concentration in the sediments at location 742 was five times higher than at the background location (10.0 mg/kg versus 2.0 mg/kg). Approximately 4500 ft (1372 m) farther downstream (location 796), uranium concentrations in both the surface water and sediments decline to background levels. Based on the distribution of contaminant concentration, it is anticipated that the Little Wind River will dilute discharging contaminated ground water to near background concentrations downgradient of the site.

Surface water and sediment samples collected from the contaminant plume area (location 741); from irrigation canals upgradient of the wetlands areas east (746) and west (745) of the site; from an irrigation canal at the eastern edge of the site (location 744); and from an oxbow lake south of the site near the Little Wind River (location 743) were analyzed for calcium, iron, lead, magnesium, manganese, molybdenum, and uranium. Although water quality criteria for protection of aquatic life are not available for all of these constituents, the concentrations detected in surface samples did not exceed those that are available.

The water sampled at location 743 was probably a combination of ground water discharged from the north and water recharged from the river. The samples indicated elevated concentrations of calcium, magnesium, manganese, and uranium. The concentration of uranium was only 0.013 mg/L, well below the MCL of 0.044 mg/L for drinking water. The sediments sampled at this location indicated elevated concentrations of iron, lead, manganese, and uranium.

The water sampled at location 744 was predominantly water that flowed into the canal from the Wind River and does not represent ground water discharge. The samples indicated a slightly elevated concentration of uranium (0.016 mg/L). Additional investigations are needed to further assess the sources of contamination at this location.

The water sampled at location 746 showed significantly higher concentrations of calcium and magnesium. The sediments sampled at this location indicated higher than background concentrations of lead and magnesium. The lead

contamination in the sediments may be due to accumulations from automobile exhaust and runoff from Highway 137.

3.9 CONTAMINANT FATE AND TRANSPORT

The selection of natural flushing as the remedial strategy for the Riverton site is based on the conceptual site model, the discharge of contaminated ground water into the Little Wind River, and the expected attenuation mechanisms of the various constituents. This section discusses the movement and attenuation of the contaminants of concern.

3.9.1 Contaminant flushing

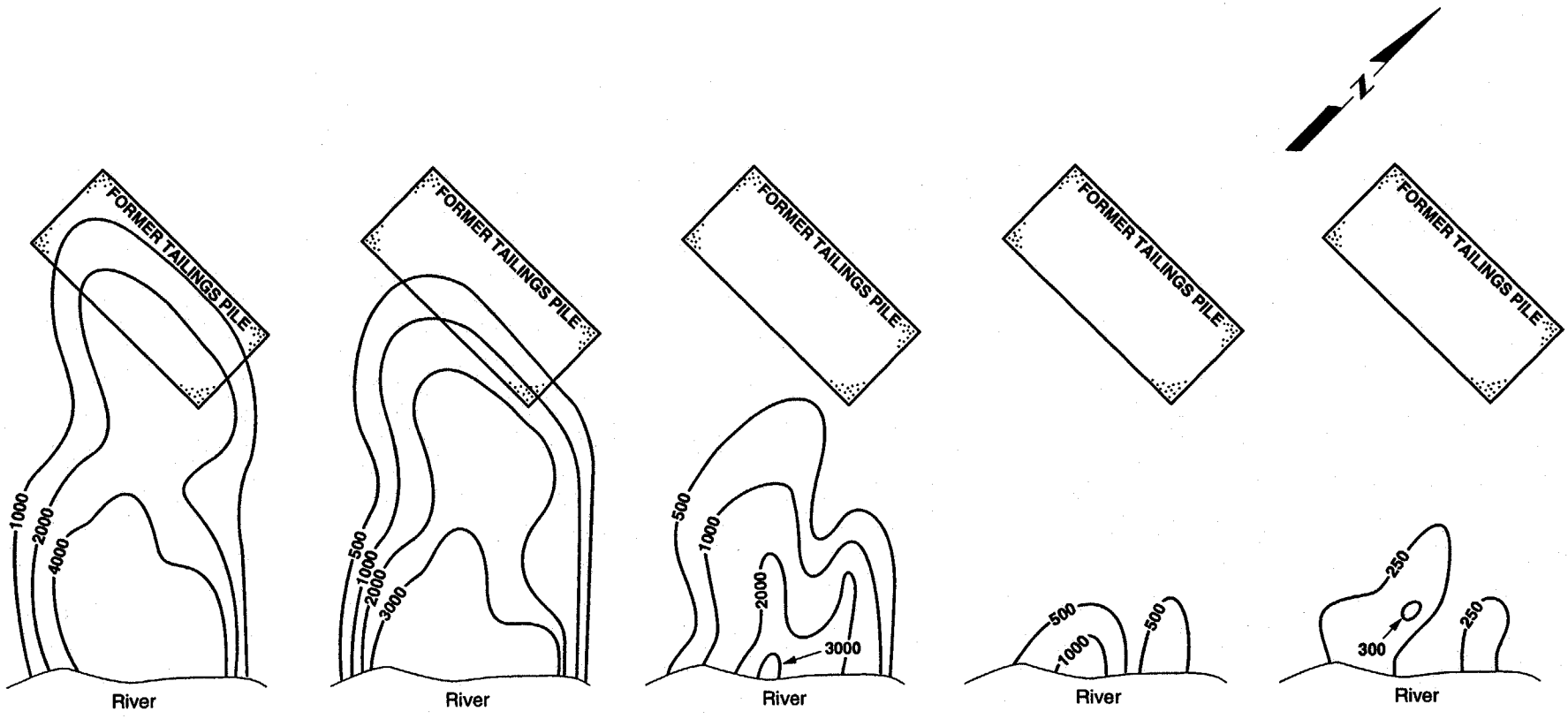
Contaminants present in the surficial aquifer are moving with the ground water downgradient from the processing site to the Little Wind River. Since uranium ore processing was begun in 1958, ground water movement has transported the centroid of ground water contamination southeast to the vicinity of monitor well 707, located approximately 3000 ft (900 m) from the tailings pile area.

A ground water flow and contaminant transport model, prepared in the EA (DOE, 1987), was used to predict changes in the sulphate concentrations in the surficial aquifer over time (Figure 3.16). The model assumed that the sulfate moved with the ground water. The effects of dispersion and attenuation were not addressed. As shown in Figure 3.16, the model predicted that the sulfate plume would be flushed from the system in approximately 45 years (from 1987), assuming no continuing source.

Comparison of the 1987 and 1993 data showing the concentrations of molybdenum, sulfate, and uranium in the surficial aquifer (Figures 2.12, 3.13, and 3.14, respectively) confirms that the center of the contamination has moved from beneath the site towards the Little Wind River. The configuration of the three plumes are different due to variation in the rates at which the different constituents move. These differences are controlled by their concentrations and their individual interactions with the aquifer matrix.

The calibrated steady-state flow model used in this evaluation was developed with the Trescott (1976) code. Calibration was performed by adjusting hydraulic conductivity data in certain areas to match an interpreted contour map with the model results. These adjustments were needed because of the lack of hydraulic conductivities in these areas. Future modeling of the surficial aquifer will require the verification of hydraulic conductivities.

Because ground water discharges to the Little Wind River, surface water quality is of major concern before implementing the natural flushing strategy. As noted earlier, samples collected from the Little Wind River in 1993 exhibited elevated concentrations of uranium immediately downgradient of the site, but farther downstream (location 796) the uranium concentrations decline to background levels. It is therefore interpreted that the Little Wind River will be able to dilute



NOTE: CONTOURS IN MILLIGRAMS/LITER

MODIFIED FROM DOE, 1987 SIMULATED SULFATE PLUME CONCENTRATIONS.

LEGEND

T_0 TIME OF PILE REMOVAL

(1987) DATE

FIGURE 3.16
SULFATE PLUME DEVELOPMENT AFTER TAILINGS PILE RELOCATION
RIVERTON, WYOMING, SITE

MAC: SITERELATED/RVT/SOWP/SULFPLUMDEV

the discharging ground water to near background concentrations. Additional monitoring is needed to assess the impacts of possible ground water discharge on the wetlands east of the site and on the oxbow lake to the southeast.

3.9.2 Contaminant attenuation

Geochemical sinks in the aquifer are responsible for additional reduction of contaminants in ground water. Sorption onto the aquifer matrix and precipitation are the primary sinks. Dispersion and dilution will also be effective in reducing concentration of contaminants.

Geochemical computer modeling, using the software packages MINTEQA2 (Allison et al., 1991) and PHREEQE (Parkhurst et al., 1980), was used to calculate saturated mineral phases and species in ground water. Water quality data exhibiting the highest constituent concentration (monitor well 707) was used as input for the model. The modeling calculations show that ground water accessed by monitor well 707 is slightly oversaturated with barite and gypsum and moderately oversaturated with the uranium phase schoepite, hydroxides, and oxyhydroxides of iron and manganese, jarosite (iron sulfate), nickel hydroxide, barium arsenate, and calcium and magnesium vanadate phases. Kinetically favorable uranium, vanadium, nickel, arsenic, manganese, and sulfate phases will precipitate onto the aquifer matrix, thus removing some of these constituents from ground water and reducing their concentrations. This information was used to evaluate the fate and behavior of individual contaminants of concern in the surficial and semiconfined aquifers. The radionuclides are not addressed because of their limited mobility and low concentrations (slightly above detection limits) in the downgradient wells.

Arsenic

Arsenic is associated with sulfide minerals common to uranium ore and is liberated during the leaching process. Low concentrations of arsenic are present in ground water downgradient from the site as an arsenate oxyanion. Arsenic is moderately mobile in an oxidizing aqueous environment as an arsenate species. Generally the mobility increases as the oxidation state of arsenic decreases, whereby As(III) species generally sorb onto the aquifer matrix less readily than As(V) species (Rai and Zachara, 1984). Based on the concentrations found in ground water beneath the Riverton site (maximum of 0.032 mg/L), it may be assumed that the main attenuation mechanism for arsenic removal is probably adsorption onto aquifer materials, particularly ferric oxyhydroxides and organic matter (Rai and Zachara, 1984; Leckie et al., 1980).

Manganese

Manganese is found in sulfide and oxide minerals in the uranium ore and gangue material and is mobilized during the leaching process. The mobility of manganese is primarily controlled by the redox state of the aquifer. Manganese, present in surficial ground water in the Mn(II) valence state, is predominantly

Mn^{2+} complexed with sulfate and carbonate species in the aquifer. Oxide and hydroxide manganese mineral phases are saturated in the most contaminated areas. The precipitation of these phases will remove manganese from ground water. Additional removal of manganese through sorption and coprecipitation with iron phases may also be occurring in the area of contamination.

Molybdenum

Molybdenum is found in select sulfide minerals associated with uranium ore and is mobilized during the leaching process. Alkaline conditions which favor the mobility of molybdenum as the oxyanion MoO_4^{2-} (Rai and Zachara, 1984) were reported by Peterson (1985) to be present in the bottom of the tailings pile. Molybdenum is particularly high in onsite monitor well 108 (up to 1.3 mg/L) located at the northwest corner of the remediated tailings pile (Figure 3.6). Molybdenum in downgradient monitor wells was detected at concentrations slightly above the analytical detection limit, indicating molybdenum is being attenuated from ground water down the flow path.

Nickel

Nickel is found in discrete nickel sulfides and as a trace constituent in many sulfide minerals and is mobilized during the leaching process. Nickel is present in ground water predominantly as a nickel cation or complexed with carbonate and sulfate. Nickel hydroxide is oversaturated with respect to ground water and, if kinetically favorable, will precipitate. Nickel also coprecipitates and sorbs onto ferric oxyhydroxide phases (Rai and Zachara, 1984). Precipitation and sorption onto the aquifer matrix are probably responsible for the removal of nickel from ground water.

Sulfate

Sulfate is derived from the sulfuric acid leaching process and from the dissolution and oxidation of sulfide minerals during the leaching process. Sulfate is present in ground water predominantly as a SO_4^{2-} ion or is complexed with calcium, magnesium, or sodium. Barite and gypsum mineral phases are oversaturated in the ground water and precipitation of sulfate minerals partially control sulfate concentrations in ground water. Sorption onto aquifer materials may also be responsible for the removal of some sulfate from ground water.

Uranium

Uranium minerals are dissolved and oxidized during the leaching process. Residual uranium is found in the ground water because of inefficient recovery of uranium during the solvent extraction circuit. Under moderately oxidizing conditions, uranium exists as uranyl carbonate complexes. Schoepite is the only probable uranium mineral phase that is thermodynamically saturated in the ground water in the contaminated region of the aquifer. Therefore, partial removal of uranium from precipitation reactions can be expected. Additionally,

sorption of uranium onto the aquifer matrix should occur especially onto iron oxyhydroxides (Kent et al., 1988; Hsi and Langmuir, 1985) and humic material (Nakashima, 1992; Mohan et al., 1991).

Vanadium

Vanadium is associated with uranium minerals and clays in the uranium mineralized zone. It is mobilized along with a host of trace elements during the leaching phase of the operation. Field redox and pH data suggest that vanadium is present as V(V) oxyanion complexes in ground water beneath the site. Vanadium mineral phases are oversaturated in contaminated ground water with respect to calcium and magnesium vanadate minerals. Sorption onto aquifer materials may also control the concentration of vanadium in ground water.

3.10 RISK EVALUATION

The draft risk assessment followed the basic approach prescribed by the EPA. The first step was to evaluate ground water data collected at the site over the last 5 years. The surficial aquifer was evaluated quantitatively because of the higher contamination levels. The less contaminated semiconfined aquifer was evaluated qualitatively. The potential exposure pathways for humans, livestock, and wildlife are shown in Figure 3.17.

3.10.1 Potential public health impacts

Contaminants from uranium processing have been detected in the surficial and semiconfined aquifers. Door-to-door surveys of residences near the Riverton processing site were completed in March 1993 and January 1994. No known drinking water wells tap the contaminated ground water in the surficial and semiconfined aquifers, although one shallow well is occasionally used for livestock. Ground water from deeper aquifers in the vicinity is used for drinking water and is not contaminated. Therefore, the risk assessment evaluated the potential future use of the contaminated ground water from the surficial aquifer for drinking and livestock.

The risk assessment estimated how much of the contaminants of concern people would be exposed to if a drinking well were installed in the contaminated ground water. Since the contaminant concentrations vary each time a well is sampled and because people vary in weight and water consumption, the risk assessment used probability distributions to determine the amounts of contaminants that probably would be ingested using a hypothetical well at the site. The probability distributions describe how likely it is for a particular event to happen. For example, based on population surveys, probability distributions can describe what percentage of people drink a half-gallon of water each day and what percentage drink only one cup of water each day.

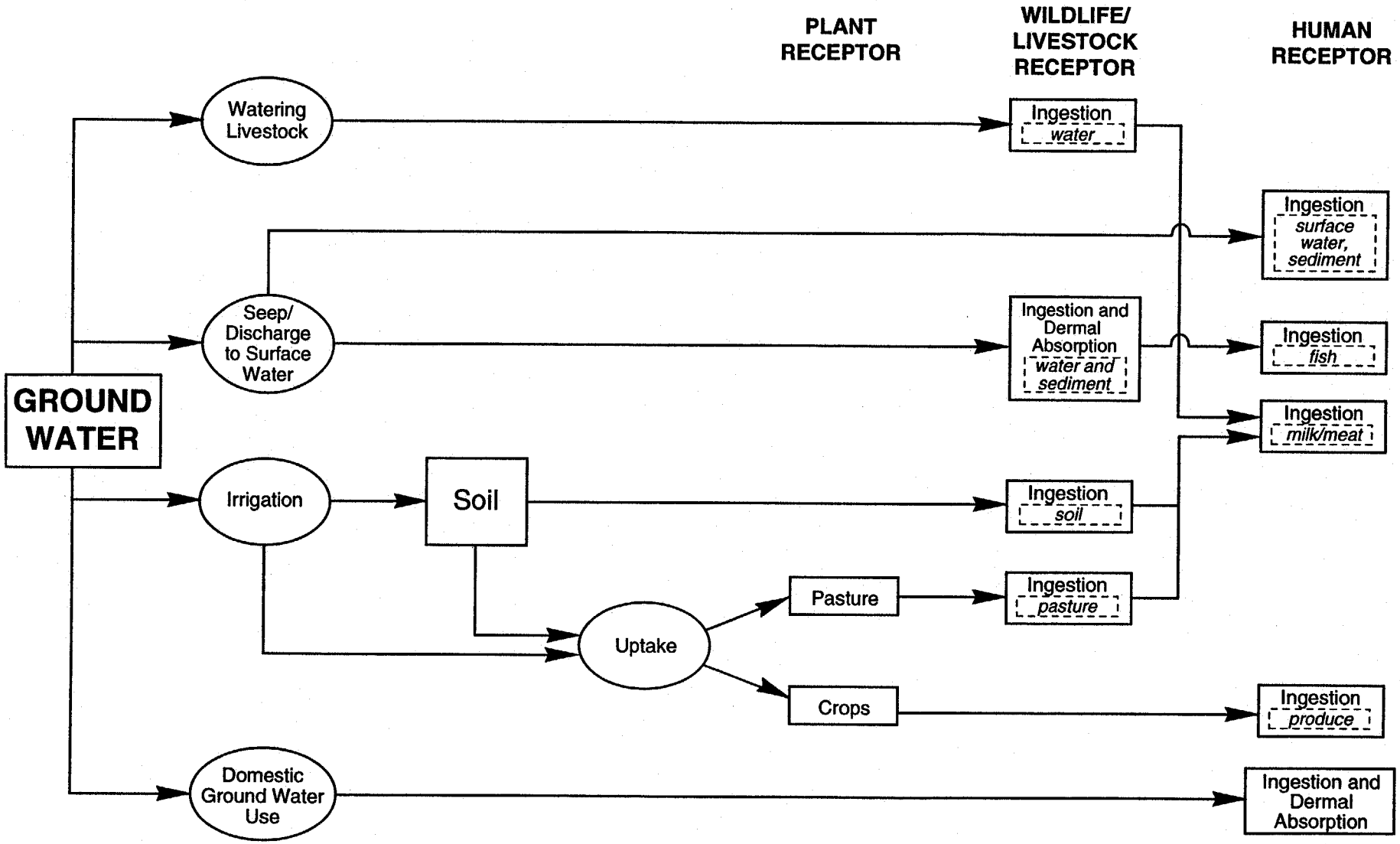


FIGURE 3.17
POTENTIAL EXPOSURE PATHWAYS
RIVERTON, WYOMING, SITE

REVISION DATE: 9/24/94

MAC: SITE/RVT/SOWP/CONCEPTMOD

The estimated amounts of contaminants that could be ingested by consuming tap water were then compared to the toxic effects these contaminant levels could cause. Sulfate is the most significant health hazard in the ground water at the Riverton mill site. Sulfate is of special concern for infants, because at the levels found at the site, sulfate-induced severe diarrhea could lead to dehydration in infants more quickly than it would in children or adults. Although no one currently drinks the contaminated ground water, the sulfate levels in the ground water exceed levels that have been reported elsewhere to cause severe dehydration when ingested by infants.

Using the uppermost aquifer as a source of drinking water would cause an unacceptable risk of 3×10^{-4} for uranium and 4×10^{-4} for arsenic, exceeding the EPA National Contingency Plan guideline of a maximum of 1×10^{-4} lifetime excess cancer risk. Potential noncarcinogenic health effects from exposure to uranium would also be of concern, as would exposure to molybdenum and manganese. Although these exposures are not in the range that cause lethal effects, exposures probably would result in adverse health effects such as neurologic changes (manganese) and biochemical imbalances (molybdenum and manganese).

Based on this analysis, the use of contaminated ground water for nondrinking water purposes (i.e., watering livestock, irrigating crops, or bathing) would not result in adverse health effects to humans.

Since the levels of arsenic, manganese, molybdenum, sulfate, and uranium in the surficial aquifer between the former processing site and the Little Wind River could cause adverse health effects if the ground water is used for drinking, access to contaminated ground water must be controlled. Institutional controls prohibiting the use of the ground water from the surficial and semiconfined aquifer should be planned and implemented as soon as possible in the vicinity of the Riverton site.

3.10.2 Potential environmental impacts

Contaminated ground water could potentially impact the environment. Based on monitor wells near the river and surface water and sediment quality data, it appears that contaminated ground water has reached the Little Wind River and wetlands areas near the site. With ground water near the surface, plant roots can probably reach the contamination.

Comparing mean ground water concentrations with water concentrations protective of plants indicates that manganese and molybdenum are at concentrations that could adversely affect plants. Thus, plants that may have roots in contact with ground water-saturated soil or plants that are irrigated with ground water could be affected by levels of these contaminants of potential concern in ground water.

No data are currently available to evaluate the effects of contaminated ground water exposure on terrestrial wildlife species.

The surface water concentrations for iron detected in samples from the Little Wind River exceed available surface water quality criteria for the protection of aquatic life. However, for most constituents analyzed in surface waters, the results for samples from the downstream location differed little from concentrations in samples from the background location (Table 3.4). The surface water and sediment sampling locations are shown in Figure 3.6. The downstream location, 796, is approximately 9000 ft (2740 m) downriver from the background location, 794. The uranium concentration measured at sampling location 742 is approximately one order of magnitude higher than the background concentration and could represent an ecological concern. This sampling location is closest to the highest contaminant levels detected in ground water (monitor well 707) in the surficial aquifer. Further downstream, at sampling location 796, uranium concentrations decline to background levels.

Table 3.4 Occurrence of constituents in the Little Wind River surface water, June 1993 sampling event, Riverton, Wyoming, site

Constituent of concern	Location 794 (background)	Location 742	Location 796
Calcium	41	41	42
Lead	0.004	0.004	0.004
Iron	2.0	1.4	3.1
Magnesium	14	14	14
Manganese	0.09	0.12	0.14
Molybdenum	ND	ND	ND
Uranium	0.002	0.025	0.002

All concentrations reported in mg/L.
ND - not detected.

An evaluation of sediment data from the Little Wind River showed that downstream concentrations exceeded background concentrations, with the highest concentrations observed at sampling location 742 (Table 3.5). This is the same location where higher uranium values were observed in surface waters. Sediment quality values were available only for lead. Lead concentrations in the sediment did not exceed sediment quality guidelines.

In other water bodies in the site vicinity, which include wetlands, a stream, and drainage ditches, the surface water concentrations did not exceed water quality values. However, water quality values are not available for several constituents.

Table 3.5 Occurrence of constituents in the Little Wind River sediments, June 1993 sampling event, Riverton, Wyoming, site

Constituent of concern	Location 794 (background)	Location 742	Location 796
Iron	5900	21,000	8500
Lead	4.5	14	3.9
Manganese	170	620	210
Molybdenum	ND	ND	4.0
Uranium	2.0	10	2.3

All concentrations reported in milligrams per kilogram (mg/kg).
ND - not detected.

Thus, it is not certain whether any of these concentrations threaten aquatic organisms. At most, the concentrations exceeded maximum background concentrations by a factor of 2 to 2.5 (Table 3.6). No clear trend is associated with surface water concentrations in these areas. The locations of highest values varied for the different constituents.

The sediment data collected from these water bodies in the vicinity are shown in Table 3.7. Comparing sediment data from these areas with sediment quality guidelines shows the lead concentration at sampling location 746 exceeds the National Oceanic and Atmospheric Administration (NOAA) sediment quality values (NOAA, 1990). Because this sampling location is only a few feet from Highway 137, these concentrations are probably due to automobile exhaust fumes rather than site-related activities. Sediment quality guidelines were not available for any other constituents detected in sediments. Manganese and molybdenum concentrations did not exceed background concentrations. Concentrations of the other constituents exceeded maximum background concentrations by a factor of 1.5 at most. No clear trend is associated with sediment concentrations in these water bodies. The locations of highest concentrations varied for the different constituents.

Potential exposure to livestock that ingest ground water from a stock tank or pond was evaluated by comparing mean ground water concentrations to water concentrations determined for livestock protection. Based on the sulfate concentrations in ground water, the results showed that adverse effects could occur because the mean concentration of sulfate in ground water was three times greater than the guidance values.

Water and sediment quality criteria and/or guideline values were insufficient to comprehensively evaluate the impact of ground water, surface water, and sediments on ecological receptors. Therefore, this qualitative, screening-level

Table 3.6 Occurrence of constituents in surface water from water bodies in the site vicinity, June 1993 sampling event, Riverton, Wyoming, site

Constituent of concern	Location 741[a] (background)	Location 743	Location 744	Location 745	Location 746
Calcium	46-70	160	58	81	110
Iron	0.43-0.46	0.24	0.13	0.36	0.09
Lead	ND	ND	ND	ND	ND
Magnesium	13-20	38	14	22	39
Manganese	0.05-0.05	0.12	0.02	0.05	0.06
Molybdenum	ND-0.02	0.01	ND	ND	ND
Uranium	0.006-0.006	0.013	0.016	0.008	0.008

[a]Range represents values from duplicate samples.

All concentrations reported in mg/L.
ND - not detected.

Table 3.7 Occurrence of constituents in sediments from water bodies in the site vicinity, June 1993 sampling event, Riverton, Wyoming, site

Constituent of concern	Location 741[a] (background	Location 743	Location 744	Location 745	Location 746
Iron	3000-11,000	18,000	12,000	3200	11,000
Lead	3.6-11	21.9	6.0	4.8	68
Manganese	180-460	240	190	54	310
Molybdenum	ND-11	2.0	ND	1.0	9.0
Uranium	1.9-7.6	5.0	5.5	1.7	11

[a]Range represents duplicate sample taken at this location.

All concentrations reported in mg/kg.
ND - not detected.

assessment of ecological risk could evaluate only some constituents detected at the site.

3.11 EVALUATION OF INTERIM REMEDIAL ACTION NEEDS

No current dangers to human health or the environment have been identified. However, because of the possibility of wells being installed in the contaminated ground water, institutional controls should be implemented immediately to prevent the use of contaminated ground water from the surficial and semiconfined aquifers. Controls should also be established to prevent downwards contamination migration into the confined aquifer from improperly installed wells.

4.0 GROUND WATER COMPLIANCE STRATEGY SELECTION

This section identifies the proposed ground water compliance strategies for the Riverton site; explains the application of site-specific data to the ground water compliance selection framework; identifies data deficiencies as a result of applying the ground water compliance selection framework; and analyzes possible deviations from the conceptual model, contingencies (selection of a different compliance strategy(ies)), and decision rules (criteria) for application of contingencies.

4.1 GROUND WATER COMPLIANCE STRATEGY SELECTION PROCESS

Proposed ground water compliance decisions at the Riverton site were made by using the compliance selection framework shown in Figure 4.1. This compliance selection framework was developed in the UMTRA Ground Water PEIS (DOE, 1994a). The proposed ground water compliance strategy is selected by applying site-specific data to this compliance selection framework.

The compliance selection framework provides for the selection of one or more of three ground water compliance strategies based upon site-specific data. The three strategies developed in the UMTRA Ground Water PEIS are defined as follows:

- No remediation — Application of the no remediation strategy would mean that compliance with the proposed standards would be met without altering the ground water or cleaning it up in any way. This could be applied at sites that have no contamination above MCLs or background levels, or at sites that have contamination above MCLs or background levels but qualify for supplemental standards or ACLs.

- Natural flushing — Natural flushing would allow the natural ground water movement and geochemical processes to decrease the contaminant concentrations to levels within regulatory limits within a given time period. This could be applied at sites where ground water compliance would be achieved with the application of natural flushing within 100 years, where effective monitoring and institutional controls could be maintained, and the ground water is not currently and is not projected to be a drinking water source.

- Active ground water remediation — Active ground water remediation would require the application of engineered ground water remediation methods such as gradient manipulation, ground water extraction and treatment, and *in situ* ground water treatment to achieve compliance with the proposed standards.

This SOWP has made the determination that proposed EPA standards will be met by applying a combination of two compliance strategies for the 24 hazardous constituents identified: 1) no remediation with application of ACLs

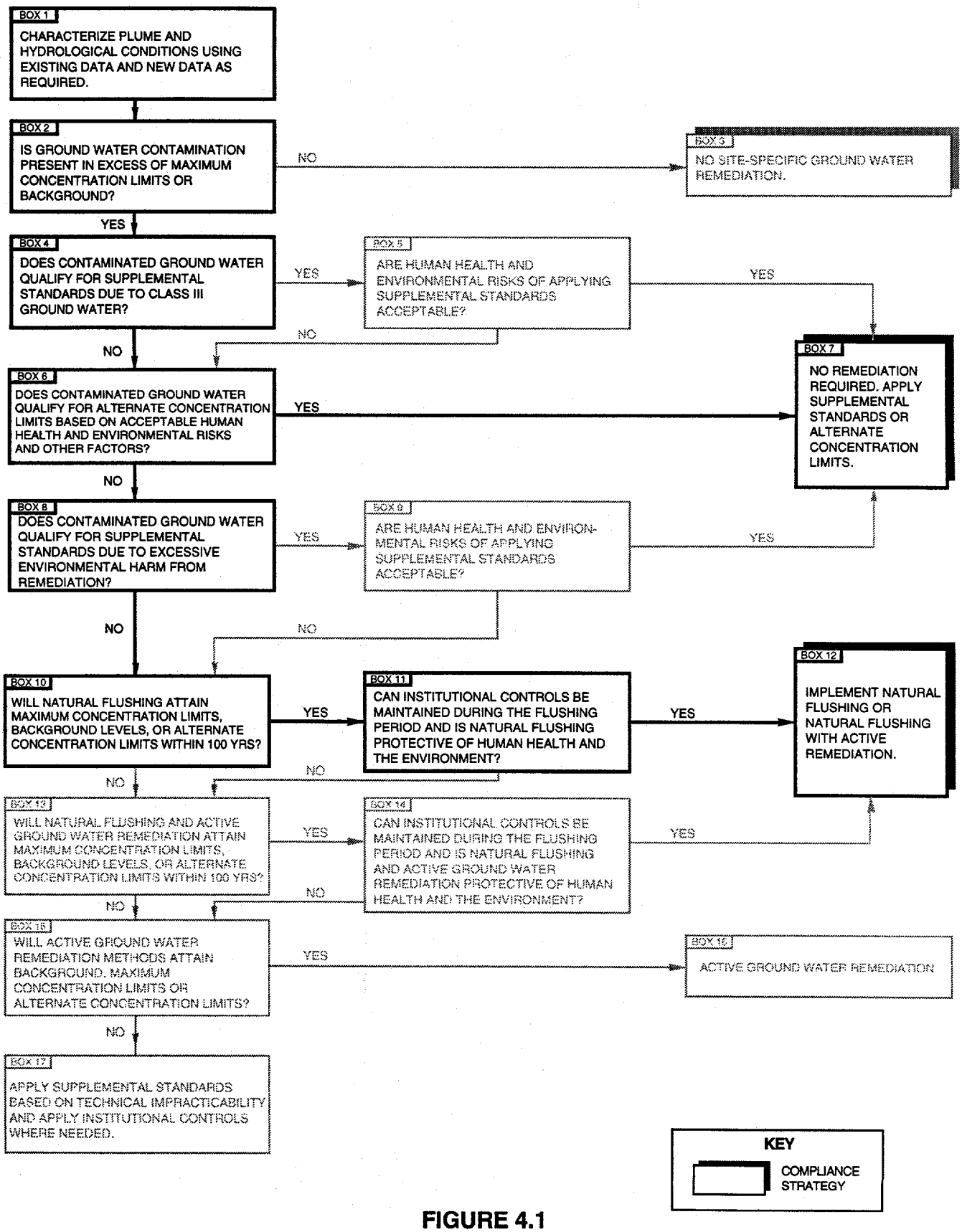


FIGURE 4.1
COMPLIANCE SELECTION FRAMEWORK
RIVERTON, WYOMING, SITE

and 2) natural flushing. The following section describes the decision-making process for compliance at the Riverton site.

4.2 SITE-SPECIFIC GROUND WATER COMPLIANCE STRATEGY

This section describes how the PEIS decision-making framework was used to evaluate and select the proposed compliance strategies for ground water remediation at the Riverton site. Figure 4.1 illustrates the process while Table 4.1 shows the results of the process. The steps involved in applying the constituents to the compliance selection framework are as follows:

1 and 2. The first two steps (boxes 1 and 2 in Figure 4.1) confirm that the ground water quality data show that the milling activities have resulted in ground water contamination that exceeds background levels or MCLs. Twenty-four contaminants that exceed background levels have been identified at the site and are listed in column 1 of Table 4.1.

3. The third step (box 4 in Figure 4.1) determines whether compliance with the proposed standards could be achieved by applying supplemental standards based on the existence of Class III (limited-use) ground water. The quality and quantity of the natural ground water at the Riverton site, as evidenced by the background ground water quality data and the results of the aquifer tests, do not meet the requirements for a limited-use aquifer (column 2 of Table 4.1). Therefore, supplemental standards do not protect human health and the environment.

4. The fourth step (box 6 in Figure 4.1) determines whether ACLs would apply. Fourteen of the constituents are potential candidates for ACLs because they are essential nutrients and the levels at which they occur in the ground water are within nutritional ranges and/or because they have very low toxicity and relatively high dietary intake ranges in comparison to the levels detected in the ground water. The remaining 10 constituents are not potential ACL candidates and are indicated in column 3 of Table 4.1 as the constituents considered in the compliance strategy.

5. The fifth step (box 8 in Figure 4.1) determines if contaminated ground water qualifies for supplemental standards due to excessive environmental harm. There are no reasons why remediation of the ground water would cause more environmental harm than benefit. Therefore, the contaminated ground water will not qualify for supplemental standards (column 4 of Table 4.1).

6. The sixth step (Box 10 of Figure 4.1) evaluates if natural flushing would bring the 10 constituents of concern within MCL or background levels within 100 years. The hydrogeologic and

Table 4.1 Application of constituents to compliance selection framework for the Riverton, Wyoming, site

Constituents present in ground water in excess of MCLs or background. (box 2)	Does contaminated ground water qualify for supplemental standards due to Class III? (box 4)	Does contaminated ground water qualify for ACLs based on acceptable risks? (box 6)	Does contaminated ground water qualify for supplemental standards due to excessive environmental harm. (box 8)	Will natural flushing attain MCLs, background levels, or ACLs within 100 years? (box 10)
Aluminum	No	Yes	–	–
Arsenic	No	No	No	Yes
Boron	No	Yes	–	–
Bromide	No	Yes	–	–
Calcium	No	Yes	–	–
Chloride	No	Yes	–	–
Fluoride	No	Yes	–	–
Iron	No	Yes	–	–
Magnesium	No	Yes	–	–
Manganese	No	No	No	Yes
Molybdenum	No	No	No	Yes
Nickel	No	No	No	Yes
Potassium	No	Yes	–	–
Selenium	No	Yes	–	–
Silica	No	Yes	–	–
Sodium	No	Yes	–	–
Strontium	No	Yes	–	–
Sulfate	No	No	No	Yes
Uranium	No	No	No	Yes

Table 4.1 Application of constituents to compliance selection framework for the Riverton, Wyoming, site (Concluded)

Constituents present in ground water in excess of MCLs or background. (box 2)	Does contaminated ground water qualify for supplemental standards due to Class III? (box 4)	Does contaminated ground water qualify for ACLs based on acceptable risks? (box 6)	Does contaminated ground water qualify for supplemental standards due to excessive environmental harm. (box 8)	Will natural flushing attain MCLs, background levels, or ACLs within 100 years? (box 10)
Vanadium	No	No	No	Yes
Zinc	No	Yes	—	—
Radionuclides				
Lead-210	No	No	No	Yes
Polonium-210	No	No	No	Yes
Thorium-230	No	No	No	Yes

Note: Shading indicates that the process is complete for that constituent.

geochemical data collected from the Riverton site and preliminary contaminant transport and ground water flow modeling indicate that natural ground water flushing appears to be an applicable strategy (column 5 of Table 4.1). That is, natural ground water movement and geochemical processes will decrease the contaminant concentrations to background levels within 100 years. During that period of time, effective monitoring and institutional controls will need to be maintained so ground water in the affected aquifer will not be used as a source of domestic water (box 11 in Figure 4.1).

7. The last step is the implementation of natural flushing (box 12 in Figure 4.1).

4.3 IDENTIFICATION OF DEVIATIONS, CONTINGENCIES, AND DECISION RULES

The natural flushing ground water compliance strategy proposed for the Riverton site is based on the evaluation of the existing conceptual model. Additional site-specific information must be collected to confirm the conceptual model and finalize the applicability of a natural flushing/institutional control scenario to achieve compliance with regulatory standards, as well as to mitigate risks to human health and the environment. Proposed additional data collection will focus on site-specific hydrogeologic and geochemical conditions, ground water quality, surface water flows, and impacts of ground water discharge to surface water quality. Additional work also will be needed to assess the feasibility of institutional controls.

Deviations from the existing site model may be identified during data collection and/or evaluation. As the magnitude of such deviations will control the nature of future site activities and the final selection of the ground water compliance strategy, decision rules and contingencies must be addressed.

Decision rules will focus on identifying whether additional data collection efforts confirm the conceptual site model or identify deviations/variations that would compromise the proposed compliance strategy. For example, if calculated hydraulic conductivity values combined with retardation factors will not allow the contaminant plume to migrate at a rate of at least 40 ft (12 m) per year so that it will cover the 4000 ft (1219 m) from the northern edge of the plume to the Little Wind River in 100 years, or if ground water recharge to the Little Wind River severely degrades surface water quality, decision rules to modify or abandon the natural flushing scenario would be imposed. Similarly, if institutional controls on ground water usage can not be obtained or enforced, the feasibility of the natural flushing strategy will need to be reevaluated. In this event, alternative strategies will be recommended. Based on the constituents, concentration, and configuration of ground water contamination at the Riverton site, alternative compliance strategies under consideration include:

- Enhanced natural flushing.

- Natural flushing combined with localized ground water extraction.
- Ground water extraction.

The ground water system's flushing capabilities may be enhanced by introducing additional water through existing irrigation canals and/or new infiltration systems to increase the rate of ground water movement.

Localized extraction of ground water, particularly in areas exhibiting extremely elevated constituent levels and/or along the outermost edges of the plume, could be initiated to enhance the performance of a natural flushing scenario. The physical removal and/or reduction of contaminant concentrations and plume size will assist the natural flushing process by immediately improving the ground water quality and reducing the time required for total plume migration to the Little Wind River.

If the combination of enhanced natural flushing and selective ground water extraction and treatment do not remediate the ground water, more extreme water extraction systems may be needed. The length of time and the costs required to physically capture and collect the total volume of contaminated ground water at the Riverton site will need to be determined.

All compliance strategies discussed (proposed and alternative) must be performed in conjunction with the execution of institutional controls on ground water usage in the vicinity of the Riverton site. Because implementing any of these strategies addresses the reduction and/or the removal of contaminant concentrations through time, controlling ground water usage will mitigate the immediate and/or long-term risks to both public health and the environment.

5.0 COLLECTION AND ASSESSMENT OF DATA

Existing site conditions, as defined by previous investigations conducted at the Riverton site, support a preliminary selection of an appropriate ground water remediation strategy. While the existing site data support the strategy of naturally flushing constituents of concern to the Little Wind River, additional site-specific data are needed to confirm the applicability and feasibility of this compliance option. This section identifies the data needs, the related data collection objectives and activities, and the governing data quality objectives (DQO).

5.1 STATEMENT OF DATA NEEDS

The following are the data needs based on the conceptual model and an evaluation of existing data.

5.1.1 Aquifer testing

Additional data are needed on the variability of the hydraulic conductivity of the surficial and semiconfined aquifers downgradient of the site.

5.1.2 Topographic surveying

A topographic profile across the Little Wind River is required to establish topographic reference for elevations, water levels, and ground water flow. Surveys of water levels in the wetlands to the east are needed to assess if contaminated ground water could be discharging there.

5.1.3 Monitoring well installation and ground water sampling

Water quality data are needed to determine if the discharge from the Koch Sulfur Products Co. plant has impacted the quality of ground water along the western boundary of the site. Background water quality in the surficial and semiconfined aquifers upgradient of the site and on the south side of the Little Wind River is needed to confirm that the river serves as a hydraulic barrier against the migration of the contaminant plume. In addition, existing monitor wells will continue to be sampled to monitor changes in ground water quality.

5.1.4 Surface water and sediment sampling

Surface water quality and contaminant concentrations in sediments from the Little Wind River, the oxbow lake, and nearby wetlands areas are required to assess the impact of ground water discharge into the river and wetlands. The most recent surface water and sediment sampling event was conducted during a high-flow period at the Little Wind River and the wetlands areas. The samples were analyzed for a limited suite of analytes. This suite was selected prior to development of the baseline risk assessment. The risk assessment identified several additional contaminants of potential environmental concern. Samples

should be collected during a low-flow period when the impacts of contaminated ground water discharging to surface water bodies will be the most noticeable.

5.1.5 Ground water level elevation monitoring

Ground water level elevation data are required to evaluate the effect of infiltrating irrigation canal water on the ground water gradient and to more adequately evaluate the vertical ground water gradients between the aquifers.

5.1.6 Geochemical analysis of ground water and aquifer matrix

Geochemical analysis of the aquifer matrix is required to determine the interaction between the constituents in ground water and the material comprising the aquifer in order to assess contaminant migration and attenuation.

5.1.7 Toxicological literature review

Toxicological data are needed for those contaminants of potential concern that have no state or federal water quality or sediment quality guidelines.

5.1.8 Computer modeling of ground water flow regime

A quantitative evaluation of the ground water flow regime and the fate and transport of contaminants (computer modeling) is needed to complement previous evaluations and to determine and monitor the effectiveness of the natural flushing remedial strategy.

5.1.9 Feasibility of executing institutional controls

Additional information is required to assess the feasibility of implementing institutional controls for ground water usage in the vicinity of the Riverton site.

5.2 DATA COLLECTION OBJECTIVES

5.2.1 Aquifer testing

Only one aquifer pumping test was conducted in the surficial aquifer and only one test was conducted in the semiconfined aquifer. Both tests were performed in wells upgradient of the former tailings site. To better evaluate the variability of the aquifer and the resulting fate and transport of the contaminants, hydraulic conductivity data from both the surficial and semiconfined aquifers downgradient of the site are required.

5.2.2 Topographic surveys

It is presumed that the Little Wind River is the local base level for the ground water regime in the surficial and semiconfined aquifers downgradient of the site, and that contaminated ground water from beneath the site will not cross under

the river. The detection of sulfate and uranium in monitor well 706 to the south of the river at concentrations above the concentrations in monitor wells 710 and 711 raises questions regarding this supposition. Therefore, additional information on the water elevation in the Little Wind River is needed. There is also a question whether the ground water flows into the wetlands east of the site during the non-irrigation season and/or if irrigation water actually created the wetlands and is recharging the aquifer. Data on the elevation of the water in the wetlands areas are needed to address these uncertainties.

5.2.3 Monitoring well installation and ground water sampling

Process water coming from the Koch Sulfur Products Co. plant meets their permit requirements for surface water discharges. The sulfate concentration in water infiltrating from the drainage ditch, however, may affect the ground water quality along the western, upgradient edge of the site. Information on the quality of the Koch Sulfur Products Co. plant discharge and the ground water entering the site from the west is therefore needed to determine if the plant is contributing to ground water contamination.

Existing data documenting background water quality in the semiconfined aquifer indicate that constituents found onsite are also detected downgradient of the site. Because the samples were obtained from monitor wells located along the northern boundary of the site, additional background water quality samples are needed from an upgradient location established far enough away to preclude influence of past or present site activities.

Ground water sampling is proposed to confirm that site contamination has not migrated across the Little Wind River and that the presence of low uranium concentrations south of the river can be attributed to background conditions.

5.2.4 Surface water and sediment sampling

Potential environmental impacts from ground water migration into the Little Wind River, the oxbow lake, and nearby wetlands areas must be determined as part of the natural flushing compliance strategy. Surface water and sediment sampling during low-flow periods will more adequately define the potential for ecological impact (i.e., surface water, sediment, and biota contamination).

5.2.5 Ground water level elevation monitoring

The ground water level elevations in some of the monitor well clusters need to be confirmed to resolve inconsistencies in the interpretation of vertical gradients between aquifers. An assessment of ground water level changes due to infiltration from irrigation canals, as well as changes in the water levels in the Little Wind River and the wetlands east of the site, is also needed to develop an accurate hydrologic model of the site.

5.2.6 Geochemical analysis of ground water and aquifer matrix

The geochemistry of both the ground water and aquifer matrix is required in order to determine the sorption potential of the aquifer. No such data currently exist in the Riverton site data base. This information is required to quantify the interaction of solute during transport through the aquifer (i.e., distribution coefficients, retardation coefficients, and contaminant specific velocities).

5.2.7 Toxicological literature review

An in-depth literature review to obtain toxicological data for contaminants of potential concern which have no state or federal water quality or sediment quality guidelines is needed to more adequately define specific contaminant impacts, if any, on public health and/or the environment.

Examples of the information that will be obtained include acute (short-term) effects and chronic (long-term) effects. The type of measurement endpoints that could be obtained include lethal concentrations (LC_{50} - concentration of a chemical in water that results in death to 50 percent of the test organisms); sublethal concentrations (EC_{50} - concentration of a chemical in water that results in sublethal effects to 50 percent of the test organisms); lowest observed adverse effect levels (LOAEL); and no observed adverse effect levels (NOAEL). The data will be evaluated with respect to conditions in the river and wetlands and will enhance the understanding of the potential ecological impacts, if any, from exposure to these contaminants of potential concern.

5.2.8 Computer modeling of ground water flow regime

After completing the field activities, computer modeling of the ground water flow and contaminant transport regimes will be conducted. The models will integrate all the information available from the Riverton site and will allow quantitative evaluation of the feasibility of achieving a natural flushing ground water compliance strategy within the 100-year timeframe.

5.2.9 Feasibility of institutional controls

Institutional controls, in the form of restricted ground water usage of the surficial and semiconfined aquifers in the vicinity of the Riverton site, must be imposed to ensure the immediate and long-term mitigation of risks to human health and the environment. The legal, regulatory, and environmental constraints and basis for implementation of institutional controls must first be determined.

5.3 DATA QUALITY OBJECTIVES

DQOs are quantitative and qualitative statements made to ensure that data of known and appropriate quality are obtained during an investigation. To ensure that the data gathered during investigation activities are adequate to support

stakeholder decisions, a clear definition of the quality objectives and the method by which decisions will be made will be established. The DQOs for each previously proposed task are presented in this section.

5.3.1 Aquifer testing

Step tests will first be performed to select the most suitable pumping rate for the aquifer test and to include losses due to well inefficiency in the calculations of aquifer characteristics. The long-term aquifer pumping test will then be performed. Data loggers and pressure transducers (in the pumping and observation wells) used in accordance with the manufacturer's instructions will rapidly record reliable drawdown and recovery data for the analysis. Periodic manual measurements will be made to verify the accuracy of the data logger readings. The step tests and aquifer tests will be designed, performed, and analyzed according to various standards, such as American Society for Testing Materials (ASTM) Standard D4050-91, *Standard Test Method (Field Procedure) for Withdrawal and Injection Well Tests for Determining Hydraulic Properties of Aquifer Systems*, and UMTRA Project standard operating procedure (SOP) 16.15, "Pumping Tests for Aquifers" (JEG, n.d.).

A potential problem with analyzing the aquifer tests is the possibility of obtaining multiple, equally good solutions that cannot be discriminated amongst (Horne, 1994). To help alleviate this problem, each test will be analyzed during both the drawdown and recovery phases to cross-check the results.

Slug tests may be performed to assess variations in hydraulic conductivities across the site. Slug tests will be performed in accordance with ASTM Standard D4044-91, *(Field Procedures) for Instantaneous Change In Head (Slug Tests) for Determining Hydraulic Properties of Aquifers*, and UMTRA Project SOP 16.1.3, "Slug Testing" (JEG, n.d.).

5.3.2 Topographic surveys

The elevations of the monitor wells and the topographic profile and survey will all be conducted by professional surveyors licensed in the state of Wyoming. The surveys will be done in accordance with 2nd order topographic surveying accuracy criteria.

5.3.3 Monitor well installation

The monitor wells will be installed in accordance with UMTRA Project SOPs 16.1.1, "Monitor Well Installation," and 16.1.2, "Well Development" (JEG, n.d.) to ensure that the wells will be adequate for the intended purpose.

5.3.4 Ground water level measurements

Changes in ground water elevations due to infiltration from the irrigation canals will be measured with data loggers in onsite monitor wells. The data loggers

read changes in water levels to 0.01 ft (0.003 m). The loggers will be installed, operated, and maintained in accordance with the manufacturer's specifications. The loggers will be operated for at least 1 year to measure seasonal variations. Ground water elevations in other wells will also be measured to 0.01 ft (0.003 m) in accordance with the manufacturer's specifications.

5.3.5 Surface water and sediment sampling

Surface water and sediment samples will be collected during a low-flow period when the dilution effects associated with high-flow conditions are expected to be minimal (e.g., late summer and fall). The samples will be collected in accordance with EPA Region IV SOPs and *Quality Assurance Manual* (EPA, 1991) and analyzed for the complete list of the constituents of concern identified in the risk assessment as exceeding background ground water quality (DOE, 1994b). The flow in the Little Wind River will be determined relative to the U.S. Geological Survey (USGS) gauging station downstream of the site (Figure 3.6).

5.3.6 Water quality sampling and analysis

The new and existing monitor wells will be sampled at least once per year. Samples will be collected, preserved, and shipped according to the UMTRA Project SOPs (JEG, n.d.). Because these results will be compared to and used with earlier results, the laboratory QA level needs to be the same. Thus, a laboratory quality assurance (QA) level corresponding to DOE Level C will be used for the chemical analyses of the samples.

5.3.7 Geochemical analysis of aquifer matrix

Alluvial and rock samples will be collected in accordance with UMTRA Project SOPs 14.4.1, "Soil and Rock Core Borehole and Test Pit Logging" and 14.5.1, "Procedures for Handling and Shipping of Geotechnical Samples." The samples will be analyzed using standard testing procedures such as ASTM Method 4319, *Distribution Ratios by the Short-Term Batch Method*, and standard laboratory QA procedures will generate data suitable for this activity.

5.4 DATA COLLECTION ACTIVITIES

The following discussion describes the methods of data collection to meet each of the data needs.

5.4.1 Aquifer testing

A 4-inch (10-cm) diameter, screened pumping well (737) will be installed to test the surficial aquifer in the vicinity of existing monitor wells 705, 707, and 709 located near the Little Wind River (Figure 5.1). This well will be installed to the top of the semiconfining unit separating the surficial and the semiconfined sandstone aquifers. Existing monitor well 705 is a 6-inch (15.25-cm) well

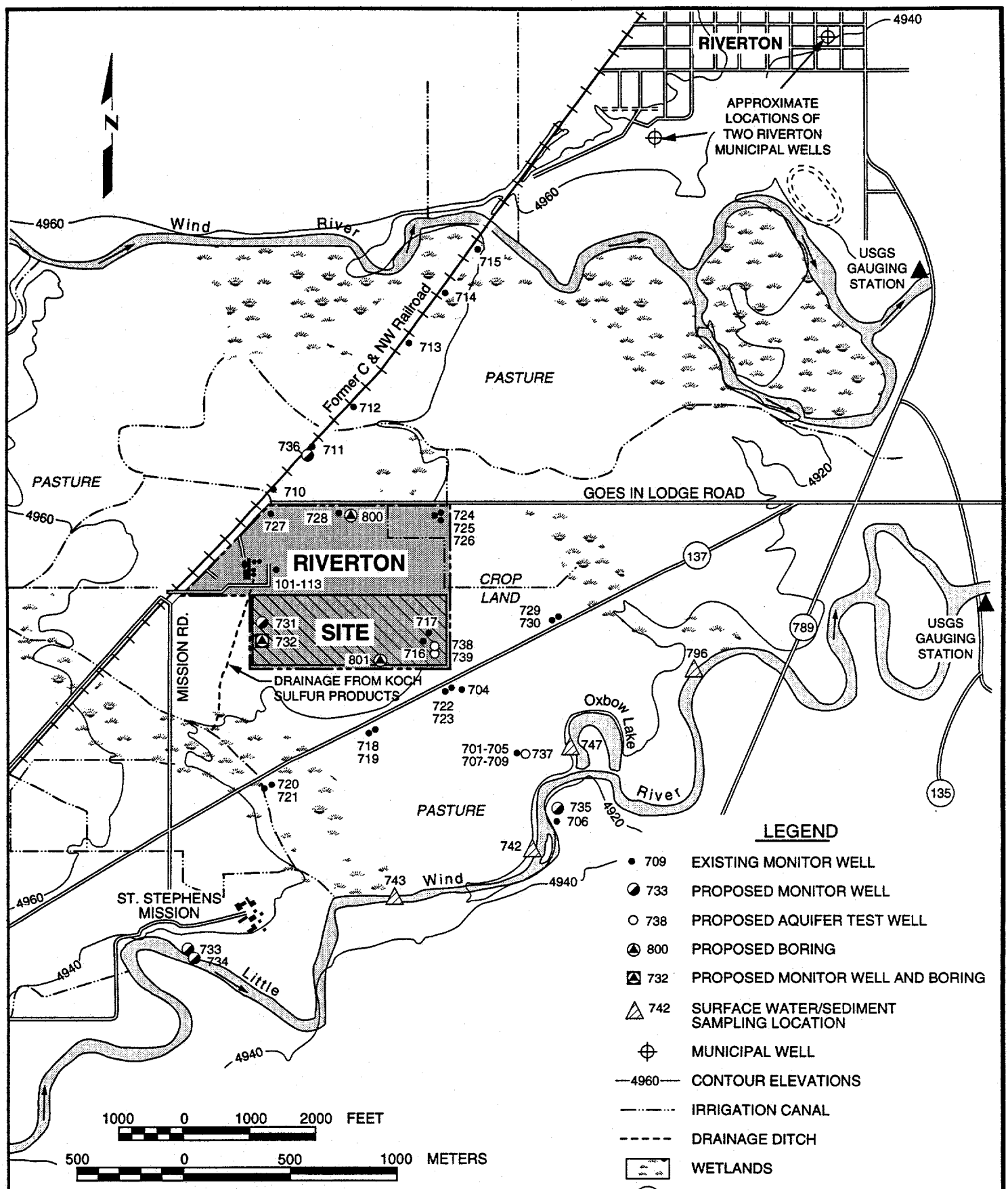


FIGURE 5.1
EXISTING AND PROPOSED WELL, BORING, AND SURFACE WATER/SEDIMENT SAMPLING LOCATIONS RIVERTON, WYOMING, SITE

screened in the semiconfined sandstone and will be pumped to test the semiconfined aquifer after completion of the surficial aquifer test.

Step drawdown tests will be performed in each well prior to conducting the long-term pumping tests to assess the well efficiencies and to select appropriate pumping rates for the actual aquifer pumping tests. Water levels in all wells will be allowed to recover to static water levels before the aquifer test begins. The aquifer pumping tests will be performed by pumping each of the wells for a period of at least 24 hours at a constant rate followed by at least 24 hours of recovery until the water is back to static level. Changes in ground water levels in the surficial aquifer pumping well and observation wells 705, 707, and 709 will be monitored during the pumping test in the surficial aquifer. The change in water levels in the semiconfined aquifer pumping well (705), the observation wells (707 and 709), and the 4-inch (10-cm) surficial aquifer pumping well will be recorded during the aquifer test in the semiconfined aquifer. Water levels in background wells outside of the zone of influence will be monitored to identify regional trends that need to be accounted for during the tests. The hydraulic conductivities of the aquifers between the pumping and the monitor wells will be calculated.

Should the results of these tests differ by more than a factor of two from those obtained from the 1984 aquifer tests conducted onsite, another set of aquifer tests will be conducted in the vicinity of monitor wells 716 and 717 located near the southeast corner of the site.

Similarly, slug tests will be conducted in selected wells if needed to better define the areal variability of the aquifer as determined by the differences in the results of the pumping tests. Slug tests will be performed in the observation wells used in the pumping tests to calibrate the slug test results with the aquifer test. Then slug tests may be performed on monitor well clusters 718 and 719, 722 and 723, and 729 and 730.

5.4.2 Topographic surveying

A topographic profile will be constructed from monitor well 702 across the Little Wind River to monitor well 706 on the south bank of the river and up to the top of the escarpment south of the river. The elevations of the river will be referenced to MSL so that future changes in river stage can be calculated based on the USGS reading. A survey of the edge of the wetlands east of the site will also be completed.

The elevation of clustered monitor wells 101 through 113 and 701 through 603, 705, and 707 through 709 will be surveyed to confirm the elevation of the datum elevations used to calculate the ground water elevations.

5.4.3 Monitoring well installation and ground water sampling

The quality of the wastewater being discharged by the Koch Sulfur Products Co. plant and its potential effects on the ground water along the western edge of the former mill tailings site will be evaluated by reviewing records provided by the company to the state of Wyoming.

The impacts of the discharged wastewater infiltrating the ground water will be assessed by collecting and analyzing ground water samples from two monitor wells (731 and 732) to be installed along the western boundary of the site. Each well will be 4 inches (10 cm) in diameter. One well will be screened in the surficial aquifer to straddle the water table and the second well will be screened within the semiconfined aquifer.

A 4-inch (10-cm) monitor well (735) will be installed in the semiconfined aquifer next to monitor well 706 to the south of the Little Wind River to assess the migration of ground water contamination below the river. Two 4-inch (10-cm) monitor wells (733 and 734) will be installed in the surficial and semiconfined aquifers near the Little Wind River upstream of the potential zone of impact to help establish background water quality for existing monitor well 706 and the new monitor well (735) to be installed into the semiconfined aquifer.

5.4.4 Surface water and sediment sampling

Water and sediment samples will be collected at a time of low-flow conditions after the end of the irrigation season (locations 742, 743, 747, and 796 in Figure 5.1). No samples will be collected during or immediately after a precipitation event. The samples will be collected in accordance with the UMTRA Project SOPs (JEG, n.d.) and analyzed for the complete list of the constituents of concern identified in the risk assessment as exceeding background ground water quality.

The quantity of flow in the Little Wind River available to dilute contamination from the ground water discharge will be based on USGS records from the gauging station located approximately 2.5 mi (4 km) downstream on the Little Wind River from monitor wells 701 through 709 (Figure 5.1). The probable zone of discharge along the river will be visually inspected to assist in calculating the cross-sectional area of discharge.

The water levels in the wetlands area will be surveyed during both the irrigation season and the non-irrigation season. Attempts will be made to identify ground water seepage locations. Surface water and sediment samples will be collected at these locations. Painted stakes will be driven into the ground at the sampling location, and the points will be surveyed as part of the topographic surveying of the wetlands.

5.4.5 Ground water level monitoring

To evaluate the effects of the irrigation canal on the ground water levels, data loggers will be installed in monitor wells 724 and 728 in the surficial aquifer and monitor wells 725 and 727 in the semiconfined aquifer near the irrigation canal along the northern boundary of the site (Figure 5.1). Data loggers will also be installed in surficial monitor wells 101, 716, and 718 to record changes in three locations south of the canal. The data loggers will record water levels every 4 hours. Manual measurements will be made of water levels in the semiconfined aquifer (monitor well 108) and the confined aquifer (monitor wells 110 and 709) at least four times per year.

If the amount of surface flow entering and leaving the site needs to be quantified to develop the flow model, measurements will be made using weirs in the existing flow-control structure on the north side of Goes In Lodge Road near the northwest corner of the site and in the existing flow-control structure in the section of canal along the eastern boundary of the site. *In situ* measurements of seepage from the bottom of the canal will also be made using a "constant head seepage meter" (IAH, 1990).

5.4.6 Geochemical analysis of aquifer materials and ground water

Subsurface core samples will be collected at three locations (boring locations 732, 800, and 801 in Figure 5.1). These locations were chosen to represent the aquifer matrix. Split-spoon sampling techniques will be used to collect samples at 5-ft (1.5-m) intervals from the ground surface to the base of the alluvium. If the sampling technique fails due to the unconsolidated nature of alluvial materials, test pits will be dug and samples collected in the excavated holes.

Samples of the aquifer matrix will be analyzed for organics, inorganics (mineralogy), and sorption potential. Batch sorption tests will be performed by a contract laboratory to determine contaminant specific distribution coefficients. Complete mineralogical characterization will also be performed at the laboratory.

Isotopic samples will be collected from the two new monitor wells (731 and 732) along the western boundary, two surface water locations along the drainage ditch from the sulfur plant, and from two surface background locations.

5.4.7 Toxicological literature review

Several of the contaminants of potential ecological concern identified in the BLRA (DOE, 1994b) have no tribal, state, or federal water quality or sediment quality guidelines. A literature review will be conducted using commercially available databases, such as AQUIRE and DIALOG, to obtain ecotoxicological data and information specific to these contaminants of potential ecological concern and the organisms that are likely to be exposed. If the data are not

sufficient to establish quality guidelines, efforts will be undertaken to fill this data need.

5.4.8 Computer modeling of ground water flow and contaminant transport

A two-layered, three-dimensional hydrologic flow model simulating the existing ground water flow pattern will be developed (probably using the software package MODFLOW, according to ASTM standard currently under development). This model will incorporate the existing data on the hydrogeology and boundary conditions. It will be calibrated to emulate the existing "steady state" conditions. The computer model will identify data gaps and uncertainties.

A contaminant transport and decay model (probably MT3D) will then be incorporated into the flow model and calibrated with the 1987 and 1993 water quality information. The transport model will be used to generate representative retardation and decay criteria needed to make the plume migration simulation correspond to the actual changes in contaminant distributions. These generated values will be compared to the retardation and decay factors suggested by analysis of the aquifer matrix samples. If the values appear appropriate, they will be used in the predictive model. If not, this data gap will be identified. The ground water flow and contaminant transport and decay models will be used to predict the feasibility of the natural flushing strategy. The model will also be used to identify appropriate future sampling needs and schedules to ensure the compliance strategy is working as predicted.

5.4.9 Feasibility of executing institutional controls

All federal, state, and local agencies responsible for regulatory guidance and enforcement of ground water usage in the vicinity of the Riverton site will be identified to determine the possibility of, and procedures for, executing ground water usage restrictions. As of 1993, the Wind Rivers Tribes' Environmental Quality Commission (WRTEQC) was negotiating with the state of Wyoming to define their role in administering ground water activities on the reservation. The status and results of these negotiations will be determined.

As institutional controls are intended to restrict ground water usage and prohibit cross-contamination of aquifers in the area of concern, all wells (public and private), and the associated property owners, located within 100 yds (91.4 m) of the probable maximum extent of the contaminant plume will be identified through the WRTEQC and the state of Wyoming Department of Environmental Quality (WDEQ).

5.5 RESULTS OF COLLECTION ACTIVITIES

Upon completion of data collection and analytical testing, data evaluation and report preparation activities will be initiated. Data evaluation activities will include, but not be limited to:

- Synthesis of ground water level measurements, calculation of ground water elevations, and preparation of contour maps.
- Synthesis of aquifer pumping test data.
- Implementation of computer modeling and resultant calculation of hydraulic conductivities, ground water flow path, vertical and horizontal gradients, ground water flow velocity, contaminant fate and transport, and surface water and ground water interactions.
- Tabulation of analytical results obtained from surface water and sediment sampling, ground water sampling, and geochemical sampling.
- Implementation of risk-based analysis of contaminant data with respect to receptors.
- The hydrogeologic data resulting from the well tests will be used, along with the estimates of rate of contaminant transport, to predict the quantity and concentrations of the contaminants being discharged to the river. A mass balance during low-flow periods will be calculated to evaluate the potential environmental impact on the river water and sediments. These predictions will be compared to surface water and sediment samples collected during low-flow periods as part of the continuing sampling activities.

Upon completion of data evaluation activities, a report will be compiled and delivered that will include a discussion of all field activities, a description of the instrumentation used, the location of the surveys, copies of all field measurement data, copies of field logs, the method of interpretation, and a summary of the results relative to the data collection objective. The results and reports will be incorporated in the SOWP, Revision 1. As the focus and overall objective of this report is to confirm or deny the applicability of the proposed conceptual compliance strategy, all recommendations, deviations, and contingencies regarding the site remediation will be identified, as will any additional data needs.

6.0 LIST OF CONTRIBUTORS

The following individuals contributed to the preparation of this document.

Name	Contribution
S. Wright	Document coordination
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R. Bowen, P. Briggs, L. Morisi	Document review
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E. Bond, T. Gagliano, J. Gates, B. Harvey, S. Suniga, J. Wimmer	Graphic design

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APPENDIX A

MONITOR WELL LITHOLOGIC AND CONSTRUCTION LOGS

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 100

JOB NO. RVT01 DATE 10/04/83

SURFACE ELEVATION 4946.10

DEPTH OF SEAL 4.00

WELL CASING TYPE 6-IN.SCHED. 40 PVC

COMPLETION ALLUVIUM (PUMP TEST)

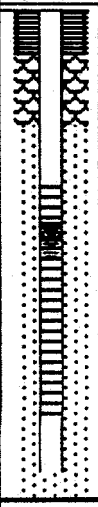
TOTAL DEPTH 17.0 feet

WELL OWNER P. DARR

BORING TYPE ROTARY W/ REVERT

LOCATION N 24100.70 E 24050.70

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 6-in PVC cased well for pumping test. Placed cement w/ bentonite grout to 1.5 feet Placed bentonite pellet seal from 1.5 to 4 feet. Placed filter pack of concrete sand from 4 to 17 ft. Placed well screen, 015" slot, from 6 to 14 feet.		ML	ALLUVIUM: SANDY SILT, nonplastic, brown.
5				SM	SILTY SAND, fine, occasional thin seams of sandy silt, nonplastic, brown.
10				GP	SANDY GRAVEL, fine to coarse, brown.
15				SM	WIND RIVER FM.: SANDSTONE, weakly cemented, grey.
20		Placed blank sump from 14 to 16 ft.			TD AT 17 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	8.3		1-16-85
▼	8.0		4-16-87

JEG TAC TEAM

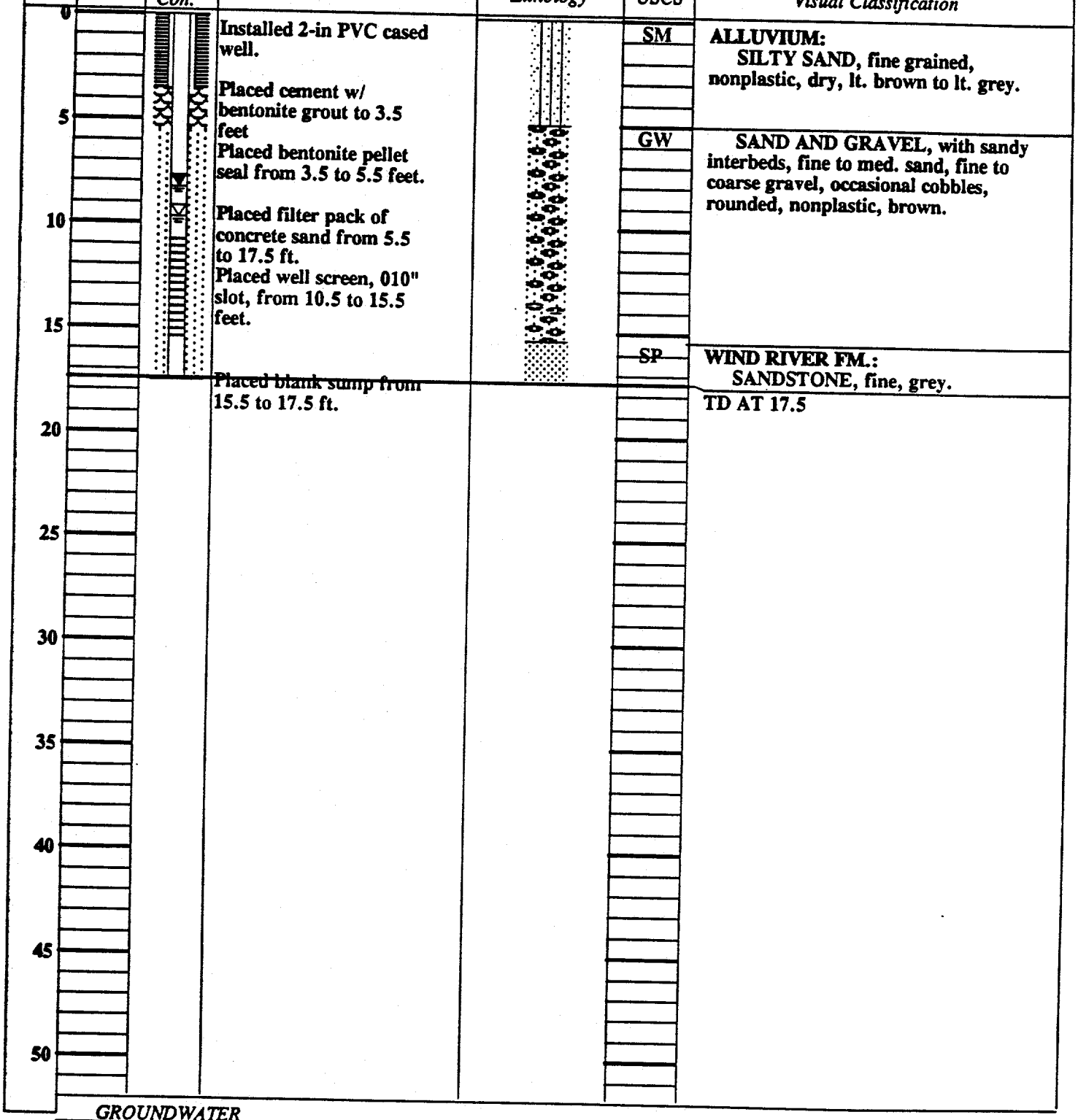
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 101

JOB NO. RVT01 **DATE** 09/28/83

SURFACE ELEVATION 4946.20
TOP OF FILTER PACK 6.00
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 17.5 feet
RIG TYPE CME-55
BORING TYPE HSA
LOCATION N 24105.40 E 24056.00
DATUM MSL, GROUND SURFACE



GROUNDWATER

DEPTH	HOUR	DATE
9.7		1-16-85
8.3		4-16-87

JEG TAC TEAM

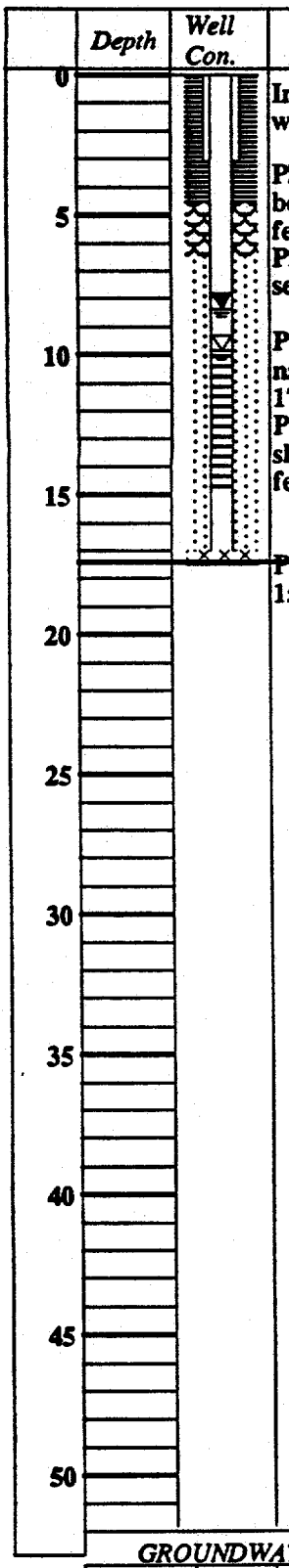
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 102

JOB NO. RVT01 **DATE** 09/29/83

SURFACE ELEVATION 4946.30
TOP OF FILTER PACK 6.50
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 17.5 feet
RIG TYPE CME-55
BORING TYPE HSA
LOCATION N 24101.60 E 24066.20
DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well.		SM	**ALLUVIUM:** SILTY SAND, fine, nonplastic, slightly moist, (possible fill) lt. tan to brown.
5		Placed cement w/ bentonite grout to 4.5 feet. Placed bentonite pellet seal from 4.5 to 6.5 feet.		SP	GRAVELLY SAND, medium grained sand with coarse gravel, occasional small cobble, lt. brown.
10		Placed filter pack of natural sand from 6.5 to 17.0 ft. Placed well screen, 010" slot, from 10.0 to 15.0 feet.			
15				SP	**WIND RIVER FM.:** SANDSTONE, fine to med. v. weakly cemented, grey.
		Placed blank sump from 15.0 to 17.0 ft.			TD AT 17.5 FEET.

GROUNDWATER

DEPTH	HOUR	DATE
9.9		1-16-85
8.4		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 103

JOB NO. RVT01 **DATE** 09/29/83

SURFACE ELEVATION 4946.00
TOP OF FILTER PACK 6.50
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 17.5 feet
RIG TYPE CME-55
BORING TYPE HSA
LOCATION N 24102.30 E 24092.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		SM	ALLUVIUM: SILTY SAND, fine, nonplastic, slightly moist, (possible fill) lt. tan to brown.
5		Placed cement w/ bentonite grout to 4.5 feet		SP	GRAVELLY SAND, medium grained sand with coarse gravel, occasional small cobble, lt. brown.
10		Placed bentonite pellet seal from 4.5 to 6.5 feet. Placed filter pack of natural sand from 6.5 to 17.0 ft.			
15		Placed well screen, 010" slot, from 10.0 to 15.0 feet.		SP	WIND RIVER FM.: SANDSTONE, fine to med. v. weakly cemented, grey.
20		Placed blank sump from 15.0 to 17.0 ft.			TD AT 17.5 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
8.7		1-16-85
8.3		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 104

JOB NO. RVT01 DATE 09/29/83

SURFACE ELEVATION 4945.30

TOP OF FILTER PACK 6.50

WELL CASING TYPE 2-IN.SCHED.40 PVC

COMPLETION ALLUVIUM

TOTAL DEPTH 15.5 feet

RIG TYPE CME-55

BORING TYPE HSA

LOCATION N 24101.70 E 24251.20

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		SM	ALLUVIUM: SILTY SAND, fine, nonplastic, slightly moist, (possible fill) lt. tan to brown.
5		Placed cement w/ bentonite grout to 4.5 feet. Placed bentonite pellet seal from 4.5 to 6.5 feet.		SP	GRAVELLY SAND, medium grained sand with coarse gravel, occasional small cobble, lt. brown.
10		Placed filter pack of natural sand from 6.5 to 15.5 ft. Placed well screen, 010" slot, from 8.5 to 13.5 feet. Placed blank sump from 13.5 to 15.5 ft.		SP	WIND RIVER FM.: SANDSTONE, fine to med. v. weakly cemented, grey.
15					TD AT 15.5 FEET.
20					
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
8.6		1-16-85
8.3		4-16-87

JEG TAC TEAM

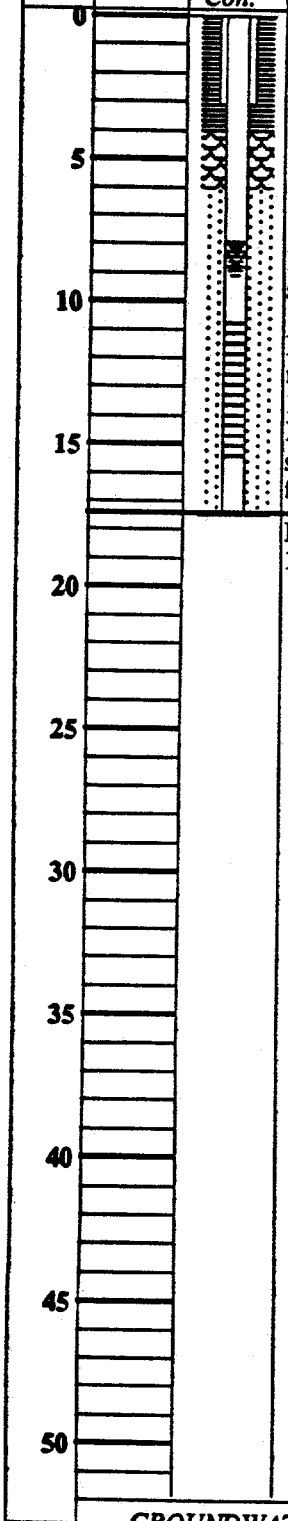
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 105

JOB NO. RVT01 **DATE** 09/29/83

SURFACE ELEVATION 4946.30
TOP OF FILTER PACK 6.00
WELL CASING TYPE 2-IN.SCHED. 40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 17.5 feet
RIG TYPE CME-55
BORING TYPE HSA
LOCATION N 24118.90 E 24050.60
DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		SM	**ALLUVIUM:** SILTY SAND, fine, nonplastic, slightly moist, (possible fill) lt. tan to brown.
5		Placed cement w/ bentonite grout to 4.0 feet. Placed bentonite pellet seal from 4.0 to 6.0 feet.		SP	GRAVELLY SAND, medium grained sand, med. to coarse gravel, occasional small cobble, lt. brown.
10		Placed filter pack of natural sand from 6.0 to 17.5 ft.			
15		Placed well screen, 010" slot, from 10.5 to 15.5 feet.		SP	**WIND RIVER FM.:** SANDSTONE, fine to med. v. weakly cemented, grey.
17.5		Placed blank sump from 15.5 to 17.5 ft.			TD AT 17.5 FEET.

GROUNDWATER

DEPTH	HOUR	DATE
8.8		1-16-85
8.5		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 106

JOB NO. RVT01 **DATE** 10/10/83

SURFACE ELEVATION 4946.20
TOP OF FILTER PACK 35.00
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR CONFINED)

TOTAL DEPTH 100.0 feet
RIG TYPE MIDWAY 1500
BORING TYPE ROTARY W/ REVERT
LOCATION N 24079.70 E 24056.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		ML	ALLUVIUM: SANDY SILT, nonplastic, lt. brown.
5				SM	SILTY SAND, occasional thin seams of sandy silt, fine grained. occ. fine gravel, lt. brown.
10		Placed cement w/ bentonite grout to 31 feet		GW	SANDY GRAVEL, fine to coarse grained, greyish brown.
15				SM	WIND RIVER FM.: SANDSTONE, silty, weakly cemented, grey.
20					Note: Becoming thickly bedded, soft to mod. hard, with greyish green laminations, from 20 ft.
25					
30		Placed bentonite pellet seal from 31 to 35 feet.		ML	SILTSTONE, sandy, thick bedded, very hard, grey.
				CL	SHALE, moderately hard, grey.
35		Placed filter pack of concrete sand from 35 to 56.5 ft.		ML	SILTSTONE, sandy, variablle thin to thick bedded, mod. hard, grey.
				CL	SHALE, mod. hard, grey.
				ML	SILTSTONE, sandy, some clay, thick bedded, mod. hard, grey.
40				SP	SANDSTONE, very fine grained, thick bedded, mod. hard, grey with occ. brown staining.
45					Note: Change to fine grain size from 45 ft..
50		Placed well screen, 010" slot, from 49.5 to 54.5 feet.			

GROUNDWATER

DEPTH	HOUR	DATE
9.6		1-16-85
8.8		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 106

JOB NO. RVT01 **DATE** 10/10/83

SURFACE ELEVATION 4946.20
TOP OF FILTER PACK 35.00
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR CONFINED)

TOTAL DEPTH 100.0 feet
RIG TYPE MIDWAY 1500
BORING TYPE ROTARY W/ REVERT
LOCATION N 24079.70 E 24056.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
					WIND RIVER FM., Continued.
55		**Placed blank sump from 54.5 to 56.5 ft.**		ML	**SILTSTONE, with fine sand, thick bedded, hard, grey.**
60		**Installed grout fill from 56.5 to 100 ft.**		SP	**SANDSTONE, very fine grained, thick bedded, mod. hard, grey.**
65				CL	**SHALE, mod. hard, grey.**
				SP	**SANDSTONE, very fine grained, thin bedded, grey.**
70				ML	**SILTSTONE, thick bedded, hard, grey.**
75				CL	**CLAYSTONE, thick bedded, soft to mod. hard, grey.**
80				ML	**SILTSSTONE, thick bedded, hard, grey.**
85					
90					
95					
100					**TD AT 100 FEET.**

GROUNDWATER

DEPTH	HOUR	DATE
9.6		1-16-85
8.8		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 107

JOB NO. RVT01 DATE 10/12/83

SURFACE ELEVATION 4946.00

TOP OF FILTER PACK 36.50

WELL CASING TYPE 2-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

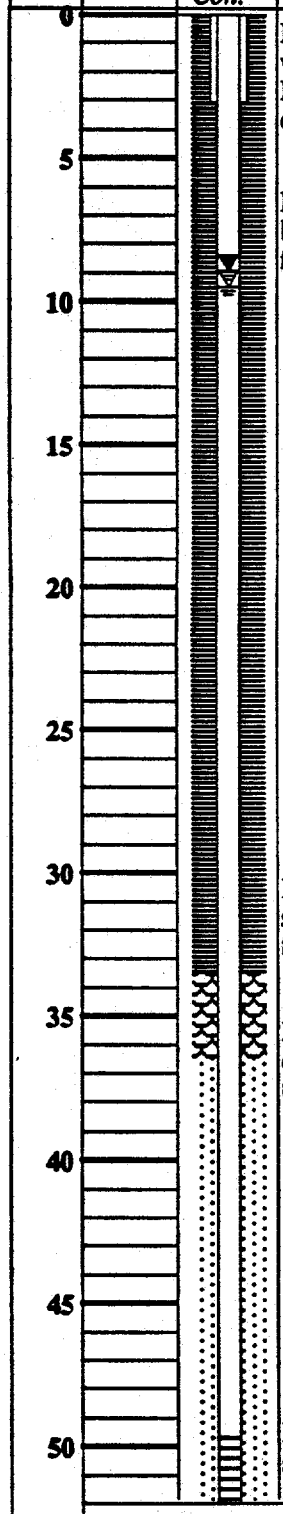
TOTAL DEPTH 67.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24092.40 E 24131.40

DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.	SM	ALLUVIUM: SILTY SAND, fine, occasional gravel, greyish brown.
		GW	SANDY GRAVEL, fine to coarse, greyish brown.
5	Placed cement w/ bentonite grout to 33.5 feet		
10			
15		SM	WIND RIVER FM.: SANDSTONE, silty, weakly cemented, grey.
		SP	SANDSTONE, very fine, thickly bedded, mod. hard, grey. Note: Becoming hard to very hard at 19.5 ft. Note: Occasional soft zone interbedded in hard strata.
20			
25		ML	SILTSTONE, sandy, thickly bedded, very hard, grey.
30	Placed bentonite pellet seal from 33.5 to 36.5 feet.		
		CL	SHALE, mod. hard, grey.
		ML	SILTSTONE, sandy, thin bedded, hard, grey.
35	Placed filter pack of concrete sand from 36.5 to 56.5 ft.	CL	
		ML	SHALE, mod. hard, grey.
		SP	SILTSTONE, sandy, thin bedded, hard, grey.
40			SANDSTONE, very fine, thck bedded, mod. hard, grey.
45			
50	Placed well screen, 010" slot, from 49.5 to 54.5 feet.		

GROUNDWATER

DEPTH	HOUR	DATE
9.5		1-16-85
9.0		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 107

JOB NO. RVT01 **DATE** 10/12/83

SURFACE ELEVATION 4946.00
TOP OF FILTER PACK 36.50
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 67.0 feet
RIG TYPE MIDWAY 1500
BORING TYPE ROTARY W/ REVERT
LOCATION N 24092.40 E 24131.40
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
					WIND RIVER FM., Continued.
55		Placed blank sump from 54.5 to 56.5 ft.		ML	SILTSTONE, very fine grained, mod. hard, grey.
60		Installed grout fill from 56.5 to 67 ft.		SP	SANDSTONE,very fine, thck bedded, mod. hard, grey.
65		Cored to 67 feet, backfill grout installed then reamed with 6-in. rotary/Revert to 56.5 ft.		CL	CLAYSTONE, mod. hard, grey.
					TD AT 67 FEET.
70					
75					
80					
85					
90					
95					
100					

GROUNDWATER

DEPTH	HOUR	DATE
9.5		1-16-85
9.0		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 108

JOB NO. RVT01 **DATE** 10/12/83

SURFACE ELEVATION 4946.20
TOP OF FILTER PACK 35.60
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 56.0 feet
RIG TYPE MIDWAY 1500C
BORING TYPE ROTARY W/ REVERT
LOCATION N 24095.40 E 24018.40
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		ML	ALLUVIUM: SANDY SILT, nonplastic, lt. brown.
5				GW	SANDY GRAVEL, fine to coarse, nonplastic, lt. brown.
10		Placed cement w/ bentonite grout to 33.5 feet. Lost 20 ft. section of 1-in. steel pipe in grouted zone.			
15				ML	WIND RIVER FM.: (SANDSTONE, SILTSTONE & SHALE); UNDIFFERENTIATED.
20					
25					
30		Placed bentonite pellet seal from 33.5 to 35.5 feet.			
35		Placed filter pack of concrete sand from 35.5 to 56.5 ft.			
40					
45					
50		Placed well screen, 010" slot, from 48.5 to 53.5 feet.			

GROUNDWATER

DEPTH	HOUR	DATE
9.6		1-16-85
4.0		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 108

JOB NO. RVT01 DATE 10/12/83

SURFACE ELEVATION 4946.20

TOP OF FILTER PACK 35.60

WELL CASING TYPE 2-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 56.0 feet

RIG TYPE MIDWAY 1500C

BORING TYPE ROTARY W/ REVERT

LOCATION N 24095.40 E 24018.40

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55		Placed blank sump from 53.5 to 55.5 ft.			
					TD AT 56 FEET.
60					
65					
70					
75					
80					
85					
90					
95					
100					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	9.6		1-16-85
▼	4.0		4-16-87

JEG TAC TEAM

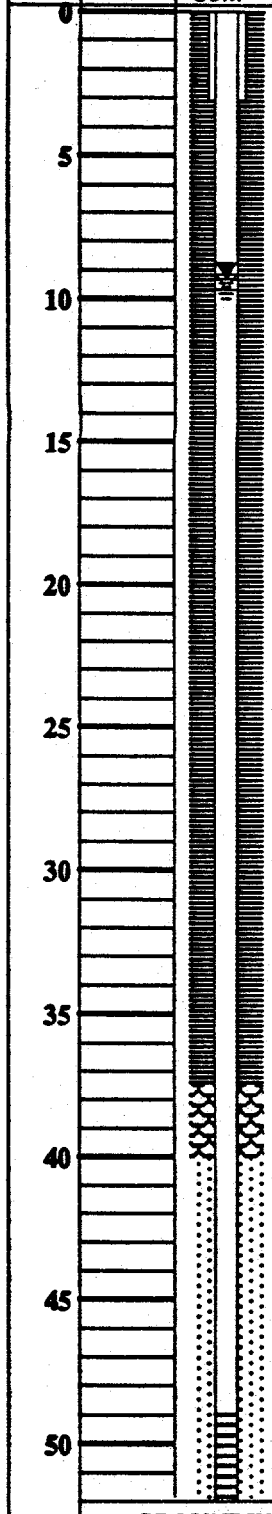
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 109

JOB NO. RVT01 **DATE** 10/13/83

SURFACE ELEVATION 4945.80
TOP OF FILTER PACK 40.00
WELL CASING TYPE 2-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 58.0 feet
RIG TYPE MIDWAY 1500
BORING TYPE ROTARY W/ REVERT
LOCATION N 24219.10 E 24068.20
DATUM MSL, GROUND SURFACE



Depth	Remarks	Lithology	USCS	Visual Classification
0	Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		ML	ALLUVIUM: SANDY SILT, nonplastic, lt. brown.
5			GW	SANDY GRAVEL, fine to coarse, nonplastic, brown.
10	Placed cement w/ bentonite grout to 37.5 feet			
15				
20			ML	WIND RIVER FM.: UNDIFFERENTIATED, SANDSTONE, SILTSTONE, SHALE.
25				
30	Placed bentonite pellet seal from 37.5 to 40.0 feet.			
35	Placed filter pack of concrete sand from 40.0 to 56.0 ft.			
40				
45				
50	Placed well screen, 010" slot, from 49.0 to 54.0 feet.			

GROUNDWATER

	DEPTH	HOUR	DATE
▽	9.7		1-16-85
▼	9.3		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 109

JOB NO. RVT01 DATE 10/13/83

SURFACE ELEVATION 4945.80

TOP OF FILTER PACK 40.00

WELL CASING TYPE 2-IN. SCHED. 40 PVC

COMPLETION WIND RIVER FM. (UPR. CONFINED)

TOTAL DEPTH 58.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24219.10 E 24068.20

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55		Placed blank sump from 54.0 to 56.0 ft.			
		Cave-in fill from 56 to 58 ft.			TD AT 58 FEET.
60					
65					
70					
75					
80					
85					
90					
95					
100					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	9.7		1-16-85
▼	9.3		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 110

JOB NO. RVT01 DATE 10/17/83

SURFACE ELEVATION 4946.20

TOP OF FILTER PACK 59.00

WELL CASING TYPE 2-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR.CONFINED)

TOTAL DEPTH 72.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24119.50 E 24060.80

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed steel protective casing to 3 ft.		ML	ALLUVIUM: SANDY SILT, nonplastic, lt. brown.
5				GW	SANDY GRAVEL, fine to coarse, nonplastic, brown.
10		Placed cement w/ bentonite grout to 57 feet			
15				SM	WIND RIVER FM.: SANDSTONE, silty, weakly cemented, grey. thick bedded, soft to mod. hard, grey with occ. brown staining.
20					
25					
30				ML	SILTSTONE, sandy, thick bedded, hard, grey.
				CL	SHALE, mod. hard, grey.
				ML	SILTSTONE, sandy, variable bedding thickness, mod. hard, grey.
35					
40				SM	SANDSTONE, silty, very fine, thick bedded, soft to mod. hard, grey.
45				SP	SANDSTONE, fine grained, thick bedded, mod. hard, grey.
50					

GROUNDWATER

DEPTH	HOUR	DATE
9.9		1-16-85
9.4		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 110

JOB NO. RVT01 DATE 10/17/83

SURFACE ELEVATION 4946.20

TOP OF FILTER PACK 59.00

WELL CASING TYPE 2-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR.CONFINED)

TOTAL DEPTH 72.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24119.50 E 24060.80

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55		Placed bentonite pellet seal from 57 to 59 feet.		ML	SLTSTONE, sandy, thick bedded, hard, grey.
60		Placed filter pack of concrete sand from 59 to 72 ft.		SM	SILTY SANDSTONE, very fine grained, thickly bedded, mod. soft, grey.
65		Placed well screen, 010" slot, from 61.3 to 66.3 feet.			
70		Placed blank sump from 66.3 to 68.3 ft.		CL	SHALE, mod. hard, grey.
				ML	SILTSTONE, sandy, mod. hard, grey.
75					TD AT 72 FEET. CORED TO 72 FEET THEN REAMED WITH 6-IN FOR INSTALLATION OF WELL.
80					
85					
90					
95					
100					

GROUNDWATER

DEPTH	HOUR	DATE
9.9		1-16-85
9.4		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 111

JOB NO. RVT01 DATE 10/19/83

SURFACE ELEVATION 4946.10

TOP OF FILTER PACK 5.00

WELL CASING TYPE 6-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

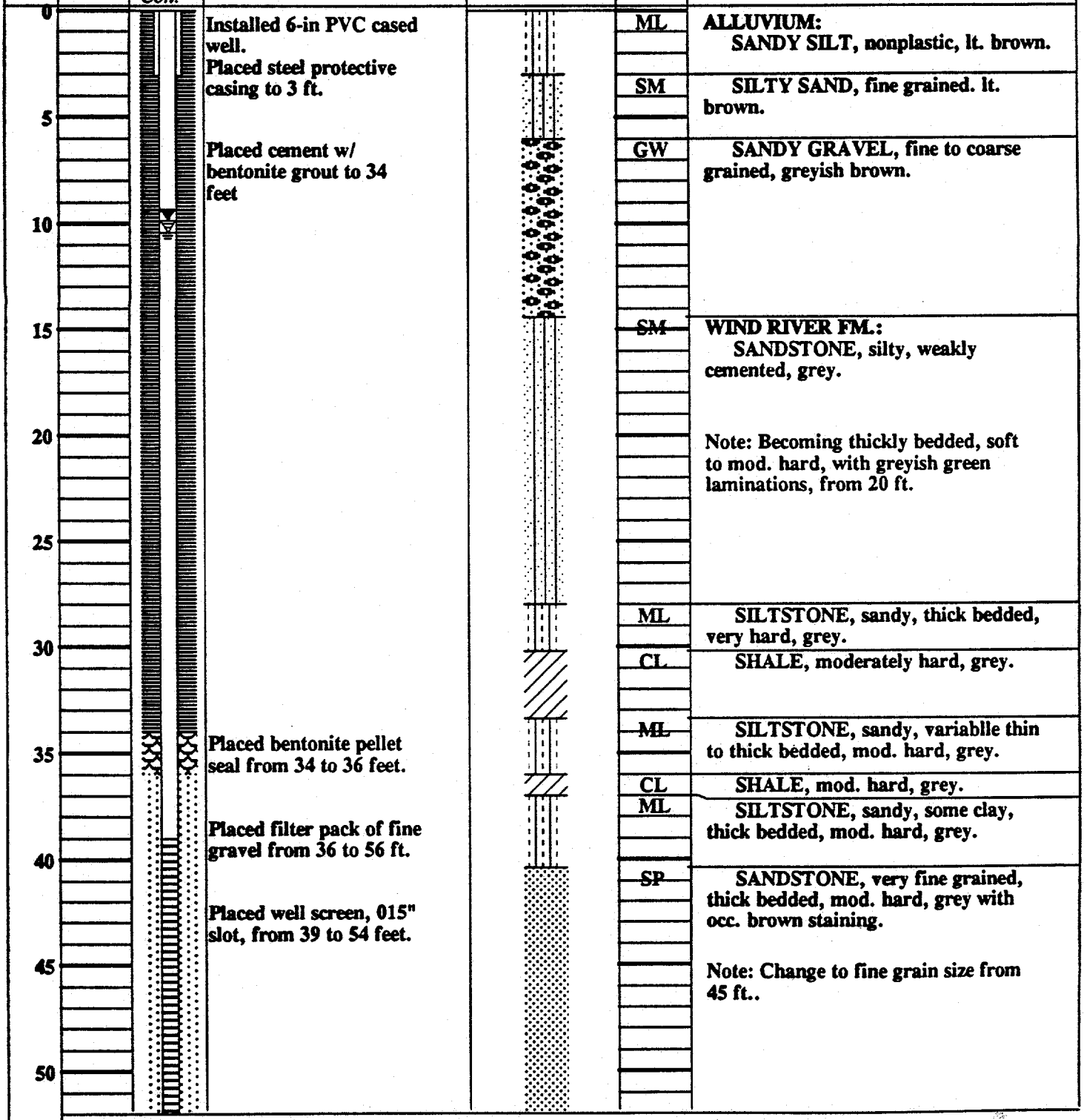
TOTAL DEPTH 56.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24095.90 E 24056.90

DATUM MSL, GROUND SURFACE



Depth	USCS	Visual Classification
0	ML	**ALLUVIUM:** SANDY SILT, nonplastic, lt. brown.
	SM	SILTY SAND, fine grained. lt. brown.
5	GW	SANDY GRAVEL, fine to coarse grained, greyish brown.
10		
15	SM	**WIND RIVER FM.:** SANDSTONE, silty, weakly cemented, grey.
20		Note: Becoming thickly bedded, soft to mod. hard, with greyish green laminations, from 20 ft.
25		
	ML	SILTSTONE, sandy, thick bedded, very hard, grey.
30	CL	SHALE, moderately hard, grey.
	ML	SILTSTONE, sandy, variablle thin to thick bedded, mod. hard, grey.
35	CL	SHALE, mod. hard, grey.
	ML	SILTSTONE, sandy, some clay, thick bedded, mod. hard, grey.
40	SP	SANDSTONE, very fine grained, thick bedded, mod. hard, grey with occ. brown staining.
45		Note: Change to fine grain size from 45 ft..
50		

GROUNDWATER

DEPTH	HOUR	DATE
10.4		1-16-85
9.9		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 111

JOB NO. RVT01 DATE 10/19/83

SURFACE ELEVATION 4946.10

TOP OF FILTER PACK 5.00

WELL CASING TYPE 6-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM. (UPR. CONFINED)

TOTAL DEPTH 56.0 feet

RIG TYPE MIDWAY 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 24095.90 E 24056.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55		Placed blank sump from 54 to 56 ft.			WIND RIVER FM., Continued.
				ML	SILTSTONE, with fine sand, thick bedded, hard, grey.
					TD AT 56 FEET.
60					
65					
70					
75					
80					
85					
90					
95					
100					

GROUNDWATER

DEPTH	HOUR	DATE
10.4		1-16-85
9.9		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 112

JOB NO. RVT01 DATE 10/12/83

SURFACE ELEVATION 4946.20

DEPTH OF SEAL 5.00

WELL CASING TYPE 6-IN. SCHED.40 PVC

COMPLETION ALLUVIUM/ WIND RIVER FM.

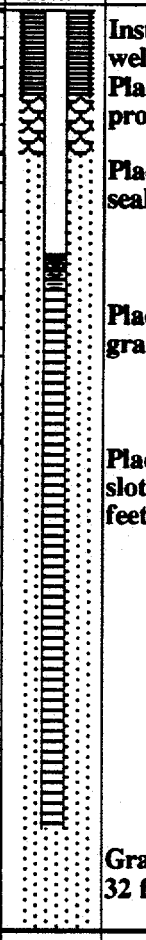
TOTAL DEPTH 32.0 feet

WELL OWNER P. DARR

BORING TYPE ROTARY W/ REVERT

LOCATION N 24092.20 E 24050.80

DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Installed 6-in PVC cased well. Placed grouted steel protective casing to 3 ft.	ML	ALLUVIUM: SANDY SILT, nonplastic, lt. brown.
5	Placed bentonite pellet seal from 3 to 5 feet.	SM	SILTY SAND, fine, nonplastic, lt. brown.
10	Placed filter pack of fine gravel from 5 to 32 ft.	GW	SANDY GRAVEL, fine to coarse, brown.
15	Placed well screen, 015" slot, from 8.5 to 28.5 feet.	SM	WIND RIVER FM.: SILTY SANDSTONE, very fine, weakly cemented, thick bedded, hard, grey.
20			
25			
30	Gravel fill from 28.5 to 32 ft.	ML	SILTSTONE, sandy hard. NOTE; Log of bedrock taken from nearby hole #106
35			TD AT 32 FEET.
40			
45			
50			

GROUNDWATER

DEPTH	HOUR	DATE
9.4		1-16-85
9.1		4-16-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 113

JOB NO. RVT01 DATE 10/20/83

SURFACE ELEVATION 4946.20

DEPTH OF SEAL 5.00

WELL CASING TYPE 2-IN. SCHED. 40 PVC

COMPLETION WIND RIVER FM. (UPR. CONFINED)

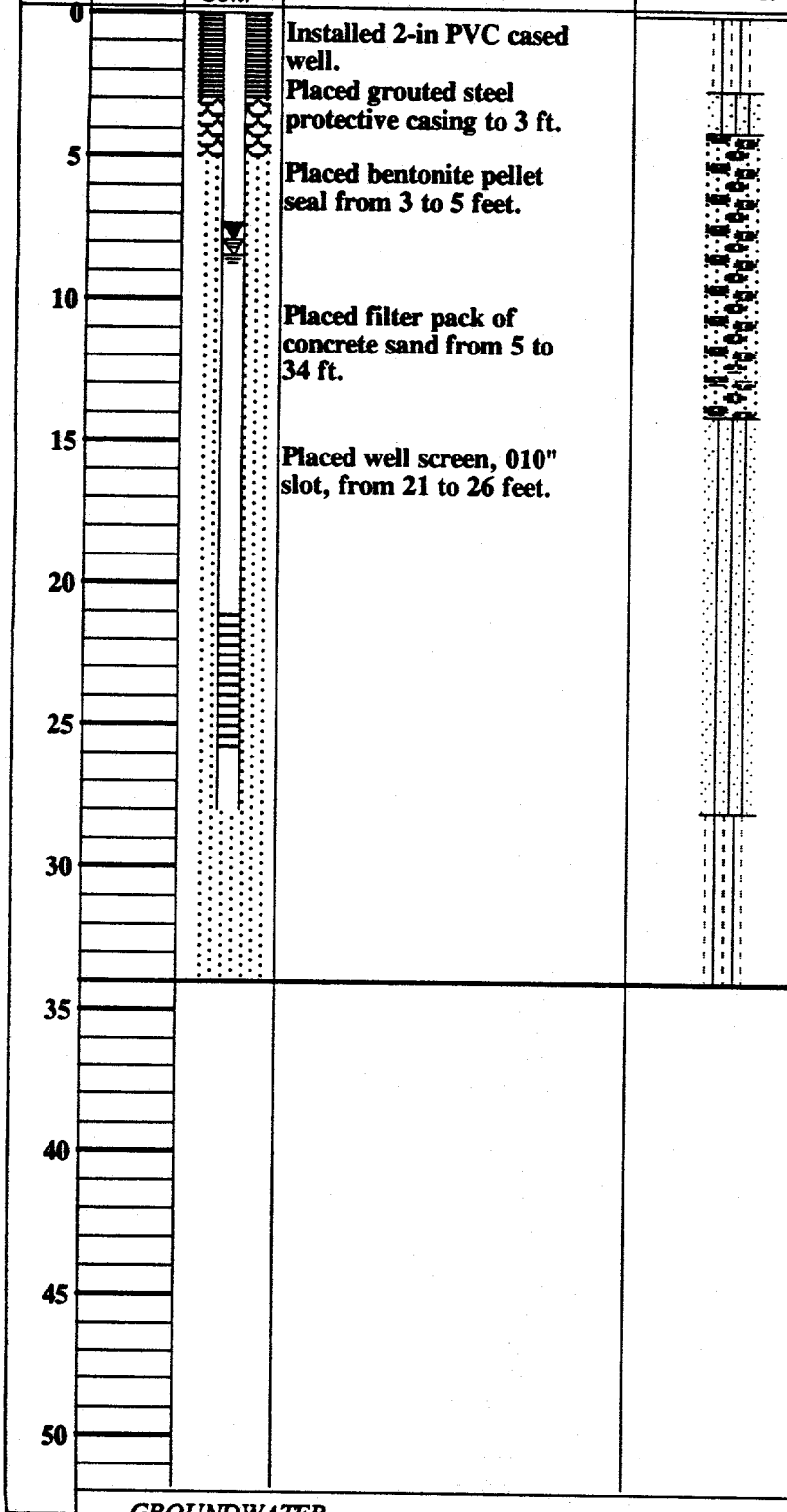
TOTAL DEPTH 34.0 feet

WELL OWNER P. DARR

BORING TYPE ROTARY W/ REVERT

LOCATION N 24089.40 E 24040.30

DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2-in PVC cased well. Placed grouted steel protective casing to 3 ft.		ML	**ALLUVIUM:** SANDY SILT, nonplastic, lt. brown.
				SM	SILTY SAND, fine, nonplastic, lt. brown.
5		Placed bentonite pellet seal from 3 to 5 feet.		GW	SANDY GRAVEL, fine to coarse, brown.
10		Placed filter pack of concrete sand from 5 to 34 ft.			
15		Placed well screen, 010" slot, from 21 to 26 feet.		SM	**WIND RIVER FM.:** SILTY SANDSTONE, very fine, weakly cemented, thick bedded, mod. hard, grey.
20					
25					
30				ML	SILTSTONE, sandy hard. NOTE: Log of bedrock taken from nearby hole #106
35					TD AT 34 FEET.
40					
45					
50					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	8.5		1-16-85
▼	7.9		4-16-87

JEG TAC TEAM

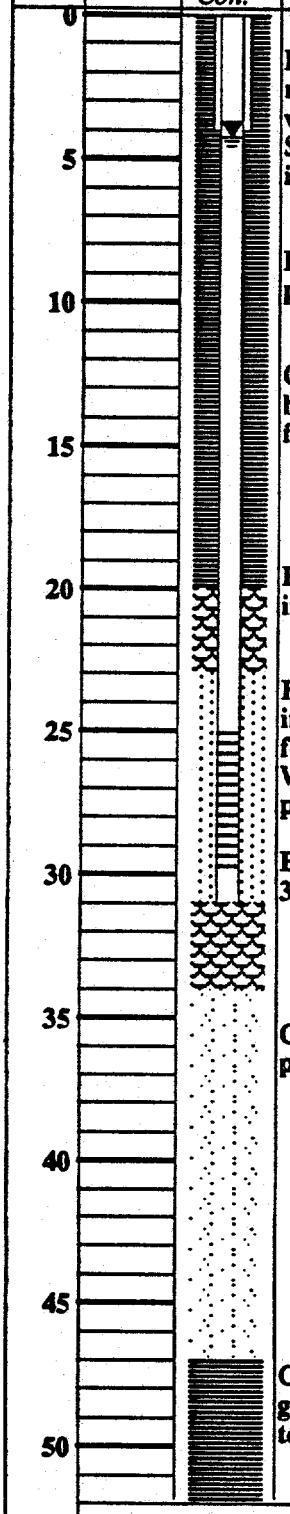
PROJECT RIVERTON SITE, WYO.: UMTRA

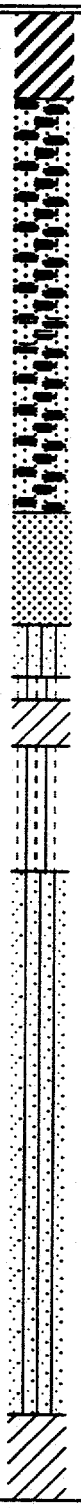
LOG OF WELL BORING NO. 701

JOB NO. RVT01 **DATE** 11/21/84

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 23.00
WELL CASING TYPE 2.0-I.SCHED.40 PVC
COMPLETION WIND RIVER FM. (LWR AQUITARD)

TOTAL DEPTH 228.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE NX CORE, ROTARY REAM
LOCATION N 21007.20 E 27725.90
DATUM MSL, GROUND SURFACE





USCS	Visual Classification
CH	**ALLUVIUM:** SILTY CLAY, some fine to med. sand, med. to high plasticity, dark yellowish brown.
GP	GRAVELLY COBBLES, var. color.
SP	**WIND RIVER FM.:** SANDSTONE, med. to fine, tr. silt, mod. hard, moist, dk. grey.
SM	SILTY SANDSTONE, med., hard, grey.
ML	SILTSTONE, thinly bedded, mod. soft, moist, dark grey.
CL	
ML	SHALE, very thinly bedded, mod. soft, moist, dk. grey.
	SILTSTONE, thinly bedded, mod. soft, grey.
SM	SANDSTONE, silty, fine to med. mod. hard, grey.
CL	SHALE, highly to mod. weathered, dark. grey.

GROUNDWATER

DEPTH	HOUR	DATE
4.3	12:00	11-15-84
4.3	15:00	11-20-84

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 701

JOB NO. RVT01 DATE 11/21/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 23.00

WELL CASING TYPE 2.0-I.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR AQUITARD)

TOTAL DEPTH 228.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE NX CORE, ROTARY REAM

LOCATION N 21007.20 E 27725.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55					**WIND RIVER FM.**, Continued. Note: Becoming sandy with color change to lt. grey.
60					
				SM	SANDSTONE, silty, fine, grey.
65					
				CL	SHALE, mod. hard, grey
70					
75					
80					
				SM	SANDSTONE, fine, weakly cemented, soft to mod. soft, dark grey
85					
90					
95					Note: Color change from dk. grey to black.
100					

GROUNDWATER

DEPTH	HOUR	DATE
4.3	12:00	11-15-84
4.3	15:00	11-20-84

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 701

JOB NO. RVT01 **DATE** 11/21/84

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 23.00
WELL CASING TYPE 2.0-I.SCHED.40 PVC
COMPLETION WIND RIVER FM.(LWR AQUITARD)

TOTAL DEPTH 228.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE NX CORE, ROTARY REAM
LOCATION N 21007.20 E 27725.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
105					**WIND RIVER FM:, Continued.** Note: Grain size changing from fine to medium to coarse, weakly cemented, soft, dk. grey.
110					
115				CH	**SHALE, mod. hard, very dark grey.**
120					Note: Thin layer of green shale (bentonitic layer ?).
125					
130					
135					Note: Bentonite in shale at 134 ft.
140					
145					
150					Note: Color change to lt. grey.
155					

GROUNDWATER

DEPTH	HOUR	DATE
4.3	12:00	11-15-84
4.3	15:00	11-20-84

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 701

JOB NO. RVT01 **DATE** 11/21/84

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 23.00
WELL CASING TYPE 2.0-I.SCHED.40 PVC
COMPLETION WIND RIVER FM.(LWR AQUITARD)

TOTAL DEPTH 228.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE NX CORE, ROTARY REAM
LOCATION N 21007.20 E 27725.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
160					**WIND RIVER FM.**, Continued.
				SP	SANDSTONE, fine to med., moderately soft, lt. grey.
165				CH	SHALE, high plasticity, lt. grey.
170					
175					
180					
				SM	SANDSTONE, silty, fine, mod. soft, lt. grey.
185				CH	SHALE, mod. soft, grey.
190					
				SM	SANDSTONE, silty, very fine, banded and varved, lt. grey.
195				CH	SHALE, with thin sandstone lenses of sandstone, lt. grey.
				SM	SANDSTONE, med. to fine, silty, dark grey.
200				SP	Note: After coring to 201 ft. hole reamed to 228 ft. with out logging beyond core depth.
205					

GROUNDWATER

DEPTH	HOUR	DATE
4.3	12:00	11-15-84
4.3	15:00	11-20-84

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 701

JOB NO. RVT01 DATE 11/21/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 23.00

WELL CASING TYPE 2.0-I.SCHED.40 PVC

COMPLETION WIND RIVER FM. (LWR AQUITARD)

TOTAL DEPTH 228.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE NX CORE, ROTARY REAM

LOCATION N 21007.20 E 27725.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
210					
215					
220					
225					
230					LOG FROM 201 TO 228 NOT CONFIRMED. TD AT 228 FT. HOLE BACKFILLED TO SET WELL AT 32 FEET.
235					
240					
245					
250					
255					
260					

GROUNDWATER

DEPTH	HOUR	DATE
4.3	12:00	11-15-84
4.3	15:00	11-20-84

JEG TAC TEAM

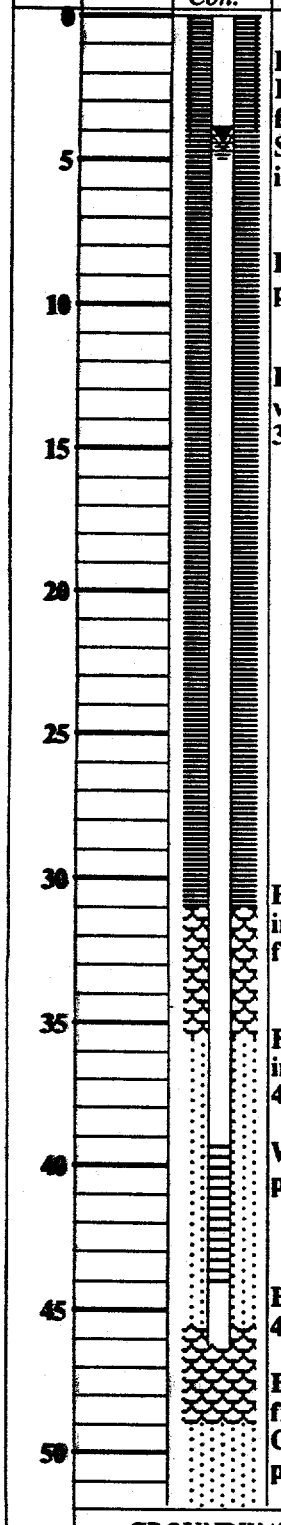
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 702

JOB NO. RVT01 **DATE** 12/04/84

SURFACE ELEVATION 4930.20
DEPTH OF SEAL 35.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet
WELL OWNER G.SMITH
BORING TYPE ROTARY MUD
LOCATION N 21012.90 E 27736.90
DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Hole drilled to 215 ft.; PVC well installed to 46 feet. Surface casing grouted in-place to 20 ft.		CH	**ALLUVIUM:** SILTY CLAY, trace fine to med. sand, med. to high plasticity, brown.
5				GW	SANDY COBBLES, with fine to coarse gravel.
10		Protective steel casing placed to 4 feet.			
15		Backfill of cement grout w/ bentonite placed to 31.5 feet.			
20				CL	**WIND RIVER FM.:** CLAYSTONE, some medium to fine sand, med. hard, dark grey.
25					
30		Bentonite pellet seal installed at 31.5 to 35.5 feet.		SP	SANDSTONE, fine, mod. hard, grey.
35		Filter pack of 20-40 sand installed from 35.5 to 45.5 feet.			
40		Well screen, .010 slot, placed at 39.2 to 44.2 ft.			
45		Blank sump placed at 44.2 to 46.2 ft. Bentonite pellets placed from 45.5 to 49 ft.		SM	SILTY SANDSTONE, fine, mod. hard. grey.
50		Concrete sand fill placed from 49 to 53 ft.		CL	SHALE, with interbedded claystone and siltstone, mod. hard, dk. grey.

GROUNDWATER

DEPTH	HOUR	DATE
4.7		1-14-85
4.4		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 702

JOB NO. RVT01 **DATE** 12/04/84

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 35.50
WELL CASING TYPE 2.0-IN. SCHED. 40 PVC
COMPLETION WIND RIVER FM. (CONFINED)

TOTAL DEPTH 215.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 21012.90 E 27736.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55		Cement/ bentonite grout fill placed from 53 to 215 ft.			**WIND RIVER FM.**, Continued.
60					Note: Predominately shale.
65					
70					
75					Note: Occasional thin fine sandstone layer.
80					
85				SP	SANDSTONE, fine to med., weakly cemented, grey to white.
90					
95					
100					

GROUNDWATER

DEPTH	HOUR	DATE

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 702

JOB NO. RVT01 DATE 12/04/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 35.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

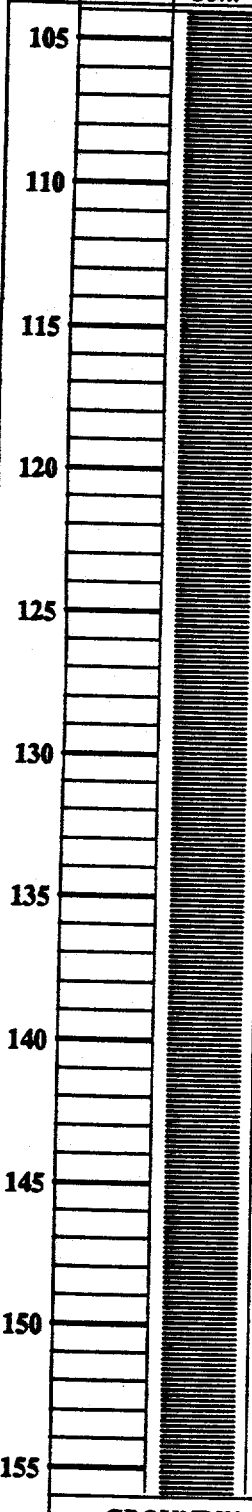
TOTAL DEPTH 215.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21012.90 E 27736.90

DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
					WIND RIVER FM., Continued.
				CL	**SHALE** to claystone, grey to dk. grey.

GROUNDWATER

DEPTH	HOUR	DATE

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 702

JOB NO. RVT01 DATE 12/04/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 35.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21012.90 E 27736.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
					WIND RIVER FM., Continued.
160				SM	**SILTY SANDSTONE, medium grained, grey.**
165				CH	**SHALE, mod. weathered, little to some fine sand, grey to dk. grey.**
170					
175					
180					**Note: some zones with high plasticity.**
185					
190					
195					
				SM	**SILTY SANDSTONE, fine, grey to lt. grey.**
200				SP	**SANDSTONE, medium to coarse grained, lt. grey.**
205					

GROUNDWATER

DEPTH	HOUR	DATE

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 702

JOB NO. RVT01 **DATE** 12/04/84

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 35.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 21012.90 E 27736.90
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
210					
215					TD AT 213 FEET.
220					
225					
230					
235					
240					
245					
250					
255					
260					

GROUNDWATER

DEPTH	HOUR	DATE

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 703

JOB NO. RVT01 DATE 12/04/83

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 87.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR CONFINED)

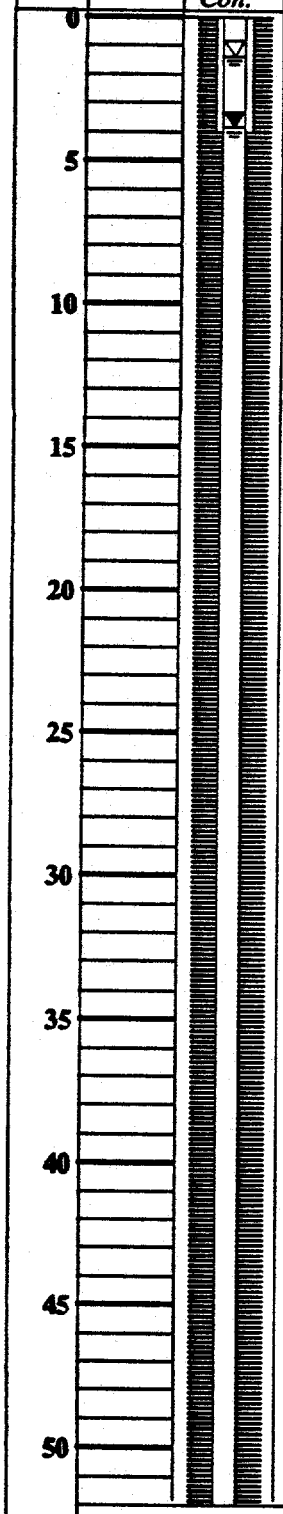
TOTAL DEPTH 214.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21000.80 E 27748.60

DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Hole drilled to 210 ft.; PVC well installed to 100 feet. Surface casing grouted in-place to 19 ft. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 84 feet.		CH	**ALLUVIUM:** SILTY CLAY, with fine sand, dark yellowish brown.
				GW	SANDY COBBLES, with f-c gravel
				CL	**WIND RIVER FM.**, Continued. CLAYSTONE, trace med. sand, grey.
				CL	SHALE, mod. hard, grey.

GROUNDWATER

DEPTH	HOUR	DATE
1.4		1-14-85
3.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 703

JOB NO. RVT01 **DATE** 12/04/83

SURFACE ELEVATION 4930.20
TOP OF FILTER PACK 87.00
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(LWR CONFINED)

TOTAL DEPTH 214.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 21000.80 E 27748.60
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55					**WIND RIVER FM., Continued.**
60					
65					
70					
75					Note: Shale is interbedded with thin claystone and siltstone layers from 75 feet.
80					
85		Bentonite pellet seal installed at 84 to 87 feet.		SP	SANDSTONE, mod. soft, grey.
90		Filter pack of 20-40 sand installed from 87 to 98 feet.			
95		Well screen, .010 slot, placed at 93 to 98 ft.			
100		Blank sump placed at 98 to 100 ft.			

GROUNDWATER

DEPTH	HOUR	DATE
1.4		1-14-85
3.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 703

JOB NO. RVT01 DATE 12/04/83

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 87.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR CONFINED)

TOTAL DEPTH 214.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21000.80 E 27748.60

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
105		Cement/ bentonite grout fill placed from 98 to 210 ft.			**WIND RIVER FM., Continued.**
110					
115				CL	**SHALE, with interbedded claystone and siltsone seams, trace sand, grey.**
120					
125					
130					
135					
140					
145					
150					
155					

GROUNDWATER

DEPTH	HOUR	DATE
1.4		1-14-85
3.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 703

JOB NO. RVT01 DATE 12/04/83

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 87.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR CONFINED)

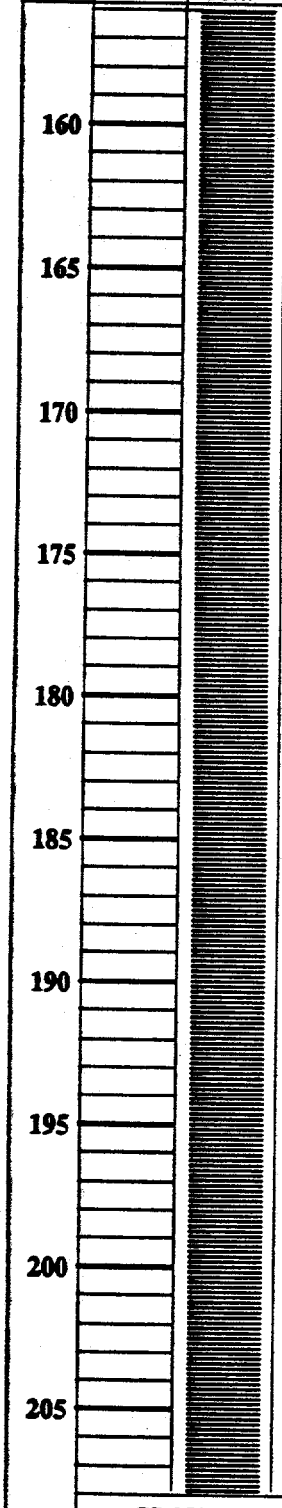
TOTAL DEPTH 214.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21000.80 E 27748.60

DATUM MSL, GROUND SURFACE



Depth	Remarks	Lithology	USCS	Visual Classification
160				**WIND RIVER FM., Continued.**
			SM	**SILTY SANDSTONE, fine, mod. hard, grey to black.**
165			CL	**SHALE, with interbedded claystone and siltstone, grey.**
170				
175				
180				
185				
190				
195				
			SP	**SANDSTONE, fine to coarse, mod. hard, grey.**
200				
205				

GROUNDWATER

	DEPTH	HOUR	DATE
▽	1.4		1-14-85
▼	3.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 703

JOB NO. RVT01 DATE 12/04/83

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 87.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR CONFINED)

TOTAL DEPTH 214.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 21000.80 E 27748.60

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
210					TD AT 210 FEET.
215					
220					
225					
230					
235					
240					
245					
250					
255					
260					

GROUNDWATER

DEPTH	HOUR	DATE
1.4		1-14-85
3.9		4-17-87

JEG TAC TEAM

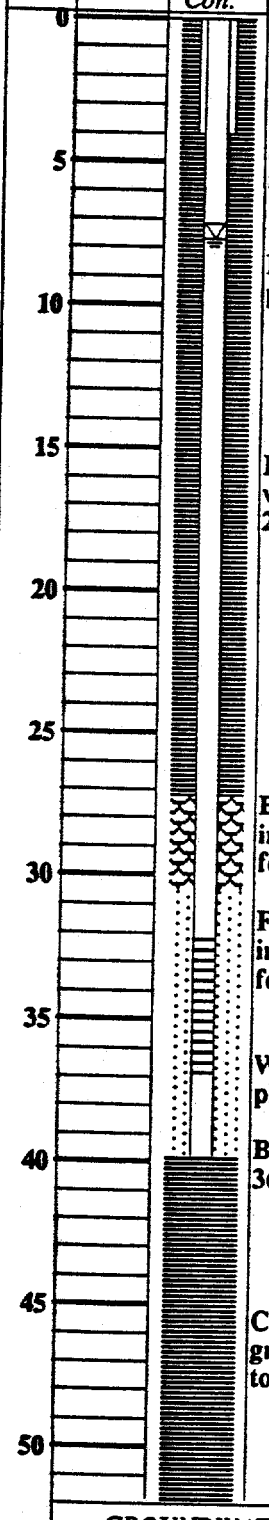
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 704

JOB NO. RVT01 **DATE** 12/07/84

SURFACE ELEVATION 4935.10
TOP OF FILTER PACK 30.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 22396.60 E 27033.80
DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Hole drilled to 210 ft.; PVC well installed to 39 feet. Surface casing grouted in-place to 20.5 ft.		SM GP	ALLUVIUM: SILTY SAND, fine, nonplastic, lt. brown. GRAVELLY COBBLES.
5					
10		Protective steel casing placed to 4 feet.			
15		Backfill of cement grout w/ bentonite placed to 27.2 feet.		ML	WIND RIVER FM.: SILTSTONE, trace fine sand, lt. grey.
20					
25					
30		Bentonite pellet seal installed at 27.2 to 30.5 feet. Filter pack of 20-40 sand installed from 30.5 to 39 feet.		SM	SILTY SANDSTONE, fine to med., mod. cemented, grey.
35		Well screen, .010 slot, placed at 31.2 to 36.2 ft.			
40		Blank sump placed at 36.2 to 39 ft.		CL	SHALE, with interbedded siltstone and claystone seams, grey to dk. grey.
45		Cement/ bentonite grout fill placed from 39 to 210 ft.			
50					

GROUNDWATER

DEPTH	HOUR	DATE
7.7		1-16-85

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 704

JOB NO. RVT01 **DATE** 12/07/84

SURFACE ELEVATION 4935.10
TOP OF FILTER PACK 30.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 22396.60 E 27033.80
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55					**WIND RIVER FM., Continued.**
60					
65					
70					
75					
80					
85					
90					
95					
100				SM	**SILTY SANDSTONE, very fine, mod. cemented, grey.**

GROUNDWATER

DEPTH	HOUR	DATE
7.7		1-16-85

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 704

JOB NO. RVT01 **DATE** 12/07/84

SURFACE ELEVATION 4935.10
TOP OF FILTER PACK 30.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD
LOCATION N 22396.60 E 27033.80
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
105				SP	SANDSTONE, fine to med. grained, weakly cemented, friable, grey.
					WIND RIVER FM., Continued.
110					
115					
				CL	SHALE, with interbedded claystone and siltstone, mod. hard, grey.
120				CH	SHALE, with zones of high plasticity.
125					
130					
135					
140					
145					
150					
155					

GROUNDWATER

DEPTH	HOUR	DATE
7.7		1-16-85

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 704

JOB NO. RVT01 DATE 12/07/84

SURFACE ELEVATION 4935.10

TOP OF FILTER PACK 30.50

WELL CASING TYPE 2.0-IN. SCHED. 40 PVC

COMPLETION WIND RIVER FM. (CONFINED)

TOTAL DEPTH 215.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 22396.60 E 27033.80

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
160					**WIND RIVER FM.**, Continued.
165				SP	SANDSTONE, fine to medium grained, weakly cemented, mod. soft, grey. Note: increasing silt content from 167 ft.
170					
175					
180				CL	SHALE, with interbedded claystone and siltstone seams, grey.
185					
190					
195				SP	SANDSTONE, medium grained, white to grey.
200					
205					

GROUNDWATER

DEPTH	HOUR	DATE
7.7		1-16-85

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 704

JOB NO. RVT01 DATE 12/07/84

SURFACE ELEVATION 4935.10

TOP OF FILTER PACK 30.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 215.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY MUD

LOCATION N 22396.60 E 27033.80

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
210					**WIND RIVER FM., Continued.**
					TD AT 211 FEET.
215					
220					
225					
230					
235					
240					
245					
250					
255					
260					

GROUNDWATER

DEPTH	HOUR	DATE
7.7		1-16-85

JEG TAC TEAM

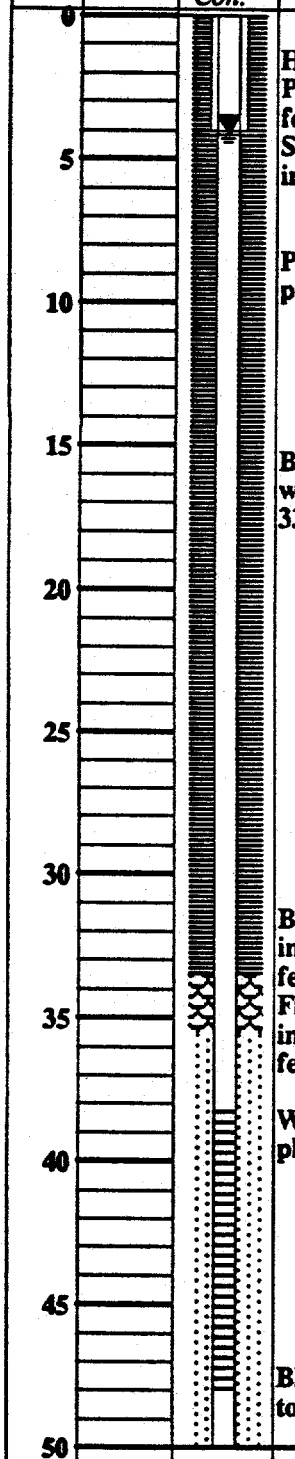
PROJECT RIVERTON SITE, WYO.: UMTRA

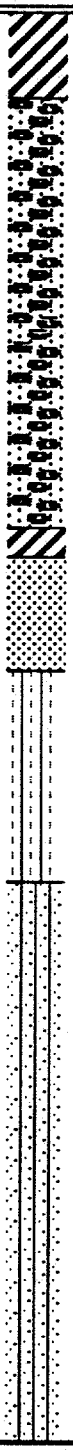
LOG OF WELL BORING NO. 705

JOB NO. RVT01 **DATE** 12/03/84

SURFACE ELEVATION 4930.10
TOP OF FILTER PACK 35.50
WELL CASING TYPE 6.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 50.0 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY MUD(PUMP TEST
LOCATION N 21000.80 E 27735.80
DATUM MSL, GROUND SURFACE





Depth	USCS	Visual Classification
0	CH	**ALLUVIUM:** CLAY, little fine sand, dark yellowish brown.
	GW	SANDY COBBLES.
20	CH	**WIND RIVER FM.:**
	SP	CLAYSTONE, trace med. to fine sand, medium to high plasticity, mod. weathered, moist, dk grey.
	ML	SANDSTONE, medium to fine, trace silt, hard, dk. grey.
25		SILTSTONE, thinly bedded, mod. soft, dk. grey.
30	SM	SILTY SANDSTONE, fine to med., mod. soft, some color banding, grey.
50		TD AT 50 FEET.

GROUNDWATER

DEPTH	HOUR	DATE
4.1		5-28-85
4.0		4-17-87

JEG TAC TEAM

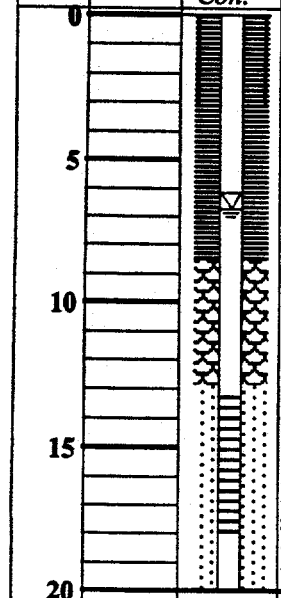
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 706

JOB NO. RVT01 **DATE** 11/29/84

SURFACE ELEVATION 4931.10
DEPTH OF SEAL 12.80
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 21.5 feet
WELL OWNER G. SMITH
BORING TYPE ROTARY MUD
LOCATION N 20033.90 E 28160.60
DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		PVC well installed to 20.0 feet.		CL	**ALLUVIUM:** SILTY CLAY, trace fine sand, medium plasticity, brown.
5		Protective steel casing placed to 3 feet.		SC	CLAYEY SAND, med. plasticity, brown.
10		Backfill of cement grout w/ bentonite placed to 8.2 feet.		GP	GRAVELLY COBBLES, brown to white.
15		Bentonite pellet seal installed at 8.2 to 12.8 feet.			
		Filter pack of concrete sand installed from 12.8 to 21.5 feet.		SM	**WIND RIVER FM.:** SILTY SANDSTONE, medium, grey.
20		Well screen, .010 slot, placed at 13.0 to 18.0 ft.			TD AT 20 FEET.
		Blank sump placed at 18.0 to 20.0 ft.			

GROUNDWATER

DEPTH	HOUR	DATE
6.7		1-13-85

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 707

JOB NO. RVT01 DATE 12/04/84

SURFACE ELEVATION 4930.40

TOP OF FILTER PACK 7.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION ALLUVIUM

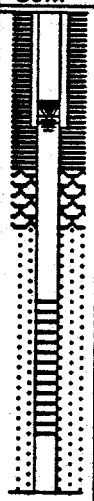
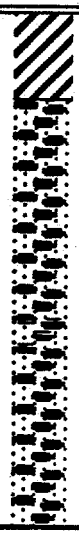
TOTAL DEPTH 18.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY, REVERT MUD

LOCATION N 21008.40 E 27745.20

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Drilled to 18 ft.; PVC well installed to 16.8 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 5.5 feet. Bentonite pellet seal installed at 5.5 to 7.5 feet. Filter pack of concrete sand installed from 7.5 to 16.7 feet. Well screen, .010 slot, placed at 9.8 to 14.8 ft.		CH	**ALLUVIUM:** SILTY CLAY, trace fine sand, med. to high plasticity, dark yellowish brown.
5				GP	GRAVELLY COBBLES.
10					
15					
20		Blank sump placed at 14.8 to 16.8 ft.			TD AT 18.0 FEET
25					
30					
35					
40					
45					
50					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	3.8		1-14-85
▼	3.6		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 708

JOB NO. RVT01 **DATE** 12/27/84

SURFACE ELEVATION 4930.30
DEPTH OF SEAL 25.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(AQUITARD)

TOTAL DEPTH 28.8 feet
WELL OWNER G. SMITH
BORING TYPE ROTARY MUD
LOCATION N 20994.10 E 27746.00
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Core drilled to 27.8 ft.; reamed to 28 ft.;PVC well installed to 28 feet. Protective steel casing placed to 3 feet.		CL	ALLUVIUM: SILTY CLAY, trace fine sand, mod. plastic, dark yellowish brown.
5				GP	SANDY COBBLES.
10		Backfill of cement grout w/ bentonite placed to 23.5 feet.			
15					
20				ML	WIND RIVER FM.:
				SM	SILTSTONE, blueish grey. SILTY SANDSTONE, fine, soft to mod soft, moist, grey.
25		Bentonite pellet seal installed at 23.5 to 25.5 feet. Filter pack of #20 - 40 sand installed from 25.5 to 28 feet.		ML	SILTSTONE, with interbedded sandstone seams.
				CL	SHALE, dry, lt. grey.
30		Well screen, .010 slot, placed at 25.5 to 26.5 ft. Blank sump placed at 26.5 to 28 ft.			TD AT 28.0 FEET.
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
8.7		1-09-85
5.0		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 709

JOB NO. RVT01 DATE 12/27/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 84.00

WELL CASING TYPE 6.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

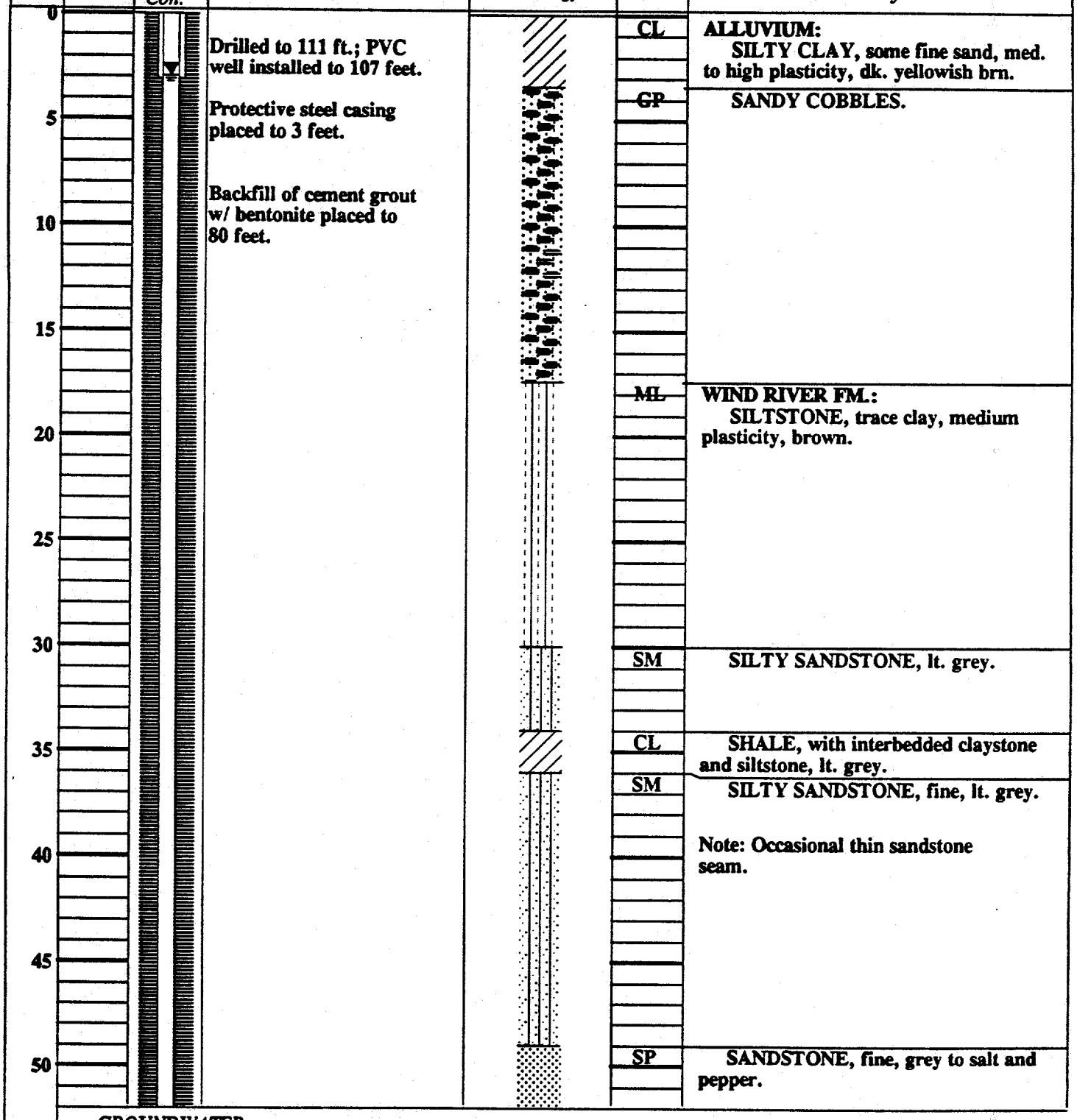
TOTAL DEPTH 114.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY-AIR & FOAM

LOCATION N 21005.60 E 27748.90

DATUM MSL, GROUND SURFACE



GROUNDWATER

DEPTH	HOUR	DATE
2.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 709

JOB NO. RVT01 DATE 12/27/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 84.00

WELL CASING TYPE 6.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

TOTAL DEPTH 114.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY-AIR & FOAM

LOCATION N 21005.60 E 27748.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55					Note: Substantial shale interbeds.
				CL	SHALE, occasional thin sandstone seam, lt. grey. WIND RIVER FM., Continued.
60					
65					
70					
75					
				SP	SANDSTONE, fine, grey
80		Bentonite pellet seal installed at 80 to 84 feet.			
				CL	SHALE, with interbedded fine sandstone.
85		Filter pack of 3/8" gravel installed from 84 to 111 feet.			
				SM	SILTY SANDSTONE, very fine grained, salt and pepper grey.
90		Well screen, .010 slot, placed at 85 to 105 ft.			
95				SP	SANDSTONE, fine, grey
100					

GROUNDWATER

DEPTH	HOUR	DATE
2.9		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 709

JOB NO. RVT01 DATE 12/27/84

SURFACE ELEVATION 4930.20

TOP OF FILTER PACK 84.00

WELL CASING TYPE 6.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(CONFINED)

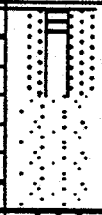
TOTAL DEPTH 114.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY-AIR & FOAM

LOCATION N 21005.60 E 27748.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
105		**Blank sump placed at 105 to 107 ft.**			**Note: Grain size medium to coarse from 104 ft.** **WIND RIVER FM., Continued.**
110					
					TD AT 111 FEET.
115					
120					
125					
130					
135					
140					
145					
150					
155					

GROUNDWATER

DEPTH	HOUR	DATE
2.9		4-17-87

JEG TAC TEAM

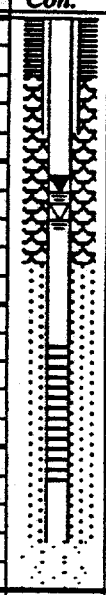
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 710

JOB NO. RVT01 **DATE** 11/29/84

SURFACE ELEVATION 4947.20
TOP OF FILTER PACK 8.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 20.0 feet
RIG TYPE MIDWAY 15 M
BORING TYPE ROTARY W/ REVERT
LOCATION N 25355.60 E 23982.60
DATUM MSL, GROUND SURFACE



Depth	Remarks	Lithology	USCS	Visual Classification
0	Drilled to 20 ft.; PVC well installed to 18.2 feet.		CL	ALLUVIUM: SILTY CLAY, medium plasticity.
5	Protective steel casing placed to 4 feet.		GP	SANDY COBBLES.
10	Backfill of cement grout w/ bentonite placed to 2 feet. Bentonite pellet seal installed at 2 to 8 feet.		SM	SILTY SAND, greyish brown.
15	Filter pack of concrete sand installed from 8 to 20 feet. Well screen, .010 slot, placed at 11.2 to 16.2 ft.		GP	SANDY COBBLES.
			SM	WIND RIVER FM.: SILTY SANDSTONE, soft, weathered, grey.
20	Blank sump placed at 16.2 to 18.2 ft.			TD AT 20 FEET.
25				
30				
35				
40				
45				
50				

GROUNDWATER

DEPTH	HOUR	DATE
7.0		1-19-85
6.1		4-17-87

JEG TAC TEAM

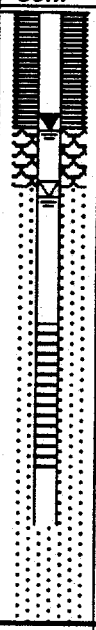
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 711

JOB NO. RVT01 **DATE** 11/30/84

SURFACE ELEVATION 4943.50
DEPTH OF SEAL 6.00
WELL CASING TYPE 2.0-INSCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 21.5 feet
WELL OWNER G. SMITH
BORING TYPE ROTARY W/ REVERT
LOCATION N 26088.00 E 24670.90
DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Drilled to 21.2 ft.; PVC well installed to 17.8 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 4 feet. Bentonite pellet seal installed at 4 to 6 feet. Filter pack of concrete sand installed from 6 to 21.2 feet. Well screen, .010 slot, placed at 10.8 to 15.8 ft. Blank sump placed at 15.8 to 17.8 ft.	SM	**ALLUVIUM:** SILTY SAND, trace clay, fine grained, brown.
		GW	GRAVELLY COBBLES, with sand.
15		ML	**WIND RIVER FM.:** SILTSTONE, sandy, occ. gravel, grey.
20			
21.2			**TD AT 21.2 FEET**
25			
30			
35			
40			
45			
50			

GROUNDWATER

DEPTH	HOUR	DATE
6.4		1-10-85
4.1		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 712

JOB NO. RVT01 **DATE** 11/30/84

SURFACE ELEVATION 4943.50
TOP OF FILTER PACK 10.00
WELL CASING TYPE 2.0-IN. SCHED. 40 PVC
COMPLETION ALLUVIUM.

TOTAL DEPTH 19.5 feet
RIG TYPE MIDWAY 15 M
BORING TYPE ROTARY W/ REVERT
LOCATION N 26931.40 E 25462.50
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Drilled to 19.5 ft.; PVC well installed to 17.6 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 8 feet. Bentonite pellet seal installed at 8 to 10 feet. Filter pack of concrete sand installed from 10 to 19.5 feet. Well screen, .010 slot, placed at 10.6 to 15.6 ft.		SM	ALLUVIUM: SILTY SAND, fine, tr. clay, dark brown.
5				GW	GRAVELLY COBBLES, with f- cr. sand, brown.
10					
15				SM	WIND RIVER FM.: SILTY SANDSTONE, fine, grey.
20		Blank sump placed at 15.6 to 17.6 ft.			TD AT 19.5 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	7.9		5-25-85
▼	5.8		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 713

JOB NO. RVT01 **DATE** 11/30/84

SURFACE ELEVATION 4941.60
TOP OF FILTER PACK 4.50
WELL CASING TYPE 2.0-IN.SCHED 40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 16.5 feet
RIG TYPE MIDWAY 15 M
BORING TYPE ROTARY W/ REVERT
LOCATION N 27577.40 E 25984.30
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Drilled to 16.5 ft.; PVC well installed to 16.5 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 2.5 feet. Bentonite pellet seal installed at 2.5 to 4.5 feet. Filter pack of concrete sand installed from 4.5 to 16.5 feet. Well screen, .010 slot, placed at 9.5 to 14.5 ft. Blank sump placed at 14.5 to 16.5 ft.		ML	ALLUVIUM: SANDY SILT, fine grained, low plasticity, dark brown.
5				GP	GRAVELLY COBBLES.
10					
15				SM	WIND RIVER FM.: SILTY SANDSTONE, fine, slightly plastic, grey.
20					TD AT 16.5 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
4.1		5-25-85
6.7		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 714

JOB NO. RVT01 DATE 12/10/84

SURFACE ELEVATION 4941.20

TOP OF FILTER PACK 10.00

WELL CASING TYPE 2.-IN.SCHED.40 PVC

COMPLETION ALLUVIUMM

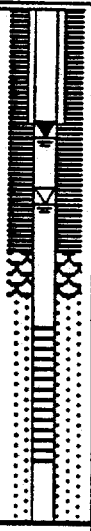
TOTAL DEPTH 18.0 feet

RIG TYPE FAILING CF 1500

BORING TYPE ROTARY W/ REVERT

LOCATION N 28193.90 E 26433.90

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Drilled to 18 ft.; PVC well installed to 18 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 8.5 feet. Bentonite pellet seal installed at 8.5 to 10 feet. Filter pack of concrete sand installed from 10 to 18 feet. Well screen, .010 slot, placed at 11 to 16 ft.		ML	**ALLUVIUM:** CLAYEY SILT, some fine grained sand, med. plasticity, Lt. brown.
				GW	GRAVELLY COBBLES , with f. - cr. sand. Note: Cobbles content decreasing with depth.
5					
10					
15					
20		Blank sump placed at 16 to 18 ft.			TD AT 18 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
6.8		1-10-85
4.5		4-17-87

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 715

JOB NO. RVT01 **DATE** 11/29/84

SURFACE ELEVATION 4938.50
TOP OF FILTER PACK 6.80
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 18.5 feet
RIG TYPE FAILING CF 1500
BORING TYPE ROTARY W/ REVERT
LOCATION N 29017.20 E 27023.60
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Drilled to 18.5 ft.; PVC well installed to 18.5 feet. Protective steel casing placed to 4 feet. Backfill of cement grout w/ bentonite placed to 4 feet. Bentonite pellet seal installed at 4 to 6.8 feet. Filter pack of concrete sand installed from 6.8 to 18.5 feet. Well screen, .010 slot, placed at 11.5 to 16.5 ft. Blank sump placed at 16.5 to 18.5 ft.		SC	ALLUVIUM: CLAYEY SAND, fine, low plasticity, greyish brown.
				GW	SANDY GRAVEL, with cobbles. Decreasing cobbles and gravels with depth.
5					
10					
15					
				SM	WIND RIVER FM.: SILTY SANDSTONE, fine, grey.
20					TD AT 18.5 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
		1-10-85
		4-17-87

JEG TAC TEAM

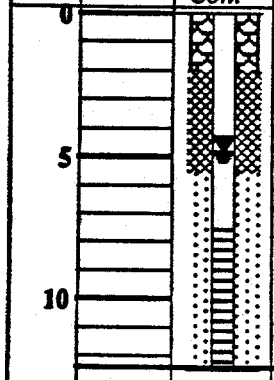
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 716

JOB NO. RVT01 **DATE** 03/06/93

SURFACE ELEVATION 4936.40
TOP OF FILTER PACK 5.50
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 12.5 feet
RIG TYPE MAYHEW 1500
BORING TYPE ROTARY MUD
LOCATION N 22764.49 E 25873.34
DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Installed 2.0-in. PVC well to 12.5 feet.	SC	**ALLUVIUM:** SAND, clayey, fine, medium plasticity, brown.
5	Placed steel protective casing to 2 feet	GW	SAND, GRAVEL AND COBBLES, with boulders to 12-in. estimated, grey.
	Placed bentonite chip seal from surface to 5.5 feet.		
10	Installed #8-12 size filter pack from 5.5 to 12.5 ft.	CH	**WIND RIVER FM.:** CLAY/SHALE, high plasticity, highly weathered, greyish brown.
15	Placed .050-in. slot /W #8-12 filter prepacked screen from 7.5 to 12.5 feet.		TD AT 12.5 FEET.
	Well located near middle of former pile area.		
20			
25			
30			
35			
40			
45			
50			

GROUNDWATER

DEPTH	HOUR	DATE
4.9		
4.8		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 717

JOB NO. RVT01 DATE 03/06/93

SURFACE ELEVATION 4936.40

TOP OF FILTER PACK 29.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

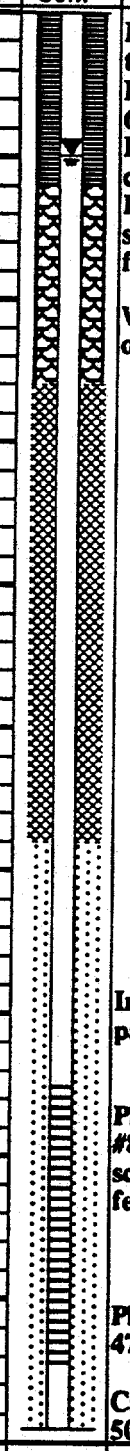
TOTAL DEPTH 50.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 22762.23 E 25889.34

DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 49.5 feet. Installed grout seal to 6.0 ft. Placed steel protective casing to 13 feet. Placed bentonite chip seal from 6.0 to 29.0 feet. Well located near middle of former pile area.		SC	**ALLUVIUM:** CLAYEY SAND, medium plasticity, brown.
5				GW	SAND, GRAVEL AND COBBLES, with boulders to 12-inches, grey.
10				CL	**WIND RIVER FM.:** CLAY/SHALE, some sand, highly weathered, low plasticity, greyish brown.
15				CL	SHALE, mod. hard, dark grey.
20				SW	SANDSTONE, conglomeritic, poorly consolidated, grey.
25					
30					
35		Installed #8-12 size filter pack from 29.0 to 49.5 ft.			
40		Placed .050-in. slot /W #8-12 filter prepacked screen from 37.5 to 47.5 feet.		SP	SANDSTONE, medium to fine, moderately cemented, grey.
45		Placed blank sump from 47.5 to 49.5 ft.			
50		Cave-in fill from 49.5 to 50.0 ft.		CL	SHALE, moderately hard, dark grey. TD AT 50.0 FEET.

GROUNDWATER

DEPTH	HOUR	DATE
5.0		
4.9		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 718

JOB NO. RVT01 DATE 03/02/93

SURFACE ELEVATION 4937.00

TOP OF FILTER PACK 10.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION ALLUVIUM.

TOTAL DEPTH 18.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 21673.56 E 25406.28

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 18.0 feet. Installed grout seal to 3.0 ft. Placed steel protective casing to 2 feet. Placed bentonite chip seal from 3.0 to 10.0 feet. Well located on h'way R/W south of pile. Installed #8-12 size filter pack from 10.0 to 18.0 ft. Placed .050-in. slot /W #8-12 filter prepacked screen from 13.0 to 18.0 feet. No sump installed.		GM	FILL: SILTY SAND, GRAVEL AND
				GW	COBBLES.
5					ALLUVIUM: SAND, GRAVEL, AND COBBLES, with bouldsers to 12 inches dia., well rounded, brown.
10					
15					
				CL	WIND RIVER FM.: SILTY CLAY/SHALE, highly weathered, little fine sand, medium plasticity, grey.
20					TD AT 18 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

	DEPTH	HOUR	DATE
▽	5.8		
▼	5.5		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 719

JOB NO. RVT01 DATE 03/02/93

SURFACE ELEVATION 4936.80

TOP OF FILTER PACK 23.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

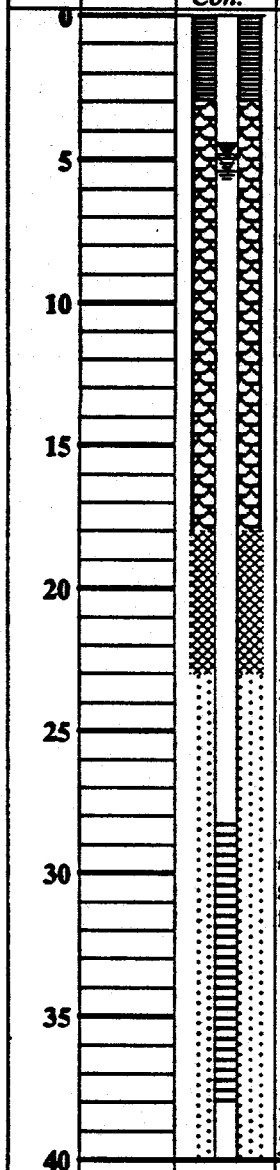
TOTAL DEPTH 40.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD TO AIR

LOCATION N 21629.47 E 25392.14

DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Installed 2.0-in. PVC well to 40.0 feet. Installed grout seal to 3.0 ft. Placed steel protective casing to 18 feet. Placed bentonite chip seal from 3.0 to 23.0 feet. Well located on H'way R/W south of pile area.	GM	FILL: SILTY SAND, GRAVEL AND
		GW	COBBLES.
			ALLUVIUM: SAND, GRAVEL, AND COBBLES, with boulders to 12 inches dia., well rounded, greyish brown.
5			
10			
15			
		CL	WIND RIVER FM.: SILTY CLAY/SHALE, highly weathered, little fine sand, medium
20		SP	plasticity, grey.
			SANDSTONE, fine, poorly cemented, grey.
	Installed #8-12 size filter pack from 23.0 to 40.0 ft.		
25			
	Placed .050-in. slot /W #8-12 filter prepacked screen from 28.0 to 38.0 feet.		
30			
35			
	Placed blank sump from 38.0 to 40.0 ft.	CL	SHALE, soft, grey.
40			TD AT 40 FEET.
45			
50			

GROUNDWATER

DEPTH	HOUR	DATE
5.4		
5.0		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 720

JOB NO. RVT01 DATE 02/22/93

SURFACE ELEVATION 4937.90

TOP OF FILTER PACK 3.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION ALLUVIUM

TOTAL DEPTH 10.5 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 20729.00 E 23677.37

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 10.5 feet. Installed grout seal to 1.0 ft. Placed steel protective casing to 2 feet in 8 5/8-in. hole. Placed bentonite chip seal from 1.0 to 3.5 feet. Installed #8-12 size filter pack from 3.5 to 10.5 ft. Placed .050-in. slot /W #8-12 filter prepacked screen from 5.5 to 10.5 feet. No sump installed because of aquifer thickness. THE WELL IS LOCATED OFF H'WAY R/W ON ST. STEPHENS PROPERTY.		CL	ALLUVIUM: SANDY CLAY, medium plasticity, dark brown.
				GW	SAND, GRAVEL AND COBBLES, well graded, with boulders to 12-in.
10				CL	WIND RIVER FM.: SANDY CLAY/SHALE, medium to high plasticity, yellowish-brown.
					TD AT 10.5 FEET.
15					
20					
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
1.7		

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 721

JOB NO. RVT01 **DATE** 02/21/93

SURFACE ELEVATION 4937.90
TOP OF FILTER PACK 27.00
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 49.0 feet
RIG TYPE MAYHEW 1500
BORING TYPE ROTARY MUD / AIR
LOCATION N 20739.68 E 23682.91
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 49.0 feet. Installed grout seal to 3.0 ft. Placed steel protective casing to 12 feet in 8 5/8-in hole. Placed bentonite chip seal from 3.0 to 27.0 feet. WELL IS LOCATED OFF H'WAY R/W ON ST. STEPHENS PROPERTY.		CL	ALLUVIUM: SILTY CLAY, medium to low plasticity, dark brown.
				GW	SAND, GRAVEL, AND COBBLES, well graded, with boulders to 12-inch, grey.
5					
10				CH	WIND RIVER FM.: SANDY CLAY/SHALE, medium to high plasticity, yellowish brown.
				SW	SANDSTONE, medium to coarse grained, mod. soft, weathered, grey.
15					
20				SP	SANDSTONE, fine, mod. hard, dark grey.
25					
30					
35		Installed #8-12 size filter pack from 27.0 to 49.0 ft.			Note: Becoming medium grained, and light grey from 35 feet, then grading back to dark and finer grained with depth.
40		Placed .050-in. slot /W #8-12 filter prepacked screen from 37.0 to 47.0 feet.			
45		Placed blank sump from 47.0 to 49.0 ft.			
				CL	SHALE, mod. hard, dark grey.
50					TD AT 49 FEET.

GROUNDWATER

	DEPTH	HOUR	DATE
▽	3.1		
▼	3.3		4/19/93

JEG TAC TEAM

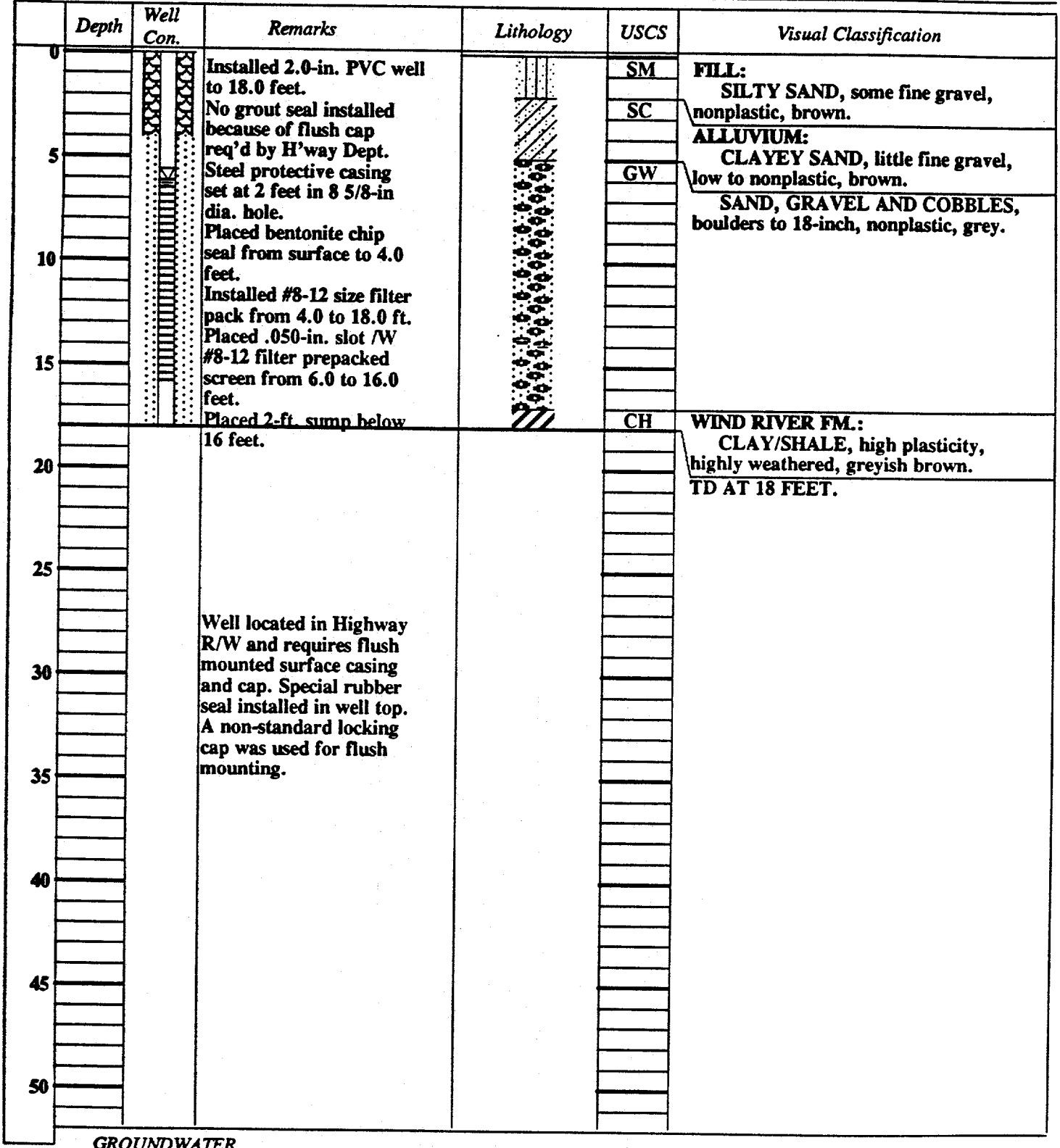
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 722

JOB NO. RVT01 **DATE** 02/24/93

SURFACE ELEVATION 4935.20
TOP OF FILTER PACK 4.00
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 18.0 feet
RIG TYPE MAYHEW 1500
BORING TYPE ROTARY MUD
LOCATION N 22246.56 E 26603.32
DATUM MSL, GROUND SURFACE



GROUNDWATER

DEPTH	HOUR	DATE
6.1		

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 723

JOB NO. RVT01 DATE 02/23/93

SURFACE ELEVATION 4935.00

TOP OF FILTER PACK 31.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

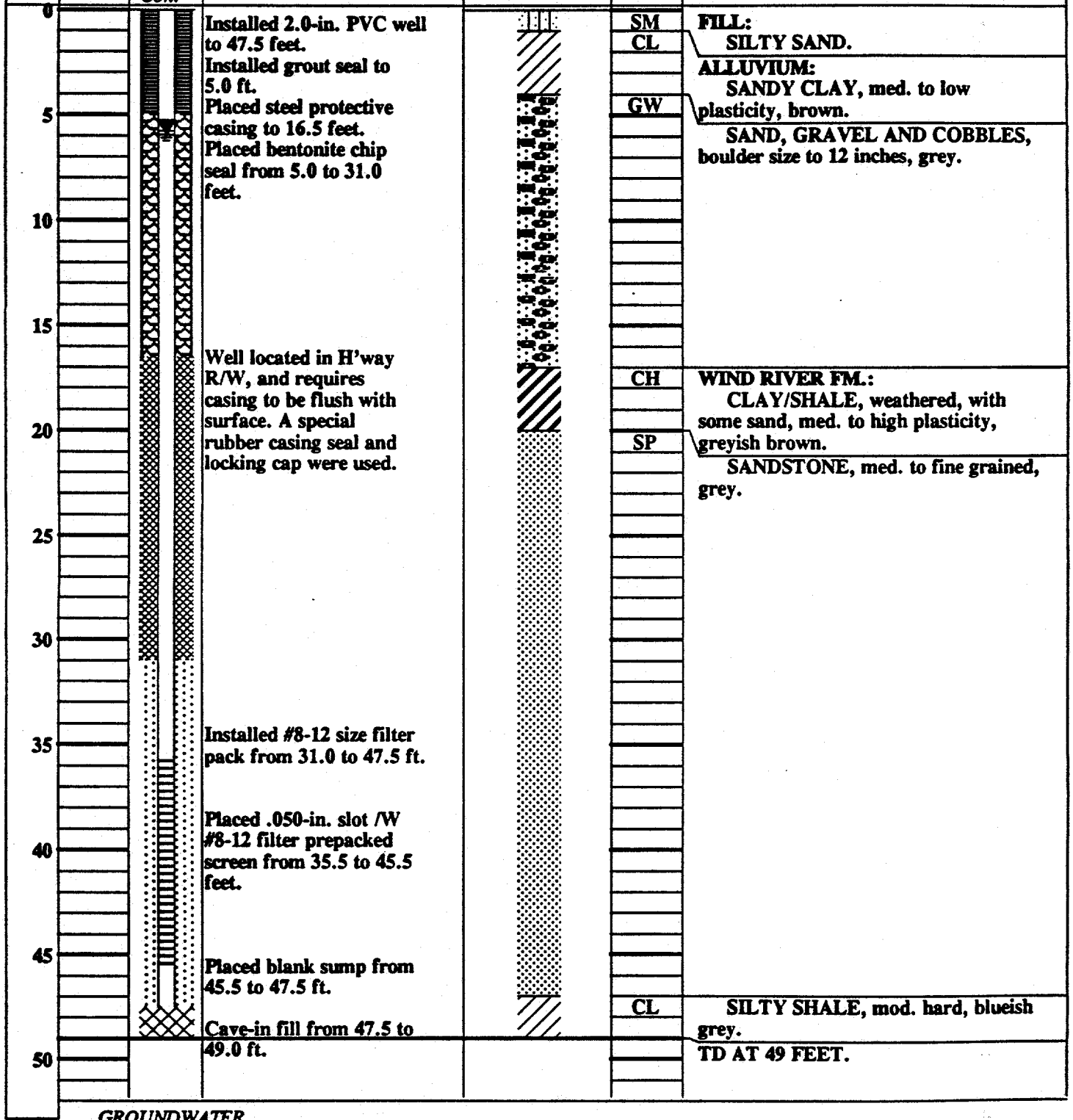
TOTAL DEPTH 49.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD / AIR

LOCATION N 22254.32 E 26616.55

DATUM MSL, GROUND SURFACE



GROUNDWATER

DEPTH	HOUR	DATE
6.0		
5.8		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 724

JOB NO. RVT01 DATE 03/04/93

SURFACE ELEVATION 4939.40

TOP OF FILTER PACK 6.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION ALLUVIUM

TOTAL DEPTH 16.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 24896.73 E 26260.41

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 16.0 feet. Installed grout seal to 1.0 ft. Placed steel protective casing to 2 feet in 8 5/8-in. dia. hole. Placed bentonite chip seal from 1.0 to 6.0 feet. Installed #8-12 size filter pack from 6.0 to 16.0 ft. Placed .050-in. slot /W #8-12 filter prepacked screen from 11.0 to 16 feet.		SC	**ALLUVIUM:** CLAYEY SAND, medium plasticity, brown.
5				GW	SAND, GRAVEL AND COBBLES, with boulders to 18 inches dia., well graded, grey.
10					
15				CL	**WIND RIVER FM.:** SHALE/CLAY, highly weathered, soft, grey.
20		Well located in north west corner of mill site area.			TD AT 16 FEET.
25					
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
5.6		

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 725

JOB NO. RVT01 DATE 03/04/93

SURFACE ELEVATION 4939.40

TOP OF FILTER PACK 19.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

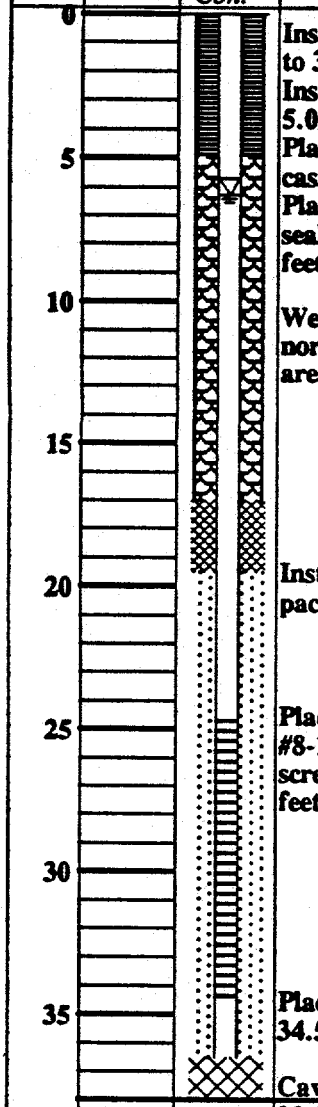
TOTAL DEPTH 38.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 24896.73 E 26260.41

DATUM MSL, GROUND SURFACE



Depth	Remarks	USCS	Visual Classification
0	Installed 2.0-in. PVC well to 36.5 feet. Installed grout seal to 5.0 ft. Placed steel protective casing to 17 feet. Placed bentonite chip seal from 5.0 to 19.5 feet. Well located in northeast corner of mill area.	SC	ALLUVIUM: CLAYEY SAND, medium to low plasticity, brown.
5		GW	SANDY GRAVEL AND COBBLES, with boulders to 18 inches, well graded, grey.
10			
15		CH	WIND RIVER FM.: SHALE/CLAY, highly weathered, med. to high plasticity, soft, grey.
20	Installed #8-12 size filter pack from 19.5 to 36.5 ft.	SP	SANDSTONE, med. to fine grained, poorly indurated, grey.
25	Placed .050-in. slot /W #8-12 filter prepacked screen from 24.5 to 34.5 feet.		
30			
35	Placed blank sump from 34.5 to 36.5 ft.		
	Cave-in fill from 36.5 to 38.0 ft.	ML	SILTSTONE, very fine grained, mod. hard, dark grey.
40			TD AT 38 FEET.
45			
50			

GROUNDWATER

DEPTH	HOUR	DATE
6.3		
		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 726

JOB NO. RVT01 DATE 04/17/93

SURFACE ELEVATION 4939.50

TOP OF FILTER PACK 80.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR.CONFINED)

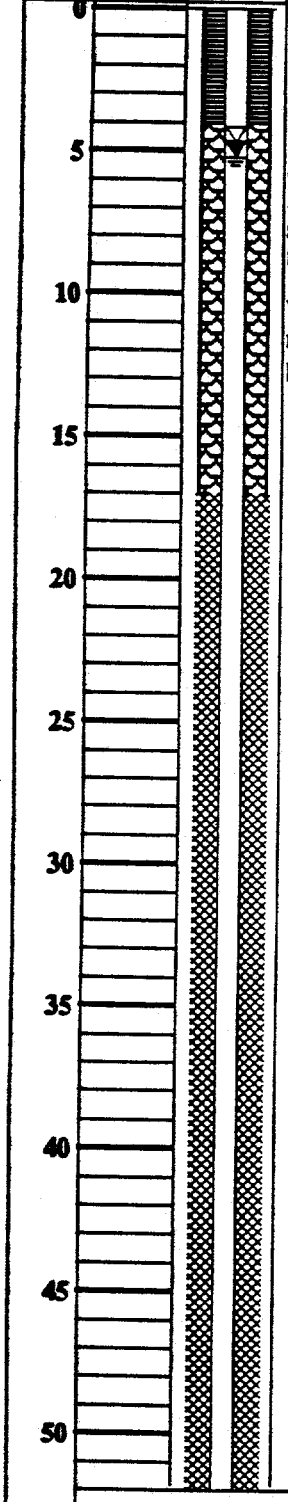
TOTAL DEPTH 133.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD TO AIR

LOCATION N 24904.00 E 26251.00

DATUM MSL, GROUND SURFACE



Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 133.0 feet. Installed grout seal to 4.0 ft. Placed steel protective casing to 17 feet. Placed bentonite chip seal from 2.0 to 80.0 feet. Well located in northeast corner of process site.		SC	**ALLUVIUM:** CLAYEY SAND, medium to low plasticity, coarse to med. sand, brown.
5				GW	SANDY GRAVEL AND COBBLES, with boulders to 18 inch dia., rounded, greyish brown.
10					
15				CH	**WIND RIVER FM.:** SILTY CLAY/SHALE, highly weathered, little fine sand, highly plasticity, greyish brown. Note; Becomes very stiff to mod. hard tannish grey shale at 17 feet.
20					
25				SP	SANDSTONE, fine to med. fissle, poorly cemented, soft, grey.
30					
35					
40					
45				CL	SHALE, little to some fine sand, soft, grey to dark grey.
50				CL	SHALE, hard, dk. grey.

GROUNDWATER

DEPTH	HOUR	DATE
4.7		
5.2	4/19/93	

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 726

JOB NO. RVT01 DATE 04/17/93

SURFACE ELEVATION 4939.50

TOP OF FILTER PACK 80.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR.CONFINED)

TOTAL DEPTH 133.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD TO AIR

LOCATION N 24904.00 E 26251.00

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
55					
60					Note: With sandy lenses, changing to light grey color from 60 to 64 ft..
65					
70					
75					Note: sandy lenses from 74 to 80 feet.
80		Installed #8-12 size filter pack from 80.0 to 133.0 ft.		SM	SANDSTONE, medium to fine, moderately hard, grey. Note: Occ. clayey lenses.
85					Note: Becoming moderately soft from 85 feet.
90				SC	CLAYEY SANDSTONE, medium, soft, grey.
95					
100					

GROUNDWATER

DEPTH	HOUR	DATE
4.7		
5.2	4/19/93	

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 726

JOB NO. RVT01 DATE 04/17/93

SURFACE ELEVATION 4939.50

TOP OF FILTER PACK 80.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(LWR.CONFINED)

TOTAL DEPTH 133.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD TO AIR

LOCATION N 24904.00 E 26251.00

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
105					
110					
115					
120		Placed .050-in. slot /W #8-12 filter prepacked screen from 121.0 to 131.0 feet.			
125					Note: Becoming harder from 125 ft. fine to med. grained, grey.
130		Placed blank sump from 131.0 to 133.0 ft.		CL	SHALE, hard, dark grey.
135					TD AT 133 FEET.
140					
145					
150					
155					

GROUNDWATER

DEPTH	HOUR	DATE
4.7		
5.2		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 727

JOB NO. RVT01 DATE 03/05/93

SURFACE ELEVATION 4949.50

TOP OF FILTER PACK 21.50

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 40.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD / AIR

LOCATION N 24893.70 E 23811.24

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 39.0 feet. Installed grout seal to 5.0 ft. Placed steel protective casing to 18 feet in 8 5/8-in.dia.hole in bentonite seal. Placed bentonite chip seal from 5.0 to 21.5 feet. Well located in northwest corner of mill area.		GW	ALLUVIUM: SAND, GRAVEL AND COBBLES, with boulders to 18 inches, grey
15				CH	WIND RIVER FM.: CLAY/SHALE, with fine sand, highly weathered, light grey.
20				SP	SANDSTONE,med. to fine grained, mod. well cemented, light grey.
25		Installed #8-12 size filter pack from 21.5 to 39.0 ft.			
30		Placed .050-in. slot /W #8-12 filter prepacked screen from 27.0 to 37.0 feet.			Note: Grain size changing to fine, mod. hard, and dark grey.
35		Placed blank sump from 37.0 to 39.0 ft.		CL	SHALE, silty, soft, dark grey.
40		Cave-in fill from 39.0 to 40.0 ft.			TD AT 40 FEET.
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
9.0		3-5-93
8.9		4/19/93

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 728

JOB NO. RVT01 **DATE** 03/05/93

SURFACE ELEVATION 4943.90
TOP OF FILTER PACK 9.00
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION ALLUVIUM

TOTAL DEPTH 24.0 feet
RIG TYPE MAYHEW 1500
BORING TYPE ROTARY MUD
LOCATION N 24893.74 E 24934.93
DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 24.0 feet. No grout seal installed. Placed steel protective casing to 3 feet Placed bentonite chip seal from 0.0 to 9.0 feet.		SC	ALLUVIUM: CLAYEY SAND, fine, low to medium plasticity.
5				GW	SAND, GRAVEL AND COBBLES, with boulders to 18 inches, well graded, grey.
10		Installed #8-12 size filter pack from 9.0 to 24.0 ft.			
15		Placed .050-in. slot /W #8-12 filter prepacked screen from 12 to 22 feet.		SM	SILTY SAND, some clayey seams, very fine, grey.
20		Two foot sump placed below screen at 22 feet.		CL	WIND RIVER FM.: SHALE, mod. hard, dark grey.
25					TD AT 24 FEET.
30		Well located in north center edge of mill area.			
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
6.1		

JEG TAC TEAM

PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 729

JOB NO. RVT01 DATE 03/17/93

SURFACE ELEVATION 4932.10

TOP OF FILTER PACK 8.00

WELL CASING TYPE 2.0-IN.SCHED.40 PVC

COMPLETION ALLUVIUM

TOTAL DEPTH 17.0 feet

RIG TYPE MAYHEW 1500

BORING TYPE ROTARY MUD

LOCATION N 23228.03 E 28349.91

DATUM MSL, GROUND SURFACE

Depth	Well Con.	Remarks	Lithology	USCS	Visual Classification
0		Installed 2.0-in. PVC well to 14.0 feet. No grout seal installed because of flush cap req'd by H'way Dept. Placed bentonite chip seal from surface to 8.0 feet. Installed #8-12 size filter pack from 8.0 to 14.0 ft. Placed .050-in. slot /W #8-12 filter prepacked screen from 9.0 to 14.0 feet. No sump installed.		SC	ALLUVIUM: CLAYEY SAND, with occasional fine gravel, medium to low plasticity, brown.
5				GW	SAND, GRAVEL AND COBBLES, with boulders to 12 inch dia., grey.
10					
15				CL	WIND RIVER FM.: CLAY/SHALE, with sand, highly weathered, medium to low plasticity, greyish brown.
20					TD AT 17 FEET.
25		Well located in Highway R/W and requires flush mounted surface casing and cap. Special rubber seal intalled in well top and non-standard locking cap.			
30					
35					
40					
45					
50					

GROUNDWATER

DEPTH	HOUR	DATE
6.6		

JEG TAC TEAM

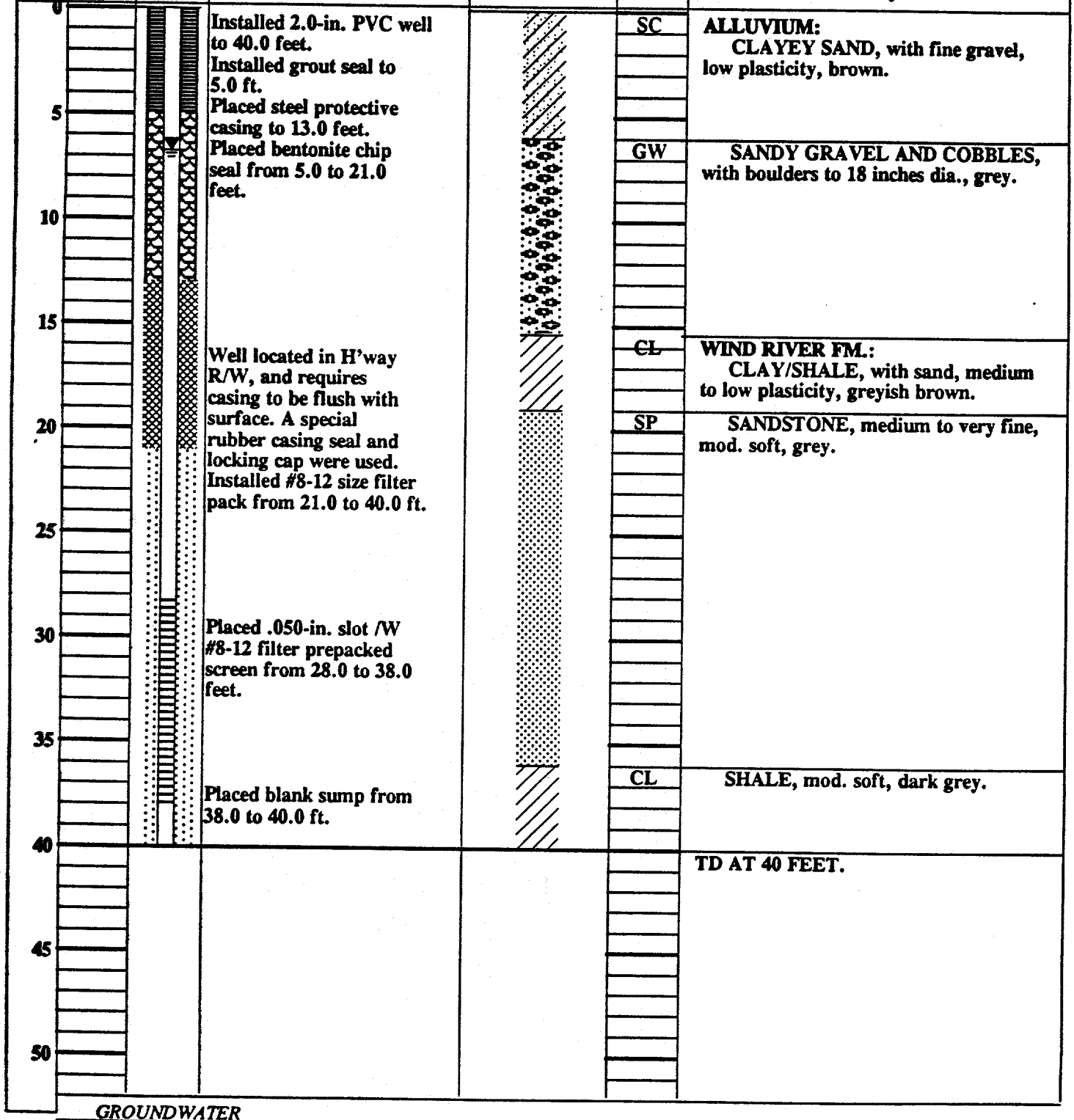
PROJECT RIVERTON SITE, WYO.: UMTRA

LOG OF WELL BORING NO. 730

JOB NO. RVT01 **DATE** 03/17/93

SURFACE ELEVATION 4932.50
TOP OF FILTER PACK
WELL CASING TYPE 2.0-IN.SCHED.40 PVC
COMPLETION WIND RIVER FM.(UPR.CONFINED)

TOTAL DEPTH 40.0 feet
RIG TYPE MAYHEW 1500
BORING TYPE ROTARY MUD TO AIR
LOCATION N 23222.16 E 28339.43
DATUM MSL, GROUND SURFACE



GROUNDWATER

DEPTH	HOUR	DATE
6.8		4/19/93

JEG TAC TEAM

APPENDIX B1

CONTAMINANTS OF CONCERN IN DOMESTIC WELLS

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0401 DOMESTIC WELL
NORTH COORDINATE: 18004.0 FT
EAST COORDINATE: 21347.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/29/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/29/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/29/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/29/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/29/85	0001	MG/L		118.00		0.1	-
URANIUM	05/29/85	0001	MG/L		0.0037		0.003	-
VANADIUM	05/29/85	0001	MG/L	<	0.01		0.01	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0402 DOMESTIC WELL
NORTH COORDINATE: 20004.0 FT
EAST COORDINATE: 27707.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/29/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/29/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/29/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/29/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/29/85	0001	MG/L		112.00		0.1	-
URANIUM	05/29/85	0001	MG/L		0.0021	J	0.003	-
VANADIUM	05/29/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0403 DOMESTIC WELL
NORTH COORDINATE: 23844.0 FT
EAST COORDINATE: 33407.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/29/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/29/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/29/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/29/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/29/85	0001	MG/L		119.00		0.1	-
URANIUM	05/29/85	0001	MG/L	<	0.0003	J	0.003	-
VANADIUM	05/29/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0404 DOMESTIC WELL
NORTH COORDINATE: 23890.5 FT
EAST COORDINATE: 27836.5 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/28/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/28/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/28/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/28/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/28/85	0001	MG/L		158.00		0.1	-
URANIUM	05/28/85	0001	MG/L	<	0.0003	J	0.003	-
VANADIUM	05/28/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0405 DOMESTIC WELL - BLOMBERG
NORTH COORDINATE: 23680.0 FT
EAST COORDINATE: 28510.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/07/84	0001		<	0.01		0.01	-
	05/28/85	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/29/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.05	I	0.05	-
	10/24/91	N001		<	0.001		0.001	-
	03/14/92	N001		<	0.03	I	0.03	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.005		0.005	-
MANGANESE	12/08/83	0001	MG/L		0.02		0.01	-
	01/10/84	0001		<	0.01		0.01	-
	06/07/84	0001		<	0.01		0.01	-
	05/28/85	0001			0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/29/91	0001			0.01		0.01	-
MANGANESE (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001			0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/07/84	0001		<	0.01		0.01	-
	05/28/85	0001		<	0.01		0.01	-
	11/15/90	0001			0.01		0.01	-
	03/29/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.015		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	06/07/84	0001		<	0.04		0.04	-
	05/28/85	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/29/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	11/15/90	N001	MG/L	<	0.04		0.04	-
	03/29/91	N001		<	0.04		0.04	-
	06/03/91	N001		<	0.04		0.04	-
	10/24/91	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0405 DOMESTIC WELL - BLOMBERG
NORTH COORDINATE: 23680.0 FT
EAST COORDINATE: 28510.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL (TOTAL)	03/14/92	N001	MG/L	<	0.04		0.04	-
	08/06/92	N001		<	0.04		0.04	-
	03/15/93	N001		<	0.04		0.04	-
SULFATE	06/12/81	0001	MG/L		264.00		-	-
	12/08/83	0001			263.00		0.1	-
	01/10/84	0001			250.00		-	-
	06/07/84	0001			117.00		0.1	-
	05/28/85	0001			264.00		0.1	-
	11/15/90	0001			277.		0.1	-
	03/29/91	0001			339.		10.	-
SULFATE (TOTAL)	11/15/90	N001	MG/L		276.		0.1	-
	06/03/91	N001			297.		0.1	-
	10/24/91	N001			245		0.1	-
	03/14/92	N001			315.		40.	-
	08/06/92	N001			277.		30.	-
	03/15/93	N001			260		1	-
URANIUM	12/08/83	0001	MG/L	<	0.0003		0.0003	-
	01/10/84	0001			0.002		-	-
	06/07/84	0001			0.0008		0.0003	-
	05/28/85	0001		<	0.0003	J	0.003	-
	11/15/90	0001		<	0.0003		0.0003	-
	03/29/91	0001			0.005		0.001	-
URANIUM (TOTAL)	11/15/90	N001	MG/L	<	0.0003		0.0003	-
	03/29/91	N001		<	0.001		0.001	-
	06/03/91	N001		<	0.001		0.001	-
	10/24/91	N001		<	0.0003		0.0003	-
	03/14/92	N001			0.001		0.001	-
	08/06/92	N001		<	0.001		0.001	-
	03/15/93	N001		<	0.001		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	06/07/84	0001		<	0.01		0.01	-
	05/28/85	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/29/91	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0406 DOMESTIC WELL - CLARK/KNOWLES
NORTH COORDINATE: 24280.0 FT
EAST COORDINATE: 27300.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	11/19/90	0001	MG/L	<	0.01	GJ	0.01	-
	03/29/91	0001		<	0.01	G	0.01	-
ARSENIC (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/29/91	N001		<	0.01	G	0.01	-
	06/03/91	0001		<	0.05	GI	0.05	-
	10/24/91	N001			0.012		0.001	-
	03/14/92	N001		<	0.03	I	0.03	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.005		0.005	-
MANGANESE	11/19/90	0001	MG/L	<	0.01	G	0.01	-
	03/29/91	0001		<	0.01	G	0.01	-
MANGANESE (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/29/91	N001		<	0.01	G	0.01	-
	06/03/91	0001		<	0.01	G	0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
MOLYBDENUM	11/19/90	0001	MG/L	<	0.01	G	0.01	-
	03/29/91	0001		<	0.01	G	0.01	-
MOLYBDENUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/29/91	N001		<	0.01	G	0.01	-
	06/03/91	0001		<	0.01	G	0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
NICKEL	11/19/90	0001	MG/L	<	0.04	G	0.04	-
	03/29/91	0001		<	0.04	G	0.04	-
NICKEL (TOTAL)	11/19/90	N001	MG/L	<	0.04	G	0.04	-
	03/29/91	N001		<	0.04	G	0.04	-
	06/03/91	0001		<	0.04	G	0.04	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.04		0.04	-
	08/05/92	N001		<	0.04		0.04	-
	03/15/93	N001		<	0.04		0.04	-
SULFATE	07/21/81	0001	MG/L		229.00		-	-
	11/19/90	0001			297.	G	0.1	-
	03/29/91	0001			358.	G	10.	-
SULFATE (TOTAL)	11/19/90	N001	MG/L		295.	G	0.1	-
	06/03/91	0001			286.	G	0.1	-
	10/24/91	N001			345		0.1	-
	03/14/92	N001			226.		40.	-
	08/05/92	N001			312.		30.	-
	03/15/93	N001			275		1	-
URANIUM	11/19/90	0001	MG/L		0.0004	G	0.0003	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0406 DOMESTIC WELL - CLARK/KNOWLES
NORTH COORDINATE: 24280.0 FT
EAST COORDINATE: 27300.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	03/29/91	0001	MG/L		0.010	G	0.001	-
URANIUM (TOTAL)	11/19/90	N001	MG/L	<	0.0003	G	0.0003	-
	03/29/91	N001			0.002	G	0.001	-
	06/03/91	0001			0.014	G	0.001	-
	10/24/91	N001		<	0.0003		0.0003	-
	03/14/92	N001		<	0.001		0.001	-
	08/05/92	N001		<	0.001		0.001	-
	03/15/93	N001		<	0.001		0.001	-
VANADIUM	11/19/90	0001	MG/L	<	0.01	G	0.01	-
	03/29/91	0001			0.02	G	0.01	-
VANADIUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/29/91	N001		<	0.01	G	0.01	-
	06/03/91	0001		<	0.01	G	0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0409 DOMESTIC WELL
NORTH COORDINATE: 23330.0 FT
EAST COORDINATE: 28455.5 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/30/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/30/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/30/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/30/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/30/85	0001	MG/L		370.00		0.1	-
VANADIUM	05/30/85	0001	MG/L	<	0.01		0.01	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0410 DOMESTIC WELL - RUTH BIGLAKE
NORTH COORDINATE: 22320.0 FT
EAST COORDINATE: 26800.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: BLACKSANDS (BS)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	03/28/84	0001		<	0.001		0.001	-
	06/07/84	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	GJ	0.01	-
	03/28/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.05	I	0.05	-
	10/23/91	N001		<	0.001		0.001	-
	03/16/92	N001		<	0.005		0.005	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.005		0.005	-
	03/16/93	N002		<	0.005		0.005	-
MANGANESE	12/08/83	0001	MG/L		0.03		0.01	-
	01/10/84	0001		<	0.01		0.01	-
	03/28/84	0001		<	0.01		0.01	-
	06/07/84	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001			0.02	G	0.01	-
	03/28/91	0001			0.03		0.01	-
MANGANESE (TOTAL)	03/30/90	N001	MG/L		0.01		0.01	-
	11/15/90	N001			0.02	G	0.01	-
	03/28/91	N001			0.02		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001			0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
	03/16/93	N002		<	0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	03/28/84	0001		<	0.001		0.001	-
	06/07/84	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001			0.02	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
	03/16/93	N002		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.022		0.001	-
	01/10/84	0001		<	0.04		0.04	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0410 DOMESTIC WELL - RUTH BIGLAKE
NORTH COORDINATE: 22320.0 FT
EAST COORDINATE: 26800.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: BLACKSANDS (BS)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	03/28/84	0001	MG/L	<	0.04		0.04	-
	06/07/84	0001		<	0.04		0.04	-
	03/30/90	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04	G	0.04	-
	03/28/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/30/90	N001	MG/L	<	0.04		0.04	-
	11/15/90	N001		<	0.04	G	0.04	-
	03/28/91	N001		<	0.04		0.04	-
	06/03/91	N001		<	0.04		0.04	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.04		0.04	-
	08/05/92	N001		<	0.04		0.04	-
	03/16/93	N001		<	0.04		0.04	-
	03/16/93	N002		<	0.04		0.04	-
SULFATE	12/08/83	0001	MG/L		310.00		0.1	-
	01/10/84	0001			290.00		-	-
	03/28/84	0001			319.00		0.1	-
	06/07/84	0001			122.00		0.1	-
	03/30/90	0001			312.		0.1	-
	11/15/90	0001			182.	G	0.1	-
	03/28/91	0001			195.		10.	-
SULFATE (TOTAL)	03/30/90	N001	MG/L		305.		0.1	-
	11/15/90	N001			184.	G	0.1	-
	06/03/91	N001			274.		0.1	-
	10/23/91	N001			158		0.1	-
	03/16/92	N001			178.		40.	-
	08/05/92	N001			179.		10.	-
	03/16/93	N001			182		1	-
	03/16/93	N002			180		1	-
URANIUM	12/08/83	0001	MG/L	<	0.0003		0.0003	-
	01/10/84	0001			0.002		-	-
	03/28/84	0001		<	0.0003		0.0003	-
	06/07/84	0001		<	0.0003		0.0003	-
	03/30/90	0001		<	0.0003	J	0.003	-
	11/15/90	0001		<	0.0003	G	0.0003	-
	03/28/91	0001			0.003		0.001	-
URANIUM (TOTAL)	03/30/90	N001	MG/L	<	0.0003	J	0.003	-
	11/15/90	N001		<	0.0003	G	0.0003	-
	03/28/91	N001		<	0.001		0.001	-
	06/03/91	N001		<	0.001		0.001	-
	10/23/91	N001		<	0.0003		0.0003	-
	03/16/92	N001		<	0.001		0.001	-
	08/05/92	N001		<	0.001		0.001	-
	03/16/93	N001		<	0.001		0.001	-
	03/16/93	N002		<	0.001		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	03/28/84	0001		<	0.004		0.004	-
	06/07/84	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0410 DOMESTIC WELL - RUTH BIGLAKE
NORTH COORDINATE: 22320.0 FT
EAST COORDINATE: 26800.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: BLACKSANDS (BS)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	11/15/90	0001	MG/L	<	0.01	G	0.01	-
	03/28/91	0001			0.02		0.01	-
VANADIUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
	03/16/93	N002		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0411 DOMESTIC WELL - JOE GOGGLES SR
NORTH COORDINATE: 22320.0 FT
EAST COORDINATE: 26920.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/26/85	0001	MG/L	<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/28/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.05	GI	0.05	-
	10/23/91	N001		<	0.001		0.001	-
	03/16/92	N001		<	0.005		0.005	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.005		0.005	-
MANGANESE	05/26/85	0001	MG/L		0.01		0.01	-
	11/28/88	0001			0.02		0.01	-
	11/15/90	0001			0.01		0.01	-
	03/28/91	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/15/90	N001	MG/L		0.01		0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001			0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
MOLYBDENUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/28/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
NICKEL	05/26/85	0001	MG/L	<	0.04		0.04	-
	11/28/88	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/28/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	11/15/90	N001	MG/L	<	0.04		0.04	-
	03/28/91	N001		<	0.04		0.04	-
	06/03/91	N001		<	0.04	G	0.04	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.04		0.04	-
	08/05/92	N001		<	0.04		0.04	-
	03/16/93	N001			0.07		0.04	-
SULFATE	05/26/85	0001	MG/L		303.00		0.1	-
	11/28/88	0001			292.		0.1	-
	11/15/90	0001			302.		0.1	-
	03/28/91	0001			321.		10.	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0411 DOMESTIC WELL - JOE GOGGLES SR
NORTH COORDINATE: 22320.0 FT
EAST COORDINATE: 26920.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	11/15/90	N001	MG/L		313.		0.1	-
	06/03/91	N001			252.	G	0.1	-
	10/23/91	N001			267		0.1	-
	03/16/92	N001			344.		40.	-
	08/05/92	N001			318.		30.	-
	03/16/93	N001			304		1	-
URANIUM	05/26/85	0001	MG/L	<	0.0003	J	0.003	-
	11/28/88	0001		<	0.0003	J	0.003	-
	11/15/90	0001		<	0.0003		0.0003	-
	03/28/91	0001			0.001		0.001	-
URANIUM (TOTAL)	11/15/90	N001	MG/L	<	0.0003		0.0003	-
	03/28/91	N001		<	0.001		0.001	-
	06/03/91	N001		<	0.001	G	0.001	-
	10/23/91	N001		<	0.0003		0.0003	-
	03/16/92	N001			0.001		0.001	-
	08/05/92	N001		<	0.001		0.001	-
	03/16/93	N001			0.001		0.001	-
VANADIUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/28/91	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/16/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0412 DOMESTIC WELL
NORTH COORDINATE: 24394.0 FT
EAST COORDINATE: 28447.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/05/85	0001	MG/L	<	0.01		0.01	-
	06/05/85	0002		<	0.01		0.01	-
	06/05/85	0003		<	0.01		0.01	-
	06/05/85	0004		<	0.01		0.01	-
	06/05/85	0005		<	0.01		0.01	-
MANGANESE	06/05/85	0001	MG/L	<	0.01		0.01	-
	06/05/85	0002		<	0.01		0.01	-
	06/05/85	0003		<	0.01		0.01	-
	06/05/85	0004		<	0.01		0.01	-
	06/05/85	0005		<	0.01		0.01	-
MOLYBDENUM	06/05/85	0001	MG/L	<	0.01		0.01	-
	06/05/85	0002		<	0.01		0.01	-
	06/05/85	0003		<	0.01		0.01	-
	06/05/85	0004		<	0.01		0.01	-
	06/05/85	0005		<	0.01		0.01	-
NICKEL	06/05/85	0001	MG/L	<	0.04		0.04	-
	06/05/85	0002		<	0.04		0.04	-
	06/05/85	0003		<	0.04		0.04	-
	06/05/85	0004		<	0.04		0.04	-
	06/05/85	0005		<	0.04		0.04	-
SULFATE	06/05/85	0001	MG/L		166.00		0.1	-
	06/05/85	0002			164.00		0.1	-
	06/05/85	0003			164.00		0.1	-
	06/05/85	0004			164.00		0.1	-
	06/05/85	0005			164.00		0.1	-
URANIUM	06/05/85	0001	MG/L		0.0122		0.003	-
	06/05/85	0002			0.012		0.003	-
	06/05/85	0003			0.0121		0.003	-
	06/05/85	0004			0.0125		0.003	-
	06/05/85	0005			0.0121		0.003	-
VANADIUM	06/05/85	0001	MG/L	<	0.01		0.01	-
	06/05/85	0002		<	0.01		0.01	-
	06/05/85	0003		<	0.01		0.01	-
	06/05/85	0004		<	0.01		0.01	-
	06/05/85	0005		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0413 DOMESTIC WELL
NORTH COORDINATE: 23844.0 FT
EAST COORDINATE: 23657.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/30/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/30/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/30/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/30/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/30/85	0001	MG/L		1270.00		0.1	-
URANIUM	05/30/85	0001	MG/L	<	0.0003	J	0.003	-
VANADIUM	05/30/85	0001	MG/L		0.08		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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0415 DOMESTIC WELL
NORTH COORDINATE: 23970.0 FT
EAST COORDINATE: 25152.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	12/08/83	0002		<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	01/10/84	0002		<	0.005		0.005	-
	04/04/84	0001		<	0.01		0.01	-
MANGANESE	12/08/83	0001	MG/L		0.07		0.01	-
	12/08/83	0002			0.07		0.01	-
	01/10/84	0001			0.06		-	-
	01/10/84	0002			0.06		-	-
	04/04/84	0001		<	0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L	<	0.001		0.001	-
	12/08/83	0002		<	0.001		0.001	-
	01/10/84	0001			0.006		-	-
	01/10/84	0002			0.006		-	-
	04/04/84	0001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.022		0.001	-
	12/08/83	0002			0.02		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	01/10/84	0002		<	0.04		0.04	-
	04/04/84	0001		<	0.04		0.04	-
SULFATE	07/21/81	0001	MG/L		200.00		-	-
	12/08/83	0001			227.00		0.1	-
	12/08/83	0002			222.00		0.1	-
	01/10/84	0001			210.00		-	-
	01/10/84	0002			200.00		-	-
	04/04/84	0001			305.00		0.1	-
URANIUM	12/08/83	0001	MG/L		0.0042		0.0003	-
	12/08/83	0002			0.0051		0.0003	-
	01/10/84	0001			0.007		-	-
	01/10/84	0002			0.006		-	-
	04/04/84	0001			0.0011		0.0003	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	12/08/83	0002		<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	01/10/84	0002		<	0.004		0.004	-
	04/04/84	0001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0417 DOMESTIC WELL - MELVIN HUTCHINSON
NORTH COORDINATE: 25300.0 FT
EAST COORDINATE: 24400.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	11/19/90	0001	MG/L	<	0.01	J	0.01	-
	03/29/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	11/19/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.005	W	0.005	-
MANGANESE	11/19/90	0001	MG/L		0.13		0.01	-
	03/29/91	0001			0.08		0.01	-
MANGANESE (TOTAL)	11/19/90	N001	MG/L		0.13		0.01	-
	03/29/91	N001			0.07		0.01	-
	08/06/92	N001			0.42		0.01	-
	03/15/93	N001		<	0.01		0.01	-
MOLYBDENUM	11/19/90	0001	MG/L		0.03		0.01	-
	03/29/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/90	N001	MG/L	<	0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
NICKEL	11/19/90	0001	MG/L	<	0.04		0.04	-
	03/29/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	11/19/90	N001	MG/L	<	0.04		0.04	-
	03/29/91	N001		<	0.04		0.04	-
	08/06/92	N001		<	0.04		0.04	-
	03/15/93	N001		<	0.04		0.04	-
SULFATE	07/21/81	0001	MG/L		149.00		-	-
	11/19/90	0001			143.		0.1	-
	03/29/91	0001			128.		10.	-
SULFATE (TOTAL)	11/19/90	N001	MG/L		144.		0.1	-
	08/06/92	N001			97.		10.	-
	03/15/93	N001			120		1	-
URANIUM	11/19/90	0001	MG/L		0.0405		0.0003	-
	03/29/91	0001			0.019		0.001	-
URANIUM (TOTAL)	11/19/90	N001	MG/L		0.0385		0.0003	-
	03/29/91	N001			0.018		0.001	-
	08/06/92	N001			0.018		0.001	-
	03/15/93	N001			0.013		0.001	-
VANADIUM	07/21/81	0001	MG/L		0.009		-	-
	11/19/90	0001			0.01		0.01	-
	03/29/91	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/19/90	N001	MG/L		0.01		0.01	-
	03/29/91	N001		<	0.01		0.01	-
	08/06/92	N001			0.02		0.01	-
	03/15/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0417 DOMESTIC WELL - MELVIN HUTCHINSON
NORTH COORDINATE: 25300.0 FT
EAST COORDINATE: 24400.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0420 DOMESTIC WELL - MOSS
NORTH COORDINATE: 22440.0 FT
EAST COORDINATE: 22250.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	12/08/83	0002		<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	01/10/84	0002		<	0.005		0.005	-
	03/28/84	0001		<	0.001		0.001	-
	06/07/84	0001		<	0.01		0.01	-
	05/26/85	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	GJ	0.01	-
	03/28/91	0001		<	0.01	G	0.01	-
ARSENIC (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	04/01/90	N002		<	0.01		0.01	-
	04/01/90	N003		<	0.01		0.01	-
	04/01/90	N004		<	0.01		0.01	-
	04/01/90	N005		<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01	G	0.01	-
	06/03/91	N001		<	0.05	GI	0.05	-
	10/23/91	N001		<	0.001		0.001	-
	03/13/92	N001		<	0.03	I	0.03	-
	08/06/92	N001		<	0.01		0.01	-
MANGANESE	12/08/83	0001	MG/L		0.03		0.01	-
	12/08/83	0002			0.02		0.01	-
	01/10/84	0001			0.01		-	-
	01/10/84	0002			0.02		-	-
	03/28/84	0001		<	0.01		0.01	-
	06/07/84	0001		<	0.01		0.01	-
	05/26/85	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001			0.01	G	0.01	-
	03/28/91	0001			0.01	G	0.01	-
MANGANESE (TOTAL)	04/01/90	N001	MG/L		0.01		0.01	-
	04/01/90	N002			0.01		0.01	-
	04/01/90	N003		<	0.01		0.01	-
	04/01/90	N004		<	0.01		0.01	-
	04/01/90	N005		<	0.01		0.01	-
	11/19/90	N001			0.02	G	0.01	-
	03/28/91	N001			0.02	G	0.01	-
	06/03/91	N001			0.02	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/13/92	N001			0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L	<	0.001		0.001	-
	12/08/83	0002			0.04		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	01/10/84	0002		<	0.005		0.005	-
	03/28/84	0001		<	0.001		0.001	-
	06/07/84	0001		<	0.01		0.01	-
	05/26/85	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0420 DOMESTIC WELL - MOSS
NORTH COORDINATE: 22440.0 FT
EAST COORDINATE: 22250.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	11/19/90	0001	MG/L	<	0.01	G	0.01	-
	03/28/91	0001		<	0.01	G	0.01	-
MOLYBDENUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	04/01/90	N002		<	0.01		0.01	-
	04/01/90	N003		<	0.01		0.01	-
	04/01/90	N004		<	0.01		0.01	-
	04/01/90	N005		<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01	G	0.01	-
	06/03/91	N001		<	0.01	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-
	03/13/92	N001		<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.024		0.001	-
	12/08/83	0002			0.033		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	01/10/84	0002		<	0.04		0.04	-
	03/28/84	0001		<	0.04		0.04	-
	06/07/84	0001		<	0.04		0.04	-
	05/26/85	0001		<	0.04		0.04	-
	04/01/90	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04	G	0.04	-
	03/28/91	0001		<	0.04	G	0.04	-
NICKEL (TOTAL)	04/01/90	N001	MG/L	<	0.04		0.04	-
	04/01/90	N002		<	0.04		0.04	-
	04/01/90	N003		<	0.04		0.04	-
	04/01/90	N004		<	0.04		0.04	-
	04/01/90	N005		<	0.04		0.04	-
	11/19/90	N001		<	0.04	G	0.04	-
	03/28/91	N001		<	0.04	G	0.04	-
	06/03/91	N001		<	0.04	G	0.04	-
	10/23/91	N001		<	0.01		0.01	-
	03/13/92	N001		<	0.04		0.04	-
	08/06/92	N001		<	0.04		0.04	-
SULFATE	07/21/81	0001	MG/L		264.00		-	-
	12/08/83	0001			289.00		0.1	-
	12/08/83	0002			291.00		0.1	-
	01/10/84	0001			260.00		-	-
	01/10/84	0002			260.00		-	-
	03/28/84	0001			292.00		0.1	-
	06/07/84	0001			127.00		0.1	-
	05/26/85	0001			190.00		0.1	-
	04/01/90	0001			280.		0.1	-
	11/19/90	0001			267.	G	0.1	-
	03/28/91	0001			274.	G	10.	-
SULFATE (TOTAL)	04/01/90	N001	MG/L		286.		0.1	-
	04/01/90	N002			283.		0.1	-
	04/01/90	N003			283.		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0420 DOMESTIC WELL - MOSS
NORTH COORDINATE: 22440.0 FT
EAST COORDINATE: 22250.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	04/01/90	N004	MG/L		284.		0.1	-
	04/01/90	N005			284.		0.1	-
	11/19/90	N001			272.	G	0.1	-
	06/03/91	N001			250.	G	0.1	-
	10/23/91	N001			242		0.1	-
	03/13/92	N001			318.		40.	-
	08/06/92	N001			268.		30.	-
	03/17/93	N001			292		1	-
URANIUM	12/08/83	0001	MG/L	<	0.0003		0.0003	-
	12/08/83	0002			0.0005		0.0003	-
	01/10/84	0001		<	0.002		0.002	-
	01/10/84	0002			0.005		-	-
	03/28/84	0001		<	0.0003		0.0003	-
	06/07/84	0001		<	0.0003		0.0003	-
	05/26/85	0001		<	0.0003	J	0.003	-
	04/01/90	0001		<	0.0003	J	0.003	-
	11/19/90	0001		<	0.0003	G	0.0003	-
	03/28/91	0001			0.003	G	0.001	-
URANIUM (TOTAL)	04/01/90	N001	MG/L		0.0004	J	0.003	-
	04/01/90	N002		<	0.0003	J	0.003	-
	04/01/90	N003		<	0.0003	J	0.003	-
	04/01/90	N004		<	0.0003	J	0.003	-
	04/01/90	N005		<	0.0003	J	0.003	-
	11/19/90	N001		<	0.0003	G	0.0003	-
	03/28/91	N001		<	0.001	G	0.001	-
	06/03/91	N001		<	0.001	G	0.001	-
	10/23/91	N001			0.0004		0.0003	-
	03/13/92	N001			0.001		0.001	-
	08/06/92	N001		<	0.001		0.001	-
	03/17/93	N001		<	0.001		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	12/08/83	0002		<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	01/10/84	0002		<	0.004		0.004	-
	03/28/84	0001		<	0.004		0.004	-
	06/07/84	0001		<	0.01		0.01	-
	05/26/85	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/28/91	0001		<	0.01	G	0.01	-
VANADIUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	04/01/90	N002		<	0.01		0.01	-
	04/01/90	N003		<	0.01		0.01	-
	04/01/90	N004		<	0.01		0.01	-
	04/01/90	N005		<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
	03/28/91	N001		<	0.01	G	0.01	-
	06/03/91	N001		<	0.01	G	0.01	-
	10/23/91	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0420 DOMESTIC WELL - MOSS
NORTH COORDINATE: 22440.0 FT
EAST COORDINATE: 22250.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM (TOTAL)	03/13/92	N001	MG/L	<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0421 DOMESTIC WELL - HARRIS
NORTH COORDINATE: 21900.0 FT
EAST COORDINATE: 25000.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/26/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/26/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/26/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/26/85	0001	MG/L	<	0.04		0.04	-
SULFATE	07/21/81 05/26/85	0001 0001	MG/L		212.00 233.00		- 0.1	- -
URANIUM	05/26/85	0001	MG/L	<	0.0003	J	0.003	-
VANADIUM	05/26/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0422 DOMESTIC WELL
NORTH COORDINATE: 24990.0 FT
EAST COORDINATE: 22810.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/28/85	0001		<	0.01		0.01	-
MANGANESE	04/04/84	0001	MG/L		0.13		0.01	-
	05/28/85	0001			0.15		0.01	-
MOLYBDENUM	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/28/85	0001		<	0.01		0.01	-
NICKEL	04/04/84	0001	MG/L	<	0.04		0.04	-
	05/28/85	0001		<	0.04		0.04	-
SULFATE	04/04/84	0001	MG/L		366.00		0.1	-
	05/28/85	0001			400.00		0.1	-
URANIUM	04/04/84	0001	MG/L		0.0013		0.0003	-
	05/28/85	0001		<	0.0003	J	0.003	-
VANADIUM	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/28/85	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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0423 DOMESTIC WELL - WHITEMAN
NORTH COORDINATE: 25600.0 FT
EAST COORDINATE: 28190.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/05/84	0001	MG/L	<	0.01		0.01	-
	06/06/85	0001		<	0.01		0.01	-
	06/06/85	0002		<	0.01		0.01	-
	06/06/85	0003		<	0.01		0.01	-
	06/06/85	0004		<	0.01		0.01	-
	06/06/85	0005		<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	GJ	0.01	-
	03/28/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.05	I	0.05	-
	10/24/91	N001			0.014		0.001	-
	03/14/92	N001		<	0.005		0.005	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.005		0.005	-
MANGANESE	06/05/84	0001	MG/L	<	0.01		0.01	-
	06/06/85	0001		<	0.01		0.01	-
	06/06/85	0002		<	0.01		0.01	-
	06/06/85	0003		<	0.01		0.01	-
	06/06/85	0004		<	0.01		0.01	-
	06/06/85	0005		<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
MOLYBDENUM	06/05/84	0001	MG/L	<	0.01		0.01	-
	06/06/85	0001		<	0.01		0.01	-
	06/06/85	0002		<	0.01		0.01	-
	06/06/85	0003		<	0.01		0.01	-
	06/06/85	0004		<	0.01		0.01	-
	06/06/85	0005		<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/19/90	0001			0.01	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-
NICKEL	06/05/84	0001	MG/L	<	0.04		0.04	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0423 DOMESTIC WELL - WHITEMAN
NORTH COORDINATE: 25600.0 FT
EAST COORDINATE: 28190.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	06/06/85	0001	MG/L	<	0.04		0.04	-
	06/06/85	0002		<	0.04		0.04	-
	06/06/85	0003		<	0.04		0.04	-
	06/06/85	0004		<	0.04		0.04	-
	06/06/85	0005		<	0.04		0.04	-
	11/28/88	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04	G	0.04	-
	03/28/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	11/19/90	N001	MG/L	<	0.04	G	0.04	-
	03/28/91	N001		<	0.04		0.04	-
	06/03/91	N001		<	0.04		0.04	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.04		0.04	-
	08/05/92	N001		<	0.04		0.04	-
	03/15/93	N001		<	0.04		0.04	-
SULFATE	06/05/84	0001	MG/L		80.30		0.1	-
	06/06/85	0001			167.00		0.1	-
	06/06/85	0002			167.00		0.1	-
	06/06/85	0003			167.00		0.1	-
	06/06/85	0004			167.00		0.1	-
	06/06/85	0005			167.00		0.1	-
	11/28/88	0001			160.		0.1	-
	11/19/90	0001			165.	G	0.1	-
	03/28/91	0001			175.		10.	-
SULFATE (TOTAL)	11/19/90	N001	MG/L		164.	G	0.1	-
	06/03/91	N001			150.		0.1	-
	10/24/91	N001			156		0.1	-
	03/14/92	N001			178.		40.	-
	08/05/92	N001			162.		10.	-
	03/15/93	N001			166		1	-
URANIUM	06/05/84	0001	MG/L	<	0.0003		0.0003	-
	06/06/85	0001			0.0018	J	0.003	-
	06/06/85	0002		<	0.0003	J	0.003	-
	06/06/85	0003		<	0.0003	J	0.003	-
	06/06/85	0004		<	0.0003	J	0.003	-
	06/06/85	0005		<	0.0003	J	0.003	-
	11/28/88	0001		<	0.0003	J	0.003	-
	11/19/90	0001			0.0005	G	0.0003	-
	03/28/91	0001			0.003		0.001	-
URANIUM (TOTAL)	11/19/90	N001	MG/L		0.0003	G	0.0003	-
	03/28/91	N001		<	0.001		0.001	-
	06/03/91	N001		<	0.001		0.001	-
	10/24/91	N001		<	0.0003		0.0003	-
	03/14/92	N001			0.001		0.001	-
	08/05/92	N001		<	0.001		0.001	-
	03/15/93	N001		<	0.001		0.001	-
VANADIUM	06/05/84	0001	MG/L	<	0.01		0.01	-
	06/06/85	0001		<	0.01		0.01	-
	06/06/85	0002		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0423 DOMESTIC WELL - WHITEMAN
NORTH COORDINATE: 25600.0 FT
EAST COORDINATE: 28190.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	06/06/85	0003	MG/L	<	0.01		0.01	-
	06/06/85	0004		<	0.01		0.01	-
	06/06/85	0005		<	0.01		0.01	-
	11/28/88	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/28/91	0001			0.02		0.01	-
VANADIUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
	03/15/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0424 DOMESTIC WELL
NORTH COORDINATE: 25520.0 FT
EAST COORDINATE: 28260.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/05/84	0001	MG/L	<	0.01		0.01	-
MANGANESE	06/05/84	0001	MG/L		0.15		0.01	-
MOLYBDENUM	06/05/84	0001	MG/L	<	0.01		0.01	-
NICKEL	06/05/84	0001	MG/L	<	0.04		0.04	-
SULFATE	06/05/84	0001	MG/L		582.00		0.1	-
URANIUM	06/05/84	0001	MG/L		0.0079		0.0003	-
VANADIUM	06/05/84	0001	MG/L	<	0.01		0.01	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0425 DOMESTIC WELL
NORTH COORDINATE: 24120.0 FT
EAST COORDINATE: 22070.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/30/84	0001	MG/L	<	0.001		0.001	-
	05/27/85	0001		<	0.01		0.01	-
MANGANESE	03/30/84	0001	MG/L		0.04		0.01	-
MOLYBDENUM	03/30/84	0001	MG/L	<	0.001		0.001	-
	05/27/85	0001		<	0.01		0.01	-
NICKEL	03/30/84	0001	MG/L	<	0.04		0.04	-
	05/27/85	0001		<	0.04		0.04	-
SULFATE	03/30/84	0001	MG/L		341.00		0.1	-
	05/27/85	0001			336.00		0.1	-
URANIUM	03/30/84	0001	MG/L		0.0008		0.0003	-
	05/27/85	0001		<	0.0003	J	0.003	-
VANADIUM	03/30/84	0001	MG/L	<	0.004		0.004	-
	05/27/85	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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0430 DOMESTIC WELL - LAWRENCE RAYMOND #1
NORTH COORDINATE: 25300.0 FT
EAST COORDINATE: 26380.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	12/08/83	0002		<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	01/10/84	0002		<	0.005		0.005	-
	04/04/84	0001		<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	GJ	0.01	-
	03/28/91	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.05	I	0.05	-
	03/14/92	N001		<	0.005		0.005	-
	08/07/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.005		0.005	-
MANGANESE	12/08/83	0001	MG/L		0.02		0.01	-
	12/08/83	0002			0.01		0.01	-
	01/10/84	0001		<	0.01		0.01	-
	01/10/84	0002		<	0.01		0.01	-
	04/04/84	0001		<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/07/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
MOLYBDENUM	06/12/81	0001	MG/L		0.004		-	-
	12/08/83	0001		<	0.001		0.001	-
	12/08/83	0002		<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	01/10/84	0002		<	0.005		0.005	-
	04/04/84	0001		<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
	11/19/90	0001			0.01	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/07/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.017		0.001	-
	12/08/83	0002			0.018		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	01/10/84	0002		<	0.04		0.04	-
	04/04/84	0001		<	0.04		0.04	-
	05/27/85	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04	G	0.04	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0430 DOMESTIC WELL - LAWRENCE RAYMOND #1
NORTH COORDINATE: 25300.0 FT
EAST COORDINATE: 26380.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	03/28/91	0001	MG/L	<	0.04		0.04	-
NICKEL (TOTAL)	11/19/90	N001	MG/L	<	0.04	G	0.04	-
	03/28/91	N001		<	0.04		0.04	-
	06/03/91	N001		<	0.04		0.04	-
	03/14/92	N001		<	0.04		0.04	-
	08/07/92	N001		<	0.04		0.04	-
	03/16/93	N001		<	0.04		0.04	-
SULFATE	06/12/81	0001	MG/L		205.00		-	-
	12/08/83	0001			194.00		0.1	-
	12/08/83	0002			189.00		0.1	-
	01/10/84	0001			180.00		-	-
	01/10/84	0002			180.00		-	-
	04/04/84	0001			198.00		0.1	-
	05/27/85	0001			192.00		0.1	-
	11/19/90	0001			209.	G	0.1	-
	03/28/91	0001			202.		10.	-
SULFATE (TOTAL)	11/19/90	N001	MG/L		209.	G	0.1	-
	06/03/91	N001			185.		0.1	-
	03/14/92	N001			198.		40.	-
	08/07/92	N001			208.		20.	-
	03/16/93	N001			212		1	-
URANIUM	12/08/83	0001	MG/L		0.0006		0.0003	-
	12/08/83	0002		<	0.0003		0.0003	-
	01/10/84	0001		<	0.002		0.002	-
	01/10/84	0002		<	0.002		0.002	-
	04/04/84	0001			0.0012		0.0003	-
	05/27/85	0001		<	0.0003	J	0.003	-
	11/19/90	0001		<	0.0003	G	0.0003	-
	03/28/91	0001			0.002		0.001	-
URANIUM (TOTAL)	11/19/90	N001	MG/L	<	0.0003	G	0.0003	-
	03/28/91	N001		<	0.001		0.001	-
	06/03/91	N001		<	0.001		0.001	-
	03/14/92	N001		<	0.001		0.001	-
	08/07/92	N001		<	0.001		0.001	-
	03/16/93	N001			0.003		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	12/08/83	0002		<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	01/10/84	0002		<	0.004		0.004	-
	04/04/84	0001		<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/28/91	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/19/90	N001	MG/L	<	0.01	G	0.01	-
	03/28/91	N001		<	0.01		0.01	-
	06/03/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/07/92	N001		<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0430 DOMESTIC WELL - LAWRENCE RAYMOND #1
NORTH COORDINATE: 25300.0 FT
EAST COORDINATE: 26380.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0431 DOMESTIC WELL - RAYMOND #2
NORTH COORDINATE: 25440.0 FT
EAST COORDINATE: 26440.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
ARSENIC (TOTAL)	08/07/92	N001	MG/L	<	0.01		0.01	-
	03/16/93	N001		<	0.005		0.005	-
MANGANESE	04/04/84	0001	MG/L		0.59		0.01	-
	05/27/85	0001			0.27		0.01	-
MANGANESE (TOTAL)	08/07/92	N001	MG/L		0.08		0.01	-
	03/16/93	N001			0.06		0.01	-
MOLYBDENUM	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	08/07/92	N001	MG/L	<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-
NICKEL	04/04/84	0001	MG/L	<	0.04		0.04	-
	05/27/85	0001		<	0.04		0.04	-
NICKEL (TOTAL)	08/07/92	N001	MG/L	<	0.04		0.04	-
	03/16/93	N001		<	0.04		0.04	-
SULFATE	04/04/84	0001	MG/L		244.00		0.1	-
	05/27/85	0001			199.00		0.1	-
SULFATE (TOTAL)	08/07/92	N001	MG/L		282.		30.	-
	03/16/93	N001			176		1	-
URANIUM	04/04/84	0001	MG/L		0.0077		0.0003	-
	05/27/85	0001			0.0103		0.003	-
URANIUM (TOTAL)	08/07/92	N001	MG/L		0.010		0.001	-
	03/16/93	N001			0.016		0.001	-
VANADIUM	04/04/84	0001	MG/L	<	0.01		0.01	-
	05/27/85	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	08/07/92	N001	MG/L	<	0.01		0.01	-
	03/16/93	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0435 DOMESTIC WELL
NORTH COORDINATE: 19120.0 FT
EAST COORDINATE: 22170.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/05/84	0001			0.01		0.001	-
MANGANESE	12/08/83	0001	MG/L		0.02	J	10.	-
	01/10/84	0001		<	0.01		0.01	-
	06/05/84	0001		<	0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/05/84	0001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.024		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	06/05/84	0001		<	0.04		0.04	-
SULFATE	12/08/83	0001	MG/L		170.00		0.1	-
	01/10/84	0001			150.00		-	-
	06/05/84	0001			168.00		0.1	-
URANIUM	12/08/83	0001	MG/L	<	0.0003		0.0003	-
	01/10/84	0001		<	0.002		0.002	-
	06/05/84	0001		<	0.0003		0.0003	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	06/05/84	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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0436 DOMESTIC WELL - ST STEPHENS MISSION
NORTH COORDINATE: 19000.0 FT
EAST COORDINATE: 23600.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	06/03/91	N001	MG/L	<	0.05	I	0.05	-
	10/26/91	N001		<	0.001		0.001	-
	03/14/92	N001		<	0.005		0.005	-
	08/05/92	N001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	10/26/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	10/26/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-
NICKEL (TOTAL)	06/03/91	N001	MG/L	<	0.04		0.04	-
	10/26/91	N001		<	0.01		0.01	-
	03/14/92	N001		<	0.04		0.04	-
	08/05/92	N001		<	0.04		0.04	-
SULFATE (TOTAL)	06/03/91	N001	MG/L		186.		0.1	-
	10/26/91	N001			193		0.1	-
	03/14/92	N001			235.		40.	-
	08/05/92	N001			230.		30.	-
	03/17/93	N001			217		1	-
URANIUM (TOTAL)	06/03/91	N001	MG/L	<	0.001		0.001	-
	10/29/91	N001		<	0.0003		0.0003	-
	03/14/92	N001			0.001		0.001	-
	08/05/92	N001		<	0.001		0.001	-
	03/17/93	N001		<	0.001		0.001	-
VANADIUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	10/26/91	N001			0.01		0.01	-
	03/14/92	N001		<	0.01		0.01	-
	08/05/92	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0437 DOMESTIC WELL
NORTH COORDINATE: 18604.0 FT
EAST COORDINATE: 22487.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/29/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/29/85	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM	05/29/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/29/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/29/85	0001	MG/L		83.90		0.1	-
URANIUM	05/29/85	0001	MG/L		0.0017	J	0.003	-
VANADIUM	05/29/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0440 DOMESTIC WELL - WESTLAKE
NORTH COORDINATE: 22690.0 FT
EAST COORDINATE: 27600.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/07/84	0001	MG/L	<	0.01		0.01	-
	05/25/85	0001		<	0.01		0.01	-
	02/20/88	0001			0.002	J	0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	GJ	0.01	-
ARSENIC (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
MANGANESE	06/07/84	0001	MG/L		1.32		0.01	-
	05/25/85	0001		<	0.01		0.01	-
	02/20/88	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
MANGANESE (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
MOLYBDENUM	06/07/84	0001	MG/L	<	0.01		0.01	-
	05/25/85	0001		<	0.01		0.01	-
	02/20/88	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001			0.01	G	0.01	-
MOLYBDENUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-
NICKEL	06/07/84	0001	MG/L	<	0.04		0.04	-
	05/25/85	0001		<	0.04		0.04	-
	02/20/88	0001			0.02	J	0.04	-
	04/01/90	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04	G	0.04	-
NICKEL (TOTAL)	04/01/90	N001	MG/L	<	0.04		0.04	-
	11/19/90	N001		<	0.04	G	0.04	-
SULFATE	06/07/84	0001	MG/L		691.00		0.1	-
	05/25/85	0001			310.00		0.1	-
	02/20/88	0001			286.		0.1	-
	04/01/90	0001			322.		0.1	-
	11/19/90	0001			317.	G	0.1	-
SULFATE (TOTAL)	04/01/90	N001	MG/L		322.		0.1	-
	11/19/90	N001			319.	G	0.1	-
URANIUM	06/07/84	0001	MG/L		0.237		0.0003	-
	05/25/85	0001		<	0.0003	J	0.003	-
	02/20/88	0001		<	0.0003	J	0.003	-
	04/01/90	0001		<	0.0003	J	0.003	-
	11/19/90	0001		<	0.0003	G	0.0003	-
URANIUM (TOTAL)	04/01/90	N001	MG/L		0.0006	J	0.003	-
	11/19/90	N001			0.0005	G	0.0003	-
VANADIUM	06/07/84	0001	MG/L	<	0.01		0.01	-
	05/25/85	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0440 DOMESTIC WELL - WESTLAKE
NORTH COORDINATE: 22690.0 FT
EAST COORDINATE: 27600.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	02/20/88	0001	MG/L		0.02		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
VANADIUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	11/19/90	N001		<	0.01	G	0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0441 DOMESTIC WELL - WESTLAKE
NORTH COORDINATE: 22720.0 FT
EAST COORDINATE: 27500.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	05/25/85	0001	MG/L		897.00		0.1	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0442 DOMESTIC WELL - RUPERT GOGGLES #3
NORTH COORDINATE: 22240.0 FT
EAST COORDINATE: 27000.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/07/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/07/94	N001	MG/L		0.01		0.01	-
MOLYBDENUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/07/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/07/94	N001	MG/L		264		1	-
URANIUM (TOTAL)	01/07/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0443 DOMESTIC WELL - SARAH BLACKBURN #1
NORTH COORDINATE: 23180.0 FT
EAST COORDINATE: 29180.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/06/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/06/94	N001	MG/L		0.03		0.01	-
MOLYBDENUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/06/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/06/94	N001	MG/L		209		1	-
URANIUM (TOTAL)	01/06/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0444 DOMESTIC WL - MARGARET BLACKBURN #2
NORTH COORDINATE: 23000.0 FT
EAST COORDINATE: 29180.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/06/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/06/94	N001	MG/L		0.02		0.01	-
MOLYBDENUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/06/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/06/94	N001	MG/L		221		1	-
URANIUM (TOTAL)	01/06/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0445 DOMESTIC WELL - J.BLOMBERT #2
NORTH COORDINATE: 23390.0 FT
EAST COORDINATE: 29000.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/07/94	N001	MG/L		0.008		0.005	-
MANGANESE (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/07/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/07/94	N001	MG/L		152		1	-
URANIUM (TOTAL)	01/07/94	N001	MG/L		0.016		0.001	-
VANADIUM (TOTAL)	01/07/94	N001	MG/L		0.02		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0446 DOMESTIC WELL - CONNIE HILYARD
NORTH COORDINATE: 25000.0 FT
EAST COORDINATE: 27400.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/08/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/08/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/08/94	N001	MG/L		138		1	-
URANIUM (TOTAL)	01/08/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0448 DOMESTIC WELL - GARY/LORI MARTIN
NORTH COORDINATE: 24300.0 FT
EAST COORDINATE: 27500.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/08/94	N001	MG/L	<	0.005		0.005	-
	01/08/94	N002		<	0.005		0.005	-
MANGANESE (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-
	01/08/94	N002		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-
	01/08/94	N002		<	0.01		0.01	-
NICKEL (TOTAL)	01/08/94	N001	MG/L	<	0.04		0.04	-
	01/08/94	N002		<	0.04		0.04	-
SULFATE	01/08/94	N001	MG/L		173		1	-
	01/08/94	N002			175		1	-
URANIUM (TOTAL)	01/08/94	N001	MG/L	<	0.001		0.001	-
	01/08/94	N002		<	0.001		0.001	-
VANADIUM (TOTAL)	01/08/94	N001	MG/L	<	0.01		0.01	-
	01/08/94	N002		<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0451 DOMESTIC WELL - MARY BEAR
NORTH COORDINATE: 23500.0 FT
EAST COORDINATE: 29400.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/06/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/06/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/06/94	N001	MG/L		206		1	-
URANIUM (TOTAL)	01/06/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/06/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0452 DOMESTIC WELL - KEN BLACKBURN
NORTH COORDINATE: 23590.0 FT
EAST COORDINATE: 21900.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/07/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/07/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/07/94	N001	MG/L		106		1	-
URANIUM (TOTAL)	01/07/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0453 DOMESTIC WELL - JOANNE BLACKBURN
NORTH COORDINATE: 23700.0 FT
EAST COORDINATE: 29420.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC (TOTAL)	01/07/94	N001	MG/L	<	0.005		0.005	-
MANGANESE (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-
NICKEL (TOTAL)	01/07/94	N001	MG/L	<	0.04		0.04	-
SULFATE	01/07/94	N001	MG/L		220		1	-
URANIUM (TOTAL)	01/07/94	N001	MG/L	<	0.001		0.001	-
VANADIUM (TOTAL)	01/07/94	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0460 KOCH SULFURIC ACID PLANT
NORTH COORDINATE: 24440.0 FT
EAST COORDINATE: 23990.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	03/17/93	N001	MG/L		155		1	-
URANIUM (TOTAL)	03/17/93	N001	MG/L	<	0.001		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0951 DOMESTIC WL -BROWN/TENNANT-LONEBEAR
NORTH COORDINATE: 21900.0 FT
EAST COORDINATE: 24900.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: NO RECOVERY OF DATA FOR CLASSIFYING (NR)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	11/28/88	0001	MG/L	<	0.01		0.01	-
ARSENIC (TOTAL)	03/14/92	N001	MG/L	<	0.005		0.005	-
	08/06/92	N001		<	0.01		0.01	-
MANGANESE	11/28/88	0001	MG/L	<	0.01		0.01	-
MANGANESE (TOTAL)	03/14/92	N001	MG/L	<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
MOLYBDENUM	11/28/88	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/14/92	N001	MG/L	<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-
NICKEL	11/28/88	0001	MG/L	<	0.04		0.04	-
NICKEL (TOTAL)	03/14/92	N001	MG/L	<	0.04		0.04	-
	08/06/92	N001		<	0.04		0.04	-
SULFATE	11/28/88	0001	MG/L		92.		0.1	-
SULFATE (TOTAL)	03/14/92	N001	MG/L		239.		40.	-
	08/06/92	N001			248.		30.	-
URANIUM	11/28/88	0001	MG/L	<	0.0003	J	0.003	-
URANIUM (TOTAL)	03/14/92	N001	MG/L		0.001		0.001	-
	08/06/92	N001		<	0.001		0.001	-
VANADIUM	11/28/88	0001	MG/L	<	0.01		0.01	-
VANADIUM (TOTAL)	03/14/92	N001	MG/L	<	0.01		0.01	-
	08/06/92	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

DATA FILE NAME: M:\DART\RVT01\GWQ10018.DAT

APPENDIX B2

CONTAMINANTS OF CONCERN IN MONITOR WELLS

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0101
NORTH COORDINATE: 24105.4 FT
EAST COORDINATE: 24056.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001			0.005		-	-
	06/18/84	0001		<	0.01		0.01	-
	09/08/87	0001			0.002	J	0.01	-
	11/21/87	0001			0.009	J	0.01	-
	02/20/88	0001			0.011		0.01	-
	05/16/88	0001			0.009	J	0.01	-
	09/01/88	0001			0.006	J	0.01	-
	10/27/88	0001			0.005	J	0.01	-
	10/27/88	0002			0.006	J	0.01	-
	10/27/88	0003			0.006	J	0.01	-
	10/27/88	0004			0.006	J	0.01	-
	10/27/88	0005			0.007	J	0.01	-
	04/26/89	0001			0.01		0.01	-
	04/26/89	0002			0.01		0.01	-
	04/26/89	0003			0.01		0.01	-
	04/26/89	0004			0.01		0.01	-
	04/26/89	0005			0.01		0.01	-
	11/21/89	0001		<	0.01		0.01	-
	11/21/89	0002		<	0.01		0.01	-
	11/21/89	0003		<	0.01		0.01	-
	11/21/89	0004		<	0.01		0.01	-
	11/21/89	0005		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/27/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	10/25/91	0001			0.008		0.001	-
	03/13/93	0001			0.006		0.005	-
ARSENIC (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	03/13/93	N001			0.006		0.005	-
MANGANESE	12/08/83	0001	MG/L		0.22		0.01	-
	01/10/84	0001			0.23		-	-
	06/18/84	0001			0.22		0.01	-
	09/08/87	0001			0.04		0.01	-
	11/21/87	0001			0.03		0.01	-
	02/20/88	0001			0.05		0.01	-
	05/16/88	0001			0.11		0.01	-
	09/01/88	0001			0.15		0.01	-
	10/27/88	0001			0.16		0.01	-
	10/27/88	0002			0.18		0.01	-
	10/27/88	0003			0.18		0.01	-
	10/27/88	0004			0.19		0.01	-
	10/27/88	0005			0.20		0.01	-
	04/26/89	0001		<	0.01		0.01	-
	04/26/89	0002		<	0.01		0.01	-
	04/26/89	0003		<	0.01		0.01	-
	04/26/89	0004		<	0.01		0.01	-
	04/26/89	0005		<	0.01		0.01	-
	11/21/89	0001			0.02		0.01	-
	11/21/89	0002			0.02		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0101
NORTH COORDINATE: 24105.4 FT
EAST COORDINATE: 24056.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	11/21/89	0003	MG/L		0.02		0.01	-
	11/21/89	0004			0.02		0.01	-
	11/21/89	0005			0.02		0.01	-
	03/30/90	0001			0.02		0.01	-
	11/15/90	0001			0.02		0.01	-
	03/27/91	0001			0.02		0.01	-
	05/31/91	0001			0.02		0.01	-
	10/25/91	0001			0.04		0.01	-
	03/13/92	0001			0.04		0.01	-
	08/07/92	0001			0.11		0.01	-
	03/13/93	0001			0.12		0.01	-
MANGANESE (TOTAL)	03/30/90	N001	MG/L		0.02		0.01	-
	11/15/90	N001			0.01		0.01	-
	03/27/91	N001			0.02		0.01	-
	03/13/93	N001			0.12		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L		0.03		0.001	-
	01/10/84	0001			0.08		-	-
	06/18/84	0001		<	0.01		0.01	-
	09/08/87	0001			0.04		0.01	-
	11/21/87	0001			0.12		0.01	-
	02/20/88	0001			0.10		0.01	-
	05/16/88	0001			0.06		0.01	-
	09/01/88	0001			0.052		0.01	-
	10/27/88	0001			0.054		0.01	-
	10/27/88	0002			0.050		0.01	-
	10/27/88	0003			0.053		0.01	-
	10/27/88	0004			0.055		0.01	-
	10/27/88	0005			0.050		0.01	-
	04/26/89	0001			0.03		0.01	-
	04/26/89	0002			0.04		0.01	-
	04/26/89	0003			0.03		0.01	-
	04/26/89	0004			0.03		0.01	-
	04/26/89	0005			0.03		0.01	-
	11/21/89	0001			0.07		0.01	-
	11/21/89	0002			0.07		0.01	-
	11/21/89	0003			0.07		0.01	-
	11/21/89	0004			0.07		0.01	-
	11/21/89	0005			0.07		0.01	-
	03/30/90	0001			0.04		0.01	-
	11/15/90	0001			0.07		0.01	-
	03/27/91	0001			0.05		0.01	-
	05/31/91	0001			0.04		0.01	-
	10/25/91	0001			0.05		0.01	-
	03/13/92	0001			0.04		0.01	-
	08/07/92	0001			0.04		0.01	-
	03/13/93	0001			0.05		0.01	-
MOLYBDENUM (TOTAL)	03/30/90	N001	MG/L		0.06		0.01	-
	11/15/90	N001			0.05		0.01	-
	03/27/91	N001			0.05		0.01	-
	03/13/93	N001			0.05		0.01	-
NICKEL	12/08/83	0001	MG/L		0.10		0.001	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0101
NORTH COORDINATE: 24105.4 FT
EAST COORDINATE: 24056.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	01/10/84	0001	MG/L	<	0.04		0.04	-
	06/18/84	0001		<	0.04		0.04	-
	09/08/87	0001		<	0.01	J	0.04	-
	11/21/87	0001		<	0.01	J	0.04	-
	02/20/88	0001			0.03	J	0.04	-
	05/16/88	0001			0.03	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	10/27/88	0001			0.02	J	0.04	-
	10/27/88	0002		<	0.02	J	0.04	-
	10/27/88	0003		<	0.02	J	0.04	-
	10/27/88	0004			0.02	J	0.04	-
	10/27/88	0005		<	0.02	J	0.04	-
	04/26/89	0001		<	0.04		0.04	-
	04/26/89	0002		<	0.04		0.04	-
	04/26/89	0003		<	0.04		0.04	-
	04/26/89	0004		<	0.04		0.04	-
	04/26/89	0005		<	0.04		0.04	-
	11/21/89	0001		<	0.04		0.04	-
	11/21/89	0002		<	0.04		0.04	-
	11/21/89	0003		<	0.04		0.04	-
	11/21/89	0004		<	0.04		0.04	-
	11/21/89	0005		<	0.04		0.04	-
	03/30/90	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/27/91	0001		<	0.04		0.04	-
	05/31/91	0001		<	0.04		0.04	-
	10/25/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.04		0.04	-
	08/07/92	0001		<	0.04		0.04	-
	03/13/93	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/30/90	N001	MG/L	<	0.04		0.04	-
	11/15/90	N001		<	0.04		0.04	-
	03/27/91	N001		<	0.04		0.04	-
	03/13/93	N001		<	0.04		0.04	-
SULFATE	12/08/83	0001	MG/L		577.00		0.1	-
	01/10/84	0001			520.00		-	-
	06/18/84	0001			360.00		0.1	-
	09/08/87	0001			520.		0.1	-
	11/21/87	0001			429.		0.1	-
	02/20/88	0001			475.		0.1	-
	05/16/88	0001			553.		0.1	-
	09/01/88	0001			500.		1.	-
	10/27/88	0001			510.		0.1	-
	10/27/88	0002			504.		0.1	-
	10/27/88	0003			502.		0.1	-
	10/27/88	0004			508.		0.1	-
	10/27/88	0005			502.		0.1	-
	04/26/89	0001			232.		0.1	-
	04/26/89	0002			226.		0.1	-
	04/26/89	0003			240.		0.1	-
	04/26/89	0004			230.		0.1	-
	04/26/89	0005			228.		0.1	-
	11/21/89	0001			320.		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
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0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0101
NORTH COORDINATE: 24105.4 FT
EAST COORDINATE: 24056.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	11/21/89	0002	MG/L		318.		0.1	-
	11/21/89	0003			318.		0.1	-
	11/21/89	0004			324.		0.1	-
	11/21/89	0005			319.		0.1	-
	03/30/90	0001			272.		0.1	-
	11/15/90	0001			230.		0.1	-
	03/27/91	0001			270.		10.	-
	05/31/91	0001			306.		10.	-
	10/25/91	0001			256		0.1	-
	03/13/92	0001			356.		40.	-
	08/07/92	0001			404.		100.	-
SULFATE (TOTAL)	03/30/90	N001	MG/L		267.		0.1	-
	11/15/90	N001			221.		0.1	-
	03/13/93	N001			432		1	-
URANIUM	01/10/84	0001	MG/L		0.19		-	-
	06/18/84	0001			0.415		0.0003	-
	09/08/87	0001			0.122		0.003	-
	11/21/87	0001			0.0931		0.003	-
	02/20/88	0001			0.103		0.003	-
	05/16/88	0001			0.168		0.003	-
	09/01/88	0001			0.077		0.003	-
	10/27/88	0001			0.132		0.003	-
	10/27/88	0002			0.130		0.003	-
	10/27/88	0003			0.113		0.003	-
	10/27/88	0004			0.098		0.003	-
	10/27/88	0005			0.101		0.003	-
	04/26/89	0001			0.171		0.003	-
	04/26/89	0002			0.154		0.003	-
	04/26/89	0003			0.154		0.003	-
	04/26/89	0004			0.163		0.003	-
	04/26/89	0005			0.171		0.003	-
	11/21/89	0001			0.245		0.003	-
	11/21/89	0002			0.231		0.003	-
	11/21/89	0003			0.257		0.003	-
	11/21/89	0004			0.271		0.003	-
	11/21/89	0005			0.219		0.003	-
	03/30/90	0001			0.147		0.003	-
	11/15/90	0001			0.0822		0.0003	-
	03/27/91	0001			0.216		0.001	-
	05/31/91	0001			0.195		0.001	-
	10/25/91	0001			0.0704		0.0003	-
	03/13/92	0001			0.163		0.001	-
	03/13/93	0001			0.225		0.001	-
URANIUM (TOTAL)	03/30/90	N001	MG/L		0.146		0.003	-
	11/15/90	N001			0.0749		0.0003	-
	03/27/91	N001			0.153		0.001	-
	03/13/93	N001			0.212		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001			0.005		-	-
	06/18/84	0001		<	0.01		0.01	-
	09/08/87	0001			0.03		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0101
NORTH COORDINATE: 24105.4 FT
EAST COORDINATE: 24056.0 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	11/21/87	0001	MG/L		0.03		0.01	-
	02/20/88	0001			0.04		0.01	-
	05/16/88	0001			0.03		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/27/88	0001			0.02		0.01	-
	10/27/88	0002			0.01		0.01	-
	10/27/88	0003			0.01		0.01	-
	10/27/88	0004			0.01		0.01	-
	10/27/88	0005		<	0.01		0.01	-
	04/26/89	0001		<	0.01		0.01	-
	04/26/89	0002		<	0.01		0.01	-
	04/26/89	0003		<	0.01		0.01	-
	04/26/89	0004		<	0.01		0.01	-
	04/26/89	0005		<	0.01		0.01	-
	11/21/89	0001			0.02		0.01	-
	11/21/89	0002			0.03		0.01	-
	11/21/89	0003			0.02		0.01	-
	11/21/89	0004			0.02		0.01	-
	11/21/89	0005			0.02		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001			0.02		0.01	-
	03/27/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	10/25/91	0001			0.03		0.01	-
	03/13/92	0001		<	0.01		0.01	-
	08/07/92	0001			0.01		0.01	-
	03/13/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	03/13/93	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0104
NORTH COORDINATE: 24101.7 FT
EAST COORDINATE: 24251.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/18/84	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.005		0.005	-
	08/07/92	0001		<	0.005		0.005	-
	03/14/93	0001		<	0.005	W	0.005	-
	03/14/93	0002		<	0.005	W	0.005	-
ARSENIC (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	10/24/91	N001			0.013		0.001	-
	03/14/93	N001		<	0.005	W	0.005	-
	03/14/93	N002		<	0.005	W	0.005	-
MANGANESE	12/08/83	0001	MG/L		0.27		0.01	-
	01/10/84	0001			0.26		-	-
	06/18/84	0001			0.06		0.01	-
	11/15/90	0001			0.02		0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.01		0.01	-
	08/07/92	0001		<	0.01		0.01	-
	03/14/93	0001		<	0.01		0.01	-
	03/14/93	0002		<	0.01		0.01	-
MANGANESE (TOTAL)	11/15/90	N001	MG/L		0.02		0.01	-
	03/27/91	N001			0.14		0.01	-
	10/24/91	N001		<	0.01		0.01	-
	03/14/93	N001			0.04		0.01	-
	03/14/93	N002			0.01		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L		0.034		0.001	-
	01/10/84	0001			0.08		-	-
	06/18/84	0001		<	0.01		0.01	-
	11/15/90	0001			0.09		0.01	-
	03/27/91	0001			0.08		0.01	-
	06/01/91	0001			0.08		0.01	-
	03/13/92	0001			0.08		0.01	-
	08/07/92	0001			0.06		0.01	-
	03/14/93	0001			0.08		0.01	-
	03/14/93	0002			0.08		0.01	-
MOLYBDENUM (TOTAL)	11/15/90	N001	MG/L		0.06		0.01	-
	03/27/91	N001			0.08		0.01	-
	10/24/91	N001			0.14		0.01	-
	03/14/93	N001			0.08		0.01	-
	03/14/93	N002			0.08		0.01	-
NICKEL	12/08/83	0001	MG/L		0.148		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	06/18/84	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/27/91	0001		<	0.04		0.04	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0104
NORTH COORDINATE: 24101.7 FT
EAST COORDINATE: 24251.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	06/01/91	0001	MG/L	<	0.04		0.04	-
	03/13/92	0001		<	0.04		0.04	-
	08/07/92	0001		<	0.04		0.04	-
	03/14/93	0001		<	0.04		0.04	-
	03/14/93	0002		<	0.04		0.04	-
NICKEL (TOTAL)	11/15/90	N001	MG/L	<	0.04		0.04	-
	03/27/91	N001		<	0.04		0.04	-
	10/24/91	N001			0.09		0.01	-
	03/14/93	N001		<	0.04		0.04	-
	03/14/93	N002		<	0.04		0.04	-
SULFATE	12/08/83	0001	MG/L		544.00		0.1	-
	01/10/84	0001			520.00		-	-
	06/18/84	0001			289.00		0.1	-
	11/15/90	0001			271.		0.1	-
	03/27/91	0001			272.		10.	-
	06/01/91	0001			259.		10.	-
	03/13/92	0001			298.		30.	-
	08/07/92	0001			293.		100.	-
SULFATE (TOTAL)	11/15/90	N001	MG/L		275.		0.1	-
	10/24/91	N001			267		0.1	-
	03/14/93	N001			367		1	-
	03/14/93	N002			369		1	-
URANIUM	01/10/84	0001	MG/L		140.00		-	-
	06/18/84	0001			0.159		0.0003	-
	11/15/90	0001			0.0795		0.0003	-
	03/27/91	0001			0.131		0.001	-
	06/01/91	0001			0.042		0.001	-
	03/13/92	0001			0.086		0.001	-
	03/14/93	0001			0.095		0.001	-
	03/14/93	0002			0.097		0.001	-
URANIUM (TOTAL)	11/15/90	N001	MG/L		0.0749		0.0003	-
	03/27/91	N001			0.119		0.001	-
	10/24/91	N001			0.0730		0.0003	-
	03/14/93	N001			0.089		0.001	-
	03/14/93	N002			0.100		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001			0.005		-	-
	06/18/84	0001		<	0.01		0.01	-
	11/15/90	0001			0.02		0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.01		0.01	-
	08/07/92	0001			0.04		0.01	-
	03/14/93	0001		<	0.01		0.01	-
	03/14/93	0002		<	0.01		0.01	-
VANADIUM (TOTAL)	11/15/90	N001	MG/L	<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	10/24/91	N001			0.18		0.01	-
	03/14/93	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0104
NORTH COORDINATE: 24101.7 FT
EAST COORDINATE: 24251.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM (TOTAL)	03/14/93	N002	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0108
NORTH COORDINATE: 24095.4 FT
EAST COORDINATE: 24018.4 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	09/08/87	0001	MG/L	<	0.001	J	0.01	-
	09/08/87	0002		<	0.001	J	0.01	-
	09/08/87	0003		<	0.001	J	0.01	-
	09/08/87	0004		<	0.001	J	0.01	-
	09/08/87	0005			0.001	J	0.01	-
	11/21/87	0001			0.007	J	0.01	-
	02/20/88	0001			0.010		0.01	-
	05/16/88	0001			0.006	J	0.01	-
	09/01/88	0001		<	0.001		0.001	-
	04/27/89	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/24/91	0001		<	0.001		0.001	-
	03/13/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/13/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	09/08/87	0001	MG/L		0.15		0.01	-
	09/08/87	0002			0.15		0.01	-
	09/08/87	0003			0.15		0.01	-
	09/08/87	0004			0.14		0.01	-
	09/08/87	0005			0.14		0.01	-
	11/21/87	0001			0.25		0.01	-
	02/20/88	0001			0.28		0.01	-
	05/16/88	0001			0.28		0.01	-
	09/01/88	0001			0.18		0.01	-
	04/27/89	0001			0.27		0.01	-
	11/15/90	0001			0.20		0.01	-
	03/13/91	0001			0.26		0.01	-
	06/01/91	0001			0.27		0.01	-
	10/24/91	0001			0.18		0.01	-
	03/13/92	0001			0.28		0.01	-
	08/07/92	0001			0.26		0.01	-
	03/13/93	0001			0.29		0.01	-
MANGANESE (TOTAL)	03/13/93	N001	MG/L		0.28		0.01	-
MOLYBDENUM	09/08/87	0001	MG/L		0.17		0.01	-
	09/08/87	0002			0.15		0.01	-
	09/08/87	0003			0.15		0.01	-
	09/08/87	0004			0.15		0.01	-
	09/08/87	0005			0.15		0.01	-
	11/21/87	0001			0.64		0.01	-
	02/20/88	0001			0.97		0.01	-
	05/16/88	0001			0.88		0.01	-
	09/01/88	0001			0.260		0.001	-
	04/27/89	0001			0.89		0.01	-
	11/15/90	0001			0.39		0.01	-
	03/13/91	0001			1.00		0.01	-
	06/01/91	0001			1.11		0.01	-
	10/24/91	0001			0.31		0.01	-
	03/13/92	0001			1.21		0.01	-
	08/07/92	0001			0.94		0.01	-
	03/13/93	0001			1.27		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0108
NORTH COORDINATE: 24095.4 FT
EAST COORDINATE: 24018.4 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM (TOTAL)	03/13/93	N001	MG/L		1.27		0.01	-
NICKEL	09/08/87	0001	MG/L	<	0.01	J	0.04	-
	09/08/87	0002		<	0.01	J	0.04	-
	09/08/87	0003		<	0.01	J	0.04	-
	09/08/87	0004		<	0.01	J	0.04	-
	09/08/87	0005		<	0.01	J	0.04	-
	11/21/87	0001		<	0.01	J	0.04	-
	02/20/88	0001			0.02	J	0.04	-
	05/16/88	0001			0.02	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	04/27/89	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/13/91	0001		<	0.04		0.04	-
	06/01/91	0001		<	0.04		0.04	-
	10/24/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.04		0.04	-
	08/07/92	0001		<	0.04		0.04	-
	03/13/93	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/13/93	N001	MG/L	<	0.04		0.04	-
SULFATE	09/08/87	0001	MG/L		307.		0.1	-
	09/08/87	0002			312.		0.1	-
	09/08/87	0003			311.		0.1	-
	09/08/87	0004			310.		0.1	-
	09/08/87	0005			310.		0.1	-
	11/21/87	0001			429.		0.1	-
	02/20/88	0001			534.		0.1	-
	05/16/88	0001			577.		0.1	-
	09/01/88	0001			372.		1.	-
	04/27/89	0001			550.		0.1	-
	11/15/90	0001			401.		0.1	-
	03/13/91	0001			584.		10.	-
	06/01/91	0001			592.		10.	-
	10/24/91	0001			332		0.1	-
	03/13/92	0001			630.		60.	-
	08/07/92	0001			543.		100.	-
SULFATE (TOTAL)	03/13/93	N001	MG/L		632		1	-
URANIUM	09/08/87	0001	MG/L	<	0.0003	J	0.003	-
	09/08/87	0002		<	0.0003	J	0.003	-
	09/08/87	0003		<	0.0003	J	0.003	-
	09/08/87	0004		<	0.0003	J	0.003	-
	09/08/87	0005			0.0020	J	0.003	-
	11/21/87	0001			0.0030		0.003	-
	02/20/88	0001			0.0032		0.003	-
	05/16/88	0001			0.0030		0.003	-
	09/01/88	0001		<	0.003		0.003	-
	04/27/89	0001			0.003		0.003	-
	11/15/90	0001			0.0013		0.0003	-
	03/13/91	0001			0.002		0.001	-
	06/01/91	0001			0.003		0.001	-
	10/24/91	0001			0.0012		0.0003	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0108
NORTH COORDINATE: 24095.4 FT
EAST COORDINATE: 24018.4 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	03/13/92	0001	MG/L		0.010		0.001	-
	08/07/92	0001			0.005		0.001	-
	03/13/93	0001			0.014		0.001	-
URANIUM (TOTAL)	03/13/93	N001	MG/L		0.011		0.001	-
VANADIUM	09/08/87	0001	MG/L		0.02		0.01	-
	09/08/87	0002			0.02		0.01	-
	09/08/87	0003			0.02		0.01	-
	09/08/87	0004			0.02		0.01	-
	09/08/87	0005			0.02		0.01	-
	11/21/87	0001			0.03		0.01	-
	02/20/88	0001			0.04		0.01	-
	05/16/88	0001			0.03		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	04/27/89	0001		<	0.01		0.01	-
	11/15/90	0001			0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001			0.03		0.01	-
	10/24/91	0001			0.04		0.01	-
	03/13/92	0001			0.02		0.01	-
	08/07/92	0001			0.02		0.01	-
	03/13/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/13/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0110
NORTH COORDINATE: 24119.5 FT
EAST COORDINATE: 24060.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	12/08/83	0001	MG/L	<	0.001		0.001	-
	01/10/84	0001		<	0.005		0.005	-
	06/18/84	0001		<	0.01		0.01	-
	05/30/85	0001		<	0.01		0.01	-
	05/30/85	0002		<	0.01		0.01	-
	05/30/85	0003		<	0.01		0.01	-
	05/30/85	0004		<	0.01		0.01	-
	05/30/85	0005		<	0.01		0.01	-
	09/08/87	0001		<	0.001	J	0.01	-
	11/21/87	0001		<	0.001	J	0.01	-
	02/20/88	0001			0.001	J	0.01	-
	05/16/88	0001			0.002	J	0.01	-
	09/01/88	0001		<	0.001		0.001	-
	10/27/88	0001		<	0.001	J	0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/26/91	0001		<	0.001		0.001	-
	03/13/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	03/13/93	N001		<	0.005		0.005	-
MANGANESE	12/08/83	0001	MG/L		0.64		0.01	-
	01/10/84	0001			0.55		-	-
	06/18/84	0001			0.30		0.01	-
	05/30/85	0001			0.25		0.01	-
	05/30/85	0002			0.43		0.01	-
	05/30/85	0003			0.44		0.01	-
	05/30/85	0004			0.44		0.01	-
	05/30/85	0005			0.44		0.01	-
	09/08/87	0001			0.22		0.01	-
	11/21/87	0001			0.13		0.01	-
	02/20/88	0001			0.12		0.01	-
	05/16/88	0001			0.11		0.01	-
	09/01/88	0001			0.11		0.01	-
	10/27/88	0001			0.09		0.01	-
	11/21/89	0001			0.10		0.01	-
	03/30/90	0001			0.07		0.01	-
	11/15/90	0001			0.07		0.01	-
	03/13/91	0001			0.06		0.01	-
	06/01/91	0001			0.06		0.01	-
	10/26/91	0001			0.06		0.01	-
	03/12/92	0001			0.06		0.01	-
	08/07/92	0001			0.06		0.01	-
	03/13/93	0001			0.06		0.01	-
MANGANESE (TOTAL)	03/30/90	N001	MG/L		0.07		0.01	-
	03/13/93	N001			0.06		0.01	-
MOLYBDENUM	12/08/83	0001	MG/L		0.072		0.001	-
	01/10/84	0001			0.04		-	-
	06/18/84	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0110
NORTH COORDINATE: 24119.5 FT
EAST COORDINATE: 24060.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	05/30/85	0001	MG/L	<	0.01		0.01	-
	05/30/85	0002		<	0.01		0.01	-
	05/30/85	0003		<	0.01		0.01	-
	05/30/85	0004		<	0.01		0.01	-
	05/30/85	0005		<	0.01		0.01	-
	09/08/87	0001			0.02		0.01	-
	11/21/87	0001			0.04		0.01	-
	02/20/88	0001		<	0.01		0.01	-
	05/16/88	0001			0.01		0.01	-
	09/01/88	0001			0.004		0.001	-
	10/27/88	0001			0.002	J	0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001			0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001			0.01		0.01	-
	10/26/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/07/92	0001			0.05		0.01	-
	03/13/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	03/13/93	N001		<	0.01		0.01	-
NICKEL	12/08/83	0001	MG/L		0.057		0.001	-
	01/10/84	0001		<	0.04		0.04	-
	06/18/84	0001		<	0.04		0.04	-
	05/30/85	0001		<	0.04		0.04	-
	05/30/85	0002		<	0.04		0.04	-
	05/30/85	0003		<	0.04		0.04	-
	05/30/85	0004		<	0.04		0.04	-
	05/30/85	0005		<	0.04		0.04	-
	09/08/87	0001		<	0.01	J	0.04	-
	11/21/87	0001		<	0.01	J	0.04	-
	02/20/88	0001			0.02	J	0.04	-
	05/16/88	0001			0.01	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	10/27/88	0001		<	0.02	J	0.04	-
	11/21/89	0001		<	0.04		0.04	-
	03/30/90	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/13/91	0001		<	0.04		0.04	-
	06/01/91	0001		<	0.04		0.04	-
	10/26/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.04		0.04	-
	08/07/92	0001		<	0.04		0.04	-
	03/13/93	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/30/90	N001	MG/L	<	0.04		0.04	-
	03/13/93	N001		<	0.04		0.04	-
SULFATE	12/08/83	0001	MG/L		277.00		0.1	-
	01/10/84	0001			260.00		-	-
	06/18/84	0001			88.50		0.1	-
	05/30/85	0001			184.00		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0110
NORTH COORDINATE: 24119.5 FT
EAST COORDINATE: 24060.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	05/30/85	0002	MG/L		335.00		0.1	-
	05/30/85	0003			334.00		0.1	-
	05/30/85	0004			333.00		0.1	-
	05/30/85	0005			335.00		0.1	-
	09/08/87	0001			188.		0.1	-
	11/21/87	0001			147.		0.1	-
	02/20/88	0001			166.		0.1	-
	05/16/88	0001			168.		0.1	-
	09/01/88	0001			183.		1.	-
	10/27/88	0001			198.		0.1	-
	11/21/89	0001			187.		0.1	-
	03/30/90	0001			184.		0.1	-
	11/15/90	0001			188.		0.1	-
	03/13/91	0001			185.		10.	-
	06/01/91	0001			171.		0.1	-
	10/26/91	0001			165		0.1	-
	03/12/92	0001			182.		10.	-
	08/07/92	0001			178.		20.	-
SULFATE (TOTAL)	03/30/90	N001	MG/L		181.		0.1	-
	03/13/93	N001			185		1	-
URANIUM	01/10/84	0001	MG/L		0.005		-	-
	06/18/84	0001			0.0007		0.0003	-
	05/30/85	0001			0.0005	J	0.003	-
	05/30/85	0002			0.0062		0.003	-
	05/30/85	0003			0.006		0.003	-
	05/30/85	0004			0.0063		0.003	-
	05/30/85	0005			0.0063		0.003	-
	09/08/87	0001		<	0.0003	J	0.003	-
	11/21/87	0001		<	0.0003	J	0.003	-
	02/20/88	0001		<	0.0003	J	0.003	-
	05/16/88	0001			0.0006	J	0.003	-
	09/01/88	0001		<	0.003		0.003	-
	10/27/88	0001		<	0.003		0.003	-
	11/21/89	0001		<	0.0003	J	0.003	-
	03/30/90	0001		<	0.0003	J	0.003	-
	11/15/90	0001		<	0.0003		0.0003	-
	03/13/91	0001			0.001		0.001	-
	06/01/91	0001			0.006		0.001	-
	10/26/91	0001			0.0003		0.0003	-
	03/12/92	0001		<	0.001		0.001	-
	08/07/92	0001		<	0.001		0.001	-
	03/13/93	0001		<	0.001		0.001	-
URANIUM (TOTAL)	03/30/90	N001	MG/L	<	0.0003	J	0.003	-
	03/13/93	N001			0.001		0.001	-
VANADIUM	12/08/83	0001	MG/L	<	0.004		0.004	-
	01/10/84	0001		<	0.004		0.004	-
	06/18/84	0001		<	0.01		0.01	-
	05/30/85	0001		<	0.01		0.01	-
	05/30/85	0002		<	0.01		0.01	-
	05/30/85	0003		<	0.01		0.01	-
	05/30/85	0004		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0110
NORTH COORDINATE: 24119.5 FT
EAST COORDINATE: 24060.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	05/30/85	0005	MG/L	<	0.01		0.01	-
	09/08/87	0001		<	0.01		0.01	-
	11/21/87	0001		<	0.01		0.01	-
	02/20/88	0001			0.02		0.01	-
	05/16/88	0001		<	0.01		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/27/88	0001		<	0.01		0.01	-
	11/21/89	0001			0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/26/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/07/92	0001		<	0.05	I	0.05	-
	03/13/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/30/90	N001	MG/L		0.01		0.01	-
	03/13/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0705
NORTH COORDINATE: 21000.8 FT
EAST COORDINATE: 27735.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/28/85	0001	MG/L	<	0.01		0.01	-
	11/21/87	0001			0.003	J	0.01	-
	05/16/88	0001			0.006	J	0.01	-
	09/01/88	0001			0.002		0.001	-
	10/28/88	0001		<	0.001	J	0.01	-
	04/25/89	0001		<	0.03		0.03	-
	12/02/89	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01		0.01	-
	03/11/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.05	I	0.05	-
	10/25/91	0001		<	0.001		0.001	-
	03/31/93	0001		<	0.005	LW	0.005	-
ARSENIC (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/31/93	N001		<	0.005	L	0.005	-
MANGANESE	05/28/85	0001	MG/L	<	0.01		0.01	-
	11/21/87	0001		<	0.01		0.01	-
	05/16/88	0001		<	0.01		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/28/88	0001			0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01		0.01	-
	03/11/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
	10/25/91	0001		<	0.01		0.01	-
	03/15/92	0001		<	0.01		0.01	-
	08/08/92	0001		<	0.01		0.01	-
	03/31/93	0001			0.01	L	0.01	-
MANGANESE (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/31/93	N001			0.02	L	0.01	-
MOLYBDENUM	05/28/85	0001	MG/L	<	0.01		0.01	-
	11/21/87	0001		<	0.01		0.01	-
	05/16/88	0001			0.01		0.01	-
	09/01/88	0001			0.001		0.001	-
	10/28/88	0001			0.001	J	0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001			0.01		0.01	-
	03/11/91	0001		<	0.01		0.01	-
	06/02/91	0001			0.01		0.01	-
	10/25/91	0001		<	0.01		0.01	-
	03/15/92	0001		<	0.01		0.01	-
	08/08/92	0001		<	0.01		0.01	-
	03/31/93	0001		<	0.01	L	0.01	-
MOLYBDENUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/31/93	N001		<	0.01	L	0.01	-
NICKEL	05/28/85	0001	MG/L	<	0.04		0.04	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

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

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0705
NORTH COORDINATE: 21000.8 FT
EAST COORDINATE: 27735.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	11/21/87	0001	MG/L	<	0.01	J	0.04	-
	05/16/88	0001			0.01	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	10/28/88	0001		<	0.02	J	0.04	-
	04/25/89	0001		<	0.04		0.04	-
	12/02/89	0001		<	0.04		0.04	-
	04/01/90	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04		0.04	-
	03/11/91	0001		<	0.04		0.04	-
	06/02/91	0001		<	0.04		0.04	-
	10/25/91	0001		<	0.01		0.01	-
	03/15/92	0001		<	0.04		0.04	-
	08/08/92	0001		<	0.04		0.04	-
	03/31/93	0001		<	0.04	L	0.04	-
NICKEL (TOTAL)	04/01/90	N001	MG/L	<	0.04		0.04	-
	03/31/93	N001		<	0.04	L	0.04	-
SULFATE	11/21/87	0001	MG/L		330.		0.1	-
	05/16/88	0001			379.		0.1	-
	09/01/88	0001			428.		1.	-
	10/28/88	0001			442.		0.1	-
	04/25/89	0001			424.		0.1	-
	12/02/89	0001			433.		0.1	-
	04/01/90	0001			427.		0.1	-
	11/19/90	0001			440.		0.1	-
	03/11/91	0001			401.		10.	-
	06/02/91	0001			426.		10.	-
	10/25/91	0001			379		0.1	-
	03/15/92	0001			432.		30.	-
	08/08/92	0001			413.		100.	-
	03/31/93	0001			369	L	1	-
SULFATE (TOTAL)	04/01/90	N001	MG/L		437.		0.1	-
URANIUM	05/28/85	0001	MG/L		0.0066		0.003	-
	11/21/87	0001			0.0022	J	0.003	-
	05/16/88	0001			0.0030		0.003	-
	09/01/88	0001		<	0.003		0.003	-
	10/28/88	0001		<	0.003		0.003	-
	04/25/89	0001			0.005		0.003	-
	12/02/89	0001			0.0027	J	0.003	-
	04/01/90	0001			0.0013	J	0.003	-
	11/19/90	0001			0.0021		0.0003	-
	03/11/91	0001			0.002		0.001	-
	06/02/91	0001		<	0.001		0.001	-
	10/25/91	0001			0.0009		0.0003	-
	03/15/92	0001			0.001		0.001	-
	08/08/92	0001		<	0.001		0.001	-
	03/31/93	0001		<	0.001	L	0.001	-
URANIUM (TOTAL)	04/01/90	N001	MG/L		0.0045		0.003	-
	03/31/93	N001		<	0.001	L	0.001	-
VANADIUM	05/28/85	0001	MG/L	<	0.01		0.01	-
	11/21/87	0001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0705
NORTH COORDINATE: 21000.8 FT
EAST COORDINATE: 27735.8 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	05/16/88	0001	MG/L	<	0.01		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/28/88	0001		<	0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001			0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01		0.01	-
	03/11/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
	10/25/91	0001			0.01		0.01	-
	03/15/92	0001		<	0.01		0.01	-
	08/08/92	0001		<	0.01		0.01	-
	03/31/93	0001		<	0.01	L	0.01	-
VANADIUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/31/93	N001		<	0.01	L	0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0706
NORTH COORDINATE: 20033.9 FT
EAST COORDINATE: 28160.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/27/85	0001	MG/L	<	0.01		0.01	-
	09/08/87	0001			0.001	J	0.01	-
	11/21/87	0001			0.007	J	0.01	-
	02/20/88	0001			0.007	J	0.01	-
	05/16/88	0001			0.006	J	0.01	-
	09/01/88	0001			0.001		0.001	-
	09/01/88	0002			0.002	J	0.01	-
	09/01/88	0003			0.002	J	0.01	-
	09/01/88	0004			0.002	J	0.01	-
	09/01/88	0005			0.001	J	0.01	-
	10/26/88	0001			0.001	J	0.01	-
	04/25/89	0001		<	0.01		0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/12/91	0001		<	0.01		0.01	-
	10/26/91	0001		<	0.001		0.001	-
	03/13/92	0001		<	0.005		0.005	-
	08/08/92	0001		<	0.005		0.005	-
	03/11/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	03/11/93	N001		<	0.005		0.005	-
MANGANESE	05/27/85	0001	MG/L		1.05		0.01	-
	09/08/87	0001			0.91		0.01	-
	11/21/87	0001			1.42		0.01	-
	02/20/88	0001			1.20		0.01	-
	05/16/88	0001			1.09		0.01	-
	09/01/88	0001			1.08		0.01	-
	09/01/88	0002			1.05		0.01	-
	09/01/88	0003			1.05		0.01	-
	09/01/88	0004			1.02		0.01	-
	09/01/88	0005			1.03		0.01	-
	10/26/88	0001			1.28		0.01	-
	04/25/89	0001			1.12		0.01	-
	11/21/89	0001			0.98		0.01	-
	03/30/90	0001			0.90		0.01	-
	11/15/90	0001			0.79		0.01	-
	03/12/91	0001			0.55		0.01	-
	10/26/91	0001			0.48		0.01	-
	03/13/92	0001			0.44		0.01	-
	08/08/92	0001			0.31		0.01	-
	03/11/93	0001			0.53		0.01	-
MANGANESE (TOTAL)	03/30/90	N001	MG/L		1.00		0.01	-
	03/11/93	N001			0.55		0.01	-
MOLYBDENUM	05/27/85	0001	MG/L	<	0.01		0.01	-
	09/08/87	0001		<	0.01		0.01	-
	11/21/87	0001			0.02		0.01	-
	02/20/88	0001			0.05		0.01	-
	05/16/88	0001			0.02		0.01	-
	09/01/88	0001			0.004		0.001	-
	09/01/88	0002			0.002	J	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0706
NORTH COORDINATE: 20033.9 FT
EAST COORDINATE: 28160.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	09/01/88	0003	MG/L		0.003	J	0.01	-
	09/01/88	0004			0.002	J	0.01	-
	09/01/88	0005			0.002	J	0.01	-
	10/26/88	0001			0.005	J	0.01	-
	04/25/89	0001		<	0.01		0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/12/91	0001		<	0.01		0.01	-
	10/26/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.01		0.01	-
	08/08/92	0001		<	0.01		0.01	-
	03/11/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	03/11/93	N001		<	0.01		0.01	-
NICKEL	05/27/85	0001	MG/L	<	0.04		0.04	-
	09/08/87	0001		<	0.01	J	0.04	-
	11/21/87	0001		<	0.01	J	0.04	-
	02/20/88	0001			0.04		0.04	-
	05/16/88	0001			0.03	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	09/01/88	0002		<	0.02	J	0.04	-
	09/01/88	0003		<	0.02	J	0.04	-
	09/01/88	0004		<	0.02	J	0.04	-
	09/01/88	0005		<	0.02	J	0.04	-
	10/26/88	0001		<	0.02	J	0.04	-
	04/25/89	0001		<	0.04		0.04	-
	11/21/89	0001		<	0.04		0.04	-
	03/30/90	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/12/91	0001		<	0.04		0.04	-
	10/26/91	0001		<	0.01		0.01	-
	03/13/92	0001		<	0.04		0.04	-
	08/08/92	0001		<	0.04		0.04	-
	03/11/93	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/30/90	N001	MG/L	<	0.04		0.04	-
	03/11/93	N001		<	0.04		0.04	-
SULFATE	05/27/85	0001	MG/L		461.00		0.1	-
	09/08/87	0001			432.		0.1	-
	11/21/87	0001			555.		0.1	-
	02/20/88	0001			494.		0.1	-
	05/16/88	0001			487.		0.1	-
	09/01/88	0001			467.		1.	-
	09/01/88	0002			465.		0.1	-
	09/01/88	0003			459.		0.1	-
	09/01/88	0004			465.		0.1	-
	09/01/88	0005			465.		0.1	-
	10/26/88	0001			630.		0.1	-
	04/25/89	0001			495.		0.1	-
	11/21/89	0001			453.		0.1	-
	03/30/90	0001			398.		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0706
NORTH COORDINATE: 20033.9 FT
EAST COORDINATE: 28160.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	11/15/90	0001	MG/L		345.		0.1	-
	03/12/91	0001			354.		10.	-
	10/26/91	0001			245		0.1	-
	03/13/92	0001			327.		30.	-
	08/08/92	0001			239.		50.	-
SULFATE (TOTAL)	03/30/90	N001	MG/L		407.		0.1	-
	03/11/93	N001			320		1	-
URANIUM	05/27/85	0001	MG/L		0.0127		0.003	-
	09/08/87	0001			0.0120		0.003	-
	11/21/87	0001			0.0164		0.003	-
	02/20/88	0001			0.0227		0.003	-
	05/16/88	0001			0.0173		0.003	-
	09/01/88	0001			0.012		0.003	-
	09/01/88	0002			0.013		0.003	-
	09/01/88	0003			0.014		0.003	-
	09/01/88	0004			0.013		0.003	-
	09/01/88	0005			0.013		0.003	-
	10/26/88	0001		<	0.003		0.003	-
	04/25/89	0001			0.025		0.003	-
	11/21/89	0001			0.013		0.003	-
	03/30/90	0001			0.014		0.003	-
	11/15/90	0001			0.0093		0.0003	-
	03/12/91	0001			0.011		0.001	-
	10/26/91	0001			0.0057		0.0003	-
	03/13/92	0001			0.009		0.001	-
	08/08/92	0001			0.003		0.001	-
	03/11/93	0001			0.011		0.001	-
URANIUM (TOTAL)	03/30/90	N001	MG/L		0.013		0.003	-
	03/11/93	N001			0.010		0.001	-
VANADIUM	05/27/85	0001	MG/L	<	0.01		0.01	-
	09/08/87	0001			0.03		0.01	-
	11/21/87	0001			0.03		0.01	-
	02/20/88	0001			0.04		0.01	-
	05/16/88	0001			0.02		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	09/01/88	0002		<	0.01		0.01	-
	09/01/88	0003		<	0.01		0.01	-
	09/01/88	0004		<	0.01		0.01	-
	09/01/88	0005		<	0.01		0.01	-
	10/26/88	0001		<	0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	11/21/89	0001			0.02		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/12/91	0001		<	0.01		0.01	-
	10/26/91	0001			0.03		0.01	-
	03/13/92	0001		<	0.01		0.01	-
	08/08/92	0001		<	0.01		0.01	-
	03/11/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0706
NORTH COORDINATE: 20033.9 FT
EAST COORDINATE: 28160.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM (TOTAL)	03/11/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0707
NORTH COORDINATE: 21008.4 FT
EAST COORDINATE: 27745.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	09/08/87	0001	MG/L		0.001	J	0.01	-
	11/21/87	0001			0.019		0.01	-
	11/21/87	0002			0.019		0.01	-
	11/21/87	0003			0.020		0.01	-
	11/21/87	0004			0.020		0.01	-
	11/21/87	0005			0.021		0.01	-
	02/20/88	0001			0.013		0.01	-
	02/20/88	0002			0.018		0.01	-
	02/20/88	0003			0.017		0.01	-
	02/20/88	0004			0.018		0.01	-
	02/20/88	0005			0.018		0.01	-
	05/16/88	0001			0.032		0.01	-
	09/01/88	0001		<	0.001		0.001	-
	10/28/88	0001			0.001	J	0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.003	J	0.01	-
	04/01/90	0001			0.02		0.01	-
	11/19/90	0001		<	0.01		0.01	-
	03/12/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.05	I	0.05	-
	10/25/91	0001		<	0.01	I	0.01	-
	03/31/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	04/01/90	N001	MG/L		0.05		0.01	-
	03/31/93	N001		<	0.005		0.005	-
MANGANESE	09/08/87	0001	MG/L		4.69		0.01	-
	11/21/87	0001			4.95		0.01	-
	11/21/87	0002			5.07		0.01	-
	11/21/87	0003			4.99		0.01	-
	11/21/87	0004			4.96		0.01	-
	11/21/87	0005			4.93		0.01	-
	02/20/88	0001			5.39		0.01	-
	02/20/88	0002			5.15		0.01	-
	02/20/88	0003			5.18		0.01	-
	02/20/88	0004			5.04		0.01	-
	02/20/88	0005			5.19		0.01	-
	05/16/88	0001			4.73		0.01	-
	09/01/88	0001			5.10		0.01	-
	10/28/88	0001			4.38		0.01	-
	04/25/89	0001			4.7		0.01	-
	12/02/89	0001			4.73		0.01	-
	04/01/90	0001			4.53		0.01	-
	11/19/90	0001			5.04		0.01	-
	03/12/91	0001			4.83		0.01	-
	06/01/91	0001			4.97		0.01	-
	10/25/91	0001			6.4		0.01	-
	03/15/92	0001			5.08		0.01	-
	08/08/92	0001			4.42		0.01	-
	03/31/93	0001			4.26		0.01	-
MANGANESE (TOTAL)	04/01/90	N001	MG/L		4.81		0.01	-
	03/31/93	N001			3.73		0.01	-
MOLYBDENUM	09/08/87	0001	MG/L		0.77		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0707
NORTH COORDINATE: 21008.4 FT
EAST COORDINATE: 27745.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	11/21/87	0001	MG/L		1.02		0.01	-
	11/21/87	0002			1.04		0.01	-
	11/21/87	0003			1.03		0.01	-
	11/21/87	0004			1.02		0.01	-
	11/21/87	0005			1.02		0.01	-
	02/20/88	0001			1.00		0.01	-
	02/20/88	0002			0.94		0.01	-
	02/20/88	0003			0.91		0.01	-
	02/20/88	0004			0.90		0.01	-
	02/20/88	0005			0.97		0.01	-
	05/16/88	0001			0.81		0.01	-
	09/01/88	0001			0.520		0.001	-
	10/28/88	0001			0.773		0.01	-
	04/25/89	0001			0.70		0.01	-
	12/02/89	0001			0.76		0.01	-
	04/01/90	0001			0.68		0.01	-
	11/19/90	0001			0.83		0.01	-
	03/12/91	0001			0.68		0.01	-
	06/01/91	0001			0.68		0.01	-
	10/25/91	0001			0.96		0.01	-
	03/15/92	0001			0.86		0.01	-
	08/08/92	0001			0.79		0.01	-
	03/31/93	0001			0.83		0.01	-
MOLYBDENUM (TOTAL)	04/01/90	N001	MG/L		0.70		0.01	-
	03/31/93	N001			0.74		0.01	-
NICKEL	09/08/87	0001	MG/L		0.10		0.04	-
	11/21/87	0001			0.11		0.04	-
	11/21/87	0002			0.11		0.04	-
	11/21/87	0003			0.11		0.04	-
	11/21/87	0004			0.10		0.04	-
	11/21/87	0005			0.11		0.04	-
	02/20/88	0001			0.21		0.04	-
	02/20/88	0002			0.22		0.04	-
	02/20/88	0003			0.19		0.04	-
	02/20/88	0004			0.18		0.04	-
	02/20/88	0005			0.19		0.04	-
	05/16/88	0001			0.17		0.04	-
	09/01/88	0001			0.10		0.04	-
	10/28/88	0001			0.08		0.04	-
	04/25/89	0001			0.12		0.04	-
	12/02/89	0001		<	0.04		0.04	-
	04/01/90	0001			0.17		0.04	-
	11/19/90	0001			0.23		0.04	-
	03/12/91	0001			0.22		0.04	-
	06/01/91	0001			0.22		0.04	-
	10/25/91	0001			0.28		0.01	-
	03/15/92	0001			0.24		0.04	-
	08/08/92	0001			0.20		0.04	-
	03/31/93	0001			0.15		0.04	-
NICKEL (TOTAL)	04/01/90	N001	MG/L		0.17		0.04	-
	03/31/93	N001			0.14		0.04	-
SULFATE	09/08/87	0001	MG/L		3500.		0.1	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0707
NORTH COORDINATE: 21008.4 FT
EAST COORDINATE: 27745.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI VALUE FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	11/21/87	0001	MG/L	2950.	0.1	-
	11/21/87	0002		2980.	0.1	-
	11/21/87	0003		2930.	0.1	-
	11/21/87	0004		2920.	0.1	-
	11/21/87	0005		2950.	0.1	-
	02/20/88	0001		3050.	0.1	-
	02/20/88	0002		3050.	0.1	-
	02/20/88	0003		3060.	0.1	-
	02/20/88	0004		3050.	0.1	-
	02/20/88	0005		3060.	0.1	-
	05/16/88	0001		3240.	0.1	-
	09/01/88	0001		3149.	1.	-
	10/28/88	0001		2999.	0.1	-
	04/25/89	0001		3020.	0.1	-
	12/02/89	0001		2870.	0.1	-
	04/01/90	0001		2570.	0.1	-
	11/19/90	0001		2760.	0.1	-
	03/12/91	0001		2890.	10.	-
	06/01/91	0001		2910.	10.	-
	10/25/91	0001		4430	0.1	-
	03/15/92	0001		3810.	10.	-
	08/08/92	0001		3210.	10.	-
	03/31/93	0001		2970	1	-
SULFATE (TOTAL)	04/01/90	N001	MG/L	2880.	0.1	-
URANIUM	09/08/87	0001	MG/L	1.58	0.003	-
	11/21/87	0001		1.35	0.003	-
	11/21/87	0002		1.44	0.003	-
	11/21/87	0003		1.43	0.003	-
	11/21/87	0004		1.43	0.003	-
	11/21/87	0005		1.44	0.003	-
	02/20/88	0001		1.66	0.003	-
	02/20/88	0002		1.61	0.003	-
	02/20/88	0003		1.55	0.003	-
	02/20/88	0004		1.70	0.003	-
	02/20/88	0005		1.70	0.003	-
	05/16/88	0001		1.39	0.003	-
	09/01/88	0001		1.094	0.003	-
	10/28/88	0001		0.719	0.003	-
	04/25/89	0001		1.37	0.003	-
	12/02/89	0001		1.21	0.003	-
	04/01/90	0001		0.998	0.003	-
	11/19/90	0001		1.00	0.0003	-
	03/12/91	0001		0.729	0.001	-
	06/01/91	0001		1.02	0.001	-
	10/25/91	0001		1.97	0.0003	-
	03/15/92	0001		1.22	0.001	-
	08/08/92	0001		1.08	0.001	-
	03/31/93	0001		0.957	0.001	-
URANIUM (TOTAL)	04/01/90	N001	MG/L	0.974	0.003	-
	03/31/93	N001		1.01	0.001	-
VANADIUM	09/08/87	0001	MG/L	0.06	0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0707
NORTH COORDINATE: 21008.4 FT
EAST COORDINATE: 27745.2 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	11/21/87	0001	MG/L		0.06		0.01	-
	11/21/87	0002			0.06		0.01	-
	11/21/87	0003			0.06		0.01	-
	11/21/87	0004			0.06		0.01	-
	11/21/87	0005			0.06		0.01	-
	02/20/88	0001			0.07		0.01	-
	02/20/88	0002			0.06		0.01	-
	02/20/88	0003			0.06		0.01	-
	02/20/88	0004			0.06		0.01	-
	02/20/88	0005			0.06		0.01	-
	05/16/88	0001			0.06		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/28/88	0001		<	0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001			0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001			0.01		0.01	-
	03/12/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/25/91	0001			0.14		0.01	-
	03/15/92	0001		<	0.05	I	0.05	-
	08/08/92	0001			0.01		0.01	-
	03/31/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/01/90	N001	MG/L		0.02		0.01	-
	03/31/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0709
NORTH COORDINATE: 21005.6 FT
EAST COORDINATE: 27748.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	09/08/87	0001	MG/L	<	0.001	J	0.01	-
	10/28/88	0001		<	0.001	J	0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/11/91	0001		<	0.01	G	0.01	-
	06/02/91	0001		<	0.01	G	0.01	-
	10/25/91	0001		<	0.001	G	0.001	-
	03/12/93	0001		<	0.005	L	0.005	-
ARSENIC (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/11/93	N001		<	0.005		0.005	-
MANGANESE	09/08/87	0001	MG/L	<	0.01		0.01	-
	10/28/88	0001		<	0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/11/91	0001			0.01	G	0.01	-
	06/02/91	0001		<	0.01	G	0.01	-
	10/25/91	0001		<	0.01	G	0.01	-
	03/15/92	0001		<	0.01	G	0.01	-
	08/08/92	0001		<	0.01	G	0.01	-
	03/12/93	0001		<	0.01	L	0.01	-
MANGANESE (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/11/93	N001		<	0.01		0.01	-
MOLYBDENUM	09/08/87	0001	MG/L	<	0.01		0.01	-
	10/28/88	0001			0.015		0.01	-
	04/25/89	0001			0.02		0.01	-
	12/02/89	0001			0.01		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001			0.02	G	0.01	-
	03/11/91	0001			0.01	G	0.01	-
	06/02/91	0001			0.03	G	0.01	-
	10/25/91	0001			0.02	G	0.01	-
	03/15/92	0001			0.02	G	0.01	-
	08/08/92	0001			0.03	G	0.01	-
	03/12/93	0001			0.03	L	0.01	-
MOLYBDENUM (TOTAL)	04/01/90	N001	MG/L		0.01		0.01	-
	03/11/93	N001			0.03		0.01	-
NICKEL	09/08/87	0001	MG/L	<	0.01	J	0.04	-
	10/28/88	0001		<	0.02	J	0.04	-
	04/25/89	0001		<	0.04		0.04	-
	12/02/89	0001		<	0.04		0.04	-
	04/01/90	0001		<	0.04		0.04	-
	11/19/90	0001		<	0.04	G	0.04	-
	03/11/91	0001		<	0.04	G	0.04	-
	06/02/91	0001		<	0.04	G	0.04	-
	10/25/91	0001			0.02	G	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0709
NORTH COORDINATE: 21005.6 FT
EAST COORDINATE: 27748.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	03/15/92	0001	MG/L	<	0.04	G	0.04	-
	08/08/92	0001		<	0.04	G	0.04	-
	03/12/93	0001		<	0.04	L	0.04	-
NICKEL (TOTAL)	04/01/90	N001	MG/L	<	0.04		0.04	-
	03/11/93	N001		<	0.04		0.04	-
SULFATE	09/08/87	0001	MG/L		8.		0.1	-
	10/28/88	0001			74.		0.1	-
	04/25/89	0001			68.		0.1	-
	12/02/89	0001			76.		0.1	-
	04/01/90	0001			83.		0.1	-
	11/19/90	0001			86.4	G	0.1	-
	03/11/91	0001			115.	G	10.	-
	06/02/91	0001			155.	G	0.1	-
	10/25/91	0001			178	G	0.1	-
	03/15/92	0001			162.	G	50.	-
	08/08/92	0001			130.	G	50.	-
SULFATE (TOTAL)	04/01/90	N001	MG/L		91.		0.1	-
	03/11/93	N001			112		1	-
URANIUM	09/08/87	0001	MG/L	<	0.0003	J	0.003	-
	10/28/88	0001		<	0.003		0.003	-
	04/25/89	0001		<	0.003		0.003	-
	12/02/89	0001		<	0.0003	J	0.003	-
	04/01/90	0001		<	0.0003	J	0.003	-
	11/19/90	0001		<	0.0003	G	0.0003	-
	03/11/91	0001		<	0.001	G	0.001	-
	06/02/91	0001		<	0.001	G	0.001	-
	10/25/91	0001		<	0.0003		0.0003	-
	03/15/92	0001		<	0.001	G	0.001	-
	08/08/92	0001		<	0.001		0.001	-
	03/12/93	0001		<	0.001	L	0.001	-
URANIUM (TOTAL)	04/01/90	N001	MG/L		0.0006	J	0.003	-
	03/12/93	N001		<	0.001	L	0.001	-
VANADIUM	09/08/87	0001	MG/L		0.06		0.01	-
	10/28/88	0001		<	0.01		0.01	-
	04/25/89	0001		<	0.01		0.01	-
	12/02/89	0001			0.02		0.01	-
	04/01/90	0001		<	0.01		0.01	-
	11/19/90	0001		<	0.01	G	0.01	-
	03/11/91	0001		<	0.01	G	0.01	-
	06/02/91	0001			0.01	G	0.01	-
	10/25/91	0001			0.04	G	0.01	-
	03/15/92	0001		<	0.01	G	0.01	-
	08/08/92	0001			0.04	G	0.01	-
	03/12/93	0001		<	0.01	L	0.01	-
VANADIUM (TOTAL)	04/01/90	N001	MG/L	<	0.01		0.01	-
	03/11/93	N001		<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0710
NORTH COORDINATE: 25355.6 FT
EAST COORDINATE: 23982.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/26/85	0001	MG/L	<	0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001			0.003		0.001	-
	03/12/92	0001		<	0.005		0.005	-
	08/06/92	0001		<	0.005		0.005	-
	03/11/93	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	03/11/93	N001	MG/L	<	0.005	W	0.005	-
MANGANESE	05/26/85	0001	MG/L		0.91		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001			0.03		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/06/92	0001		<	0.01		0.01	-
	03/11/93	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	03/11/93	N001	MG/L		0.20		0.01	-
MOLYBDENUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/06/92	0001		<	0.01		0.01	-
	03/11/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/11/93	N001	MG/L	<	0.01		0.01	-
NICKEL	05/26/85	0001	MG/L	<	0.04		0.04	-
	03/13/91	0001		<	0.04		0.04	-
	06/01/91	0001		<	0.04		0.04	-
	10/23/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.04		0.04	-
	08/06/92	0001		<	0.04		0.04	-
	03/11/93	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/11/93	N001	MG/L	<	0.04		0.04	-
SULFATE	05/26/85	0001	MG/L		363.00		0.1	-
	03/13/91	0001			101.		10.	-
	06/01/91	0001			118.		0.1	-
	10/23/91	0001			84.7		0.1	-
	03/12/92	0001			105.		10.	-
	08/06/92	0001			120.		20.	-
SULFATE (TOTAL)	03/11/93	N001	MG/L		120		1	-
URANIUM	05/26/85	0001	MG/L		0.0156		0.003	-
	03/13/91	0001			0.003		0.001	-
	06/01/91	0001		<	0.001		0.001	-
	10/23/91	0001			0.0040		0.0003	-
	03/12/92	0001			0.004		0.001	-
	08/06/92	0001		<	0.001		0.001	-
	03/11/93	0001			0.004		0.001	-
URANIUM (TOTAL)	03/11/93	N001	MG/L		0.004		0.001	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0710
NORTH COORDINATE: 25355.6 FT
EAST COORDINATE: 23982.6 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	03/13/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001			0.03		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/06/92	0001			0.02		0.01	-
	03/11/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/11/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0711
NORTH COORDINATE: 26088.0 FT
EAST COORDINATE: 24670.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/26/85	0001	MG/L	<	0.01		0.01	-
	05/26/85	0002		<	0.01		0.01	-
	05/26/85	0003		<	0.01		0.01	-
	05/26/85	0004		<	0.01		0.01	-
	05/26/85	0005		<	0.01		0.01	-
	11/21/87	0001			0.007	J	0.01	-
	05/16/88	0001			0.002	J	0.01	-
	05/16/88	0002			0.006	J	0.01	-
	05/16/88	0003			0.006	J	0.01	-
	05/16/88	0004			0.006	J	0.01	-
	05/16/88	0005			0.006	J	0.01	-
	09/01/88	0001			0.003		0.001	-
	10/26/88	0001			0.003	J	0.01	-
	04/26/89	0001		<	0.01		0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01	J	0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001			0.002		0.001	-
	03/12/92	0001		<	0.005		0.005	-
	08/07/92	0001		<	0.005		0.005	-
	03/18/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	03/18/93	N001		<	0.005		0.005	-
MANGANESE	05/26/85	0001	MG/L		0.74		0.01	-
	05/26/85	0002			0.23		0.01	-
	05/26/85	0003			0.24		0.01	-
	05/26/85	0004			0.74		0.01	-
	05/26/85	0005			0.74		0.01	-
	11/21/87	0001			2.09		0.01	-
	05/16/88	0001			1.39		0.01	-
	05/16/88	0002			1.40		0.01	-
	05/16/88	0003			1.39		0.01	-
	05/16/88	0004			1.37		0.01	-
	05/16/88	0005			1.38		0.01	-
	09/01/88	0001			3.56		0.01	-
	10/26/88	0001			1.62		0.01	-
	04/26/89	0001			0.87		0.01	-
	11/21/89	0001			0.72		0.01	-
	03/30/90	0001			0.52		0.01	-
	11/15/90	0001			1.08		0.01	-
	03/27/91	0001			0.61		0.01	-
	06/01/91	0001			0.70		0.01	-
	10/23/91	0001			1.4		0.01	-
	03/12/92	0001			0.64		0.01	-
	08/07/92	0001			0.69		0.01	-
	03/18/93	0001			0.77		0.01	-
MANGANESE (TOTAL)	03/30/90	N001	MG/L		1.04		0.01	-
	11/15/90	N001			1.04		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0711
NORTH COORDINATE: 26088.0 FT
EAST COORDINATE: 24670.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE (TOTAL)	03/27/91	N001	MG/L		0.62		0.01	-
	03/18/93	N001			0.77		0.01	-
MOLYBDENUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	05/26/85	0002		<	0.01		0.01	-
	05/26/85	0003		<	0.01		0.01	-
	05/26/85	0004		<	0.01		0.01	-
	05/26/85	0005		<	0.01		0.01	-
	11/21/87	0001			0.02		0.01	-
	05/16/88	0001			0.01		0.01	-
	05/16/88	0002			0.02		0.01	-
	05/16/88	0003			0.02		0.01	-
	05/16/88	0004			0.02		0.01	-
	05/16/88	0005			1.38		0.01	-
	09/01/88	0001			0.008		0.001	-
	10/26/88	0001			0.003	J	0.01	-
	04/26/89	0001		<	0.01		0.01	-
	11/21/89	0001		<	0.01		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001			0.01		0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001		<	0.01		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/07/92	0001		<	0.01		0.01	-
	03/18/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	03/18/93	N001		<	0.01		0.01	-
NICKEL	05/26/85	0001	MG/L	<	0.04		0.04	-
	05/26/85	0002		<	0.04		0.04	-
	05/26/85	0003		<	0.04		0.04	-
	05/26/85	0004		<	0.04		0.04	-
	05/26/85	0005		<	0.04		0.04	-
	11/21/87	0001		<	0.01	J	0.04	-
	05/16/88	0001			0.02	J	0.04	-
	05/16/88	0002			0.02	J	0.04	-
	05/16/88	0003			0.03	J	0.04	-
	05/16/88	0004			0.03	J	0.04	-
	05/16/88	0005			0.03	J	0.04	-
	09/01/88	0001		<	0.02	J	0.04	-
	10/26/88	0001		<	0.02	J	0.04	-
	04/26/89	0001		<	0.04		0.04	-
	11/21/89	0001		<	0.04		0.04	-
	03/30/90	0001		<	0.04		0.04	-
	11/15/90	0001		<	0.04		0.04	-
	03/27/91	0001		<	0.04		0.04	-
	06/01/91	0001		<	0.04		0.04	-
	10/23/91	0001			0.02		0.01	-
	03/12/92	0001		<	0.04		0.04	-
	08/07/92	0001		<	0.04		0.04	-
	03/18/93	0001		<	0.04		0.04	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0711
NORTH COORDINATE: 26088.0 FT
EAST COORDINATE: 24670.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL (TOTAL)	03/30/90	N001	MG/L	<	0.04		0.04	-
	11/15/90	N001		<	0.04		0.04	-
	03/27/91	N001		<	0.04		0.04	-
	03/18/93	N001		<	0.04		0.04	-
SULFATE	05/26/85	0001	MG/L		156.00		0.1	-
	05/26/85	0002			155.00		0.1	-
	05/26/85	0003			154.00		0.1	-
	05/26/85	0004			154.00		0.1	-
	05/26/85	0005			155.00		0.1	-
	11/21/87	0001			438.		0.1	-
	05/16/88	0001			356.		0.1	-
	05/16/88	0002			357.		0.1	-
	05/16/88	0003			357.		0.1	-
	05/16/88	0004			357.		0.1	-
	05/16/88	0005			356.		0.1	-
	09/01/88	0001			854.		1.	-
	10/26/88	0001			438.		0.1	-
	04/26/89	0001			212.		0.1	-
	11/21/89	0001			185.		0.1	-
	03/30/90	0001			154.		0.1	-
	11/15/90	0001			278.		0.1	-
	03/27/91	0001			150.		10.	-
	06/01/91	0001			137.		0.1	-
	10/23/91	0001			379		0.1	-
	03/12/92	0001			157.		10.	-
	08/07/92	0001			93.		10.	-
	03/18/93	0001			106		1	-
SULFATE (TOTAL)	03/30/90	N001	MG/L		161.		0.1	-
	11/15/90	N001			281.		0.1	-
URANIUM	05/26/85	0001	MG/L		0.0007	J	0.003	-
	05/26/85	0002		<	0.0003	J	0.003	-
	05/26/85	0003			0.0005	J	0.003	-
	05/26/85	0004		<	0.0003	J	0.003	-
	05/26/85	0005			0.0007	J	0.003	-
	11/21/87	0001			0.0042		0.003	-
	05/16/88	0001			0.0044		0.003	-
	05/16/88	0002			0.0045		0.003	-
	05/16/88	0003			0.0046		0.003	-
	05/16/88	0004			0.0042		0.003	-
	05/16/88	0005			0.0043		0.003	-
	09/01/88	0001			0.008		0.003	-
	10/26/88	0001		<	0.003		0.003	-
	04/26/89	0001			0.005		0.003	-
	11/21/89	0001			0.0019	J	0.003	-
	03/30/90	0001			0.0020	J	0.003	-
	11/15/90	0001			0.0032		0.0003	-
	03/27/91	0001			0.004		0.001	-
	06/01/91	0001			0.001		0.001	-
	10/23/91	0001			0.0046		0.0003	-
	03/12/92	0001			0.003		0.001	-
	08/07/92	0001		<	0.001		0.001	-
	03/18/93	0001			0.002		0.001	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0711
NORTH COORDINATE: 26088.0 FT
EAST COORDINATE: 24670.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM (TOTAL)	03/30/90	N001	MG/L		0.0020	J	0.003	-
	11/15/90	N001			0.0027		0.0003	-
	03/27/91	N001		<	0.001		0.001	-
	03/18/93	N001			0.001		0.001	-
VANADIUM	05/26/85	0001	MG/L	<	0.01		0.01	-
	05/26/85	0002		<	0.01		0.01	-
	05/26/85	0003		<	0.01		0.01	-
	05/26/85	0004		<	0.01		0.01	-
	05/26/85	0005		<	0.01		0.01	-
	11/21/87	0001			0.04		0.01	-
	05/16/88	0001			0.02		0.01	-
	05/16/88	0002			0.02		0.01	-
	05/16/88	0003			0.02		0.01	-
	05/16/88	0004			0.03		0.01	-
	05/16/88	0005			0.03		0.01	-
	09/01/88	0001		<	0.01		0.01	-
	10/26/88	0001		<	0.01		0.01	-
	04/26/89	0001		<	0.01		0.01	-
	11/21/89	0001			0.02		0.01	-
	03/30/90	0001		<	0.01		0.01	-
	11/15/90	0001		<	0.01		0.01	-
	03/27/91	0001		<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	10/23/91	0001			0.03		0.01	-
	03/12/92	0001		<	0.01		0.01	-
	08/07/92	0001		<	0.01		0.01	-
	03/18/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/30/90	N001	MG/L	<	0.01		0.01	-
	11/15/90	N001		<	0.01		0.01	-
	03/27/91	N001		<	0.01		0.01	-
	03/18/93	N001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0712
NORTH COORDINATE: 26931.4 FT
EAST COORDINATE: 25462.5 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/30/93	0001	MG/L	<	0.005		0.005	-
ARSENIC (TOTAL)	03/30/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/30/93	0001	MG/L		0.03		0.01	-
MANGANESE (TOTAL)	03/30/93	N001	MG/L		0.06		0.01	-
MOLYBDENUM	03/30/93	0001	MG/L	<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/30/93	N001	MG/L	<	0.01		0.01	-
NICKEL	03/30/93	0001	MG/L	<	0.04		0.04	-
NICKEL (TOTAL)	03/30/93	N001	MG/L	<	0.04		0.04	-
SULFATE	05/25/85 03/30/93	0001 0001	MG/L		376.00 254		0.1 1	- -
URANIUM	05/25/85 03/30/93	0001 0001	MG/L		0.0023 0.002	J	0.003 0.001	- -
URANIUM (TOTAL)	03/30/93	N001	MG/L		0.002		0.001	-
VANADIUM	03/30/93	0001	MG/L	<	0.01		0.01	-
VANADIUM (TOTAL)	03/30/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0713
NORTH COORDINATE: 27577.4 FT
EAST COORDINATE: 25984.3 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/25/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/25/85	0001	MG/L		0.46		0.01	-
MOLYBDENUM	05/25/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/25/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/25/85	0001	MG/L		66.70		0.1	-
URANIUM	05/25/85	0001	MG/L		0.0017	J	0.003	-
VANADIUM	05/25/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0714
NORTH COORDINATE: 28193.9 FT
EAST COORDINATE: 26433.9 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	05/25/85	0001	MG/L	<	0.01		0.01	-
MANGANESE	05/25/85	0001	MG/L		2.26		0.01	-
MOLYBDENUM	05/25/85	0001	MG/L	<	0.01		0.01	-
NICKEL	05/25/85	0001	MG/L	<	0.04		0.04	-
SULFATE	05/25/85	0001	MG/L		42.80		0.1	-
URANIUM	05/25/85	0001	MG/L	<	0.0003	J	0.003	-
VANADIUM	05/25/85	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:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0716
NORTH COORDINATE: 22764.49 FT
EAST COORDINATE: 25873.34 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/01/93	0001	MG/L	<	0.005		0.005	-
	01/09/94	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	04/01/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	04/01/93	0001	MG/L		0.74		0.01	-
	01/09/94	0001			0.74		0.01	-
MANGANESE (TOTAL)	04/01/93	N001	MG/L		0.68		0.01	-
MOLYBDENUM	04/01/93	0001	MG/L		0.26		0.01	-
	01/09/94	0001			0.24		0.01	-
MOLYBDENUM (TOTAL)	04/01/93	N001	MG/L		0.23		0.01	-
NICKEL	04/01/93	0001	MG/L	<	0.04		0.04	-
	01/09/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	04/01/93	N001	MG/L	<	0.04		0.04	-
SULFATE	04/01/93	0001	MG/L		674		1	-
	01/09/94	0001			775		1	-
URANIUM	04/01/93	0001	MG/L		0.591		0.001	-
	01/09/94	0001			0.718		0.001	-
URANIUM (TOTAL)	04/01/93	N001	MG/L		0.702		0.001	-
VANADIUM	04/01/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/01/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0717
NORTH COORDINATE: 22762.23 FT
EAST COORDINATE: 25889.34 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/01/93	0001	MG/L	<	0.005	W	0.005	-
	01/09/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	04/01/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	04/01/93	0001	MG/L		0.22		0.01	-
	01/09/94	0001			0.24		0.01	-
MANGANESE (TOTAL)	04/01/93	N001	MG/L		0.19		0.01	-
MOLYBDENUM	04/01/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	04/01/93	N001	MG/L	<	0.01		0.01	-
NICKEL	04/01/93	0001	MG/L	<	0.04		0.04	-
	01/09/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	04/01/93	N001	MG/L	<	0.04		0.04	-
SULFATE	04/01/93	0001	MG/L		739		1	-
	01/09/94	0001			707		1	-
URANIUM	04/01/93	0001	MG/L		0.002		0.001	-
	01/09/94	0001		<	0.001		0.001	-
URANIUM (TOTAL)	04/01/93	N001	MG/L	<	0.001		0.001	-
VANADIUM	04/01/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/01/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0718
NORTH COORDINATE: 21673.56 FT
EAST COORDINATE: 25406.28 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/01/93	0001	MG/L	<	0.005	W	0.005	-
	01/09/94	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	04/01/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	04/01/93	0001	MG/L		1.85		0.01	-
	01/09/94	0001			3.28		0.01	-
MANGANESE (TOTAL)	04/01/93	N001	MG/L		1.58		0.01	-
MOLYBDENUM	04/01/93	0001	MG/L		0.13		0.01	-
	01/09/94	0001			0.15		0.01	-
MOLYBDENUM (TOTAL)	04/01/93	N001	MG/L		0.12		0.01	-
NICKEL	04/01/93	0001	MG/L		0.04		0.04	-
	01/09/94	0001			0.06		0.04	-
NICKEL (TOTAL)	04/01/93	N001	MG/L		0.04		0.04	-
SULFATE	04/01/93	0001	MG/L		1830		1	-
	01/09/94	0001			2480		1	-
URANIUM	04/01/93	0001	MG/L		0.202		0.001	-
	01/09/94	0001			0.328		0.001	-
URANIUM (TOTAL)	04/01/93	N001	MG/L		0.195		0.001	-
VANADIUM	04/01/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/01/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0719
NORTH COORDINATE: 21629.47 FT
EAST COORDINATE: 25392.14 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/01/93	0001	MG/L	<	0.005	LW	0.005	-
	01/09/94	0001		<	0.005	L	0.005	-
ARSENIC (TOTAL)	04/01/93	N001	MG/L	<	0.005	L	0.005	-
MANGANESE	04/01/93	0001	MG/L		0.13	L	0.01	-
	01/09/94	0001			0.22	L	0.01	-
MANGANESE (TOTAL)	04/01/93	N001	MG/L		0.24	L	0.01	-
MOLYBDENUM	04/01/93	0001	MG/L		0.04	L	0.01	-
	01/09/94	0001			0.02	L	0.01	-
MOLYBDENUM (TOTAL)	04/01/93	N001	MG/L		0.03	L	0.01	-
NICKEL	04/01/93	0001	MG/L	<	0.04	L	0.04	-
	01/09/94	0001		<	0.04	L	0.04	-
NICKEL (TOTAL)	04/01/93	N001	MG/L	<	0.04	L	0.04	-
SULFATE	04/01/93	0001	MG/L		592	L	1	-
	01/09/94	0001			512	L	1	-
URANIUM	04/01/93	0001	MG/L		0.017	L	0.001	-
	01/09/94	0001			0.003	L	0.001	-
URANIUM (TOTAL)	04/01/93	N001	MG/L		0.012	L	0.001	-
VANADIUM	04/01/93	0001	MG/L	<	0.01	L	0.01	-
	01/09/94	0001		<	0.01	L	0.01	-
VANADIUM (TOTAL)	04/01/93	N001	MG/L		0.02	L	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0720
NORTH COORDINATE: 20729.00 FT
EAST COORDINATE: 23677.37 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/14/93	0001	MG/L	<	0.005		0.005	-
	01/09/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/14/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/14/93	0001	MG/L		0.35		0.01	-
	01/09/94	0001			1.15		0.01	-
MANGANESE (TOTAL)	03/14/93	N001	MG/L		0.32		0.01	-
MOLYBDENUM	02/25/93	0001	MG/L		0.0082		0.0005	-
	03/14/93	0001		<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	02/25/93	N001	MG/L		0.0082		0.0005	-
	03/14/93	N001		<	0.01		0.01	-
NICKEL	03/14/93	0001	MG/L	<	0.04		0.04	-
	01/09/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/14/93	N001	MG/L	<	0.04		0.04	-
SULFATE	02/25/93	0001	MG/L		406		1.0	-
	02/25/93	N001			408		1.0	-
	01/09/94	0001			411		1	-
SULFATE (TOTAL)	03/14/93	N001	MG/L		351		1	-
URANIUM	02/25/93	0001	MG/L		0.0170		0.0002	-
	03/14/93	0001			0.010		0.001	-
	01/09/94	0001			0.008		0.001	-
URANIUM (TOTAL)	02/25/93	N001	MG/L		0.0176		0.0002	-
	03/14/93	N001			0.009		0.001	-
VANADIUM	03/14/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0721
NORTH COORDINATE: 20739.68 FT
EAST COORDINATE: 23682.91 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/14/93	0001	MG/L	<	0.005		0.005	-
	01/09/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/14/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/14/93	0001	MG/L		0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	03/14/93	N001	MG/L		0.01		0.01	-
MOLYBDENUM	02/25/93	0001	MG/L		0.0025		0.0005	-
	03/14/93	0001		<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	02/25/93	N001	MG/L		0.0032		0.0005	-
	03/14/93	N001		<	0.01		0.01	-
NICKEL	03/14/93	0001	MG/L	<	0.04		0.04	-
	01/09/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/14/93	N001	MG/L	<	0.04		0.04	-
SULFATE	02/25/93	0001	MG/L		230		1.0	-
	02/25/93	N001			255		1.0	-
	01/09/94	0001			274		1	-
SULFATE (TOTAL)	03/14/93	N001	MG/L		287		1	-
URANIUM	02/25/93	0001	MG/L		0.0005		0.0002	-
	03/14/93	0001		<	0.001		0.001	-
	01/09/94	0001		<	0.001		0.001	-
URANIUM (TOTAL)	02/25/93	N001	MG/L		0.0013		0.0002	-
	03/14/93	N001		<	0.001		0.001	-
VANADIUM	03/14/93	0001	MG/L	<	0.01		0.01	-
	01/09/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0722
NORTH COORDINATE: 22246.56 FT
EAST COORDINATE: 26603.32 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/16/93	0001	MG/L	<	0.005		0.005	-
	01/10/94	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	03/16/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/16/93	0001	MG/L		2.61		0.01	-
	01/10/94	0001			2.71		0.01	-
MANGANESE (TOTAL)	03/16/93	N001	MG/L		2.34		0.01	-
MOLYBDENUM	02/25/93	0001	MG/L		0.1440		0.0005	-
	03/16/93	0001			0.14		0.01	-
	01/10/94	0001			0.11		0.01	-
MOLYBDENUM (TOTAL)	02/25/93	N001	MG/L		0.1390		0.0005	-
	03/16/93	N001			0.12		0.01	-
NICKEL	03/16/93	0001	MG/L	<	0.04		0.04	-
	01/10/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/16/93	N001	MG/L		0.06		0.04	-
SULFATE	02/25/93	0001	MG/L		1800		1.0	-
	02/25/93	N001			1780		1.0	-
	03/16/93	0001			1750		1	-
	01/10/94	0001			1720		1	-
URANIUM	02/25/93	0001	MG/L		1.5400		0.0002	-
	03/16/93	0001			1.39		0.001	-
	01/10/94	0001			1.57		0.001	-
URANIUM (TOTAL)	02/25/93	N001	MG/L		1.5700		0.0002	-
VANADIUM	03/16/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/16/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0723
NORTH COORDINATE: 22254.32 FT
EAST COORDINATE: 26616.55 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/16/93	0001	MG/L	<	0.005		0.005	-
	01/10/94	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	03/16/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/16/93	0001	MG/L		0.91		0.01	-
	01/10/94	0001			0.72		0.01	-
MANGANESE (TOTAL)	03/16/93	N001	MG/L		0.87		0.01	-
MOLYBDENUM	02/25/93	0001	MG/L		0.0035		0.0005	-
	03/16/93	0001		<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	02/25/93	N001	MG/L		0.0023		0.0005	-
	03/16/93	N001		<	0.01		0.01	-
NICKEL	03/16/93	0001	MG/L	<	0.04		0.04	-
	01/10/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/16/93	N001	MG/L	<	0.04		0.04	-
SULFATE	02/25/93	0001	MG/L		2060		1.0	-
	02/25/93	N001			2070		1.0	-
	03/16/93	0001			1860		1	-
	01/10/94	0001			1740		1	-
URANIUM	02/25/93	0001	MG/L		0.0310		0.0002	-
	03/16/93	0001			0.008		0.001	-
	01/10/94	0001		<	0.001		0.001	-
URANIUM (TOTAL)	02/25/93	N001	MG/L		0.0164		0.0002	-
	03/16/93	N001			0.012		0.001	-
VANADIUM	03/16/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/16/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0724
NORTH COORDINATE: 24896.73 FT
EAST COORDINATE: 26260.41 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/02/93	0001	MG/L	<	0.005	W	0.005	-
	01/08/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	04/02/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	04/02/93	0001	MG/L		0.04		0.01	-
	01/08/94	0001			0.07		0.01	-
MANGANESE (TOTAL)	04/02/93	N001	MG/L		0.03		0.01	-
MOLYBDENUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-
NICKEL	04/02/93	0001	MG/L	<	0.04		0.04	-
	01/08/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	04/02/93	N001	MG/L	<	0.04		0.04	-
SULFATE	04/02/93	0001	MG/L		214		1	-
	01/08/94	0001			225		1	-
URANIUM	04/02/93	0001	MG/L		0.031		0.001	-
	01/08/94	0001			0.028		0.001	-
URANIUM (TOTAL)	04/02/93	N001	MG/L		0.028		0.001	-
VANADIUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0725
NORTH COORDINATE: 24896.73 FT
EAST COORDINATE: 26260.41 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/14/93	0001	MG/L	<	0.005		0.005	-
	01/08/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/14/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/14/93	0001	MG/L		0.06		0.01	-
	01/08/94	0001			0.06		0.01	-
MANGANESE (TOTAL)	03/14/93	N001	MG/L		0.06		0.01	-
MOLYBDENUM	03/14/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
NICKEL	03/14/93	0001	MG/L	<	0.04		0.04	-
	01/08/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/14/93	N001	MG/L	<	0.04		0.04	-
SULFATE	01/08/94	0001	MG/L		1940		1	-
SULFATE (TOTAL)	03/14/93	N001	MG/L		207		1	-
URANIUM	03/14/93	0001	MG/L		0.008		0.001	-
	01/08/94	0001			0.009		0.001	-
URANIUM (TOTAL)	03/14/93	N001	MG/L		0.008		0.001	-
VANADIUM	03/14/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0726
NORTH COORDINATE: 24904.00 FT
EAST COORDINATE: 26251.00 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SANDSTONE (SS)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/19/93	0001	MG/L	<	0.005	W	0.005	-
	01/10/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	04/02/93	N001	MG/L		0.017	L	0.005	-
	04/19/93	N001		<	0.005		0.005	-
	04/19/93	N002		<	0.005		0.005	-
MANGANESE	04/19/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	04/02/93	N001	MG/L		0.37	L	0.01	-
	04/19/93	N001			0.03		0.01	-
	04/19/93	N002			0.02		0.01	-
MOLYBDENUM	04/19/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	04/02/93	N001	MG/L		0.03	L	0.01	-
	04/19/93	N001		<	0.01		0.01	-
	04/19/93	N002		<	0.01		0.01	-
NICKEL	04/19/93	0001	MG/L	<	0.04		0.04	-
	01/10/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	04/02/93	N001	MG/L		0.06	L	0.04	-
	04/19/93	N001		<	0.04		0.04	-
	04/19/93	N002		<	0.04		0.04	-
SULFATE	04/19/93	0001	MG/L		169		1	-
	01/10/94	0001			159		1	-
SULFATE (TOTAL)	04/02/93	N001	MG/L		225	L	1	-
	04/19/93	N002			162		1	-
URANIUM	04/19/93	0001	MG/L		0.001		0.001	-
	01/10/94	0001		<	0.001		0.001	-
URANIUM (TOTAL)	04/02/93	N001	MG/L		0.008	L	0.001	-
	04/19/93	N001		<	0.001		0.001	-
	04/19/93	N002		<	0.001		0.001	-
VANADIUM	04/19/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/02/93	N001	MG/L		0.07	L	0.01	-
	04/19/93	N001			0.02	*	0.01	-
	04/19/93	N002		<	0.01	*	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0727
NORTH COORDINATE: 24893.70 FT
EAST COORDINATE: 23811.24 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/31/93	0001	MG/L	<	0.005	W	0.005	-
	01/08/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	03/31/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	03/31/93	0001	MG/L		0.02		0.01	-
	01/08/94	0001			0.02		0.01	-
MANGANESE (TOTAL)	03/31/93	N001	MG/L		0.01		0.01	-
MOLYBDENUM	03/31/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/31/93	N001	MG/L	<	0.01		0.01	-
NICKEL	03/31/93	0001	MG/L	<	0.04		0.04	-
	01/08/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/31/93	N001	MG/L	<	0.04		0.04	-
SULFATE	03/31/93	0001	MG/L		170		1	-
	01/08/94	0001			141		1	-
URANIUM	03/31/93	0001	MG/L		0.002		0.001	-
	01/08/94	0001			0.001		0.001	-
URANIUM (TOTAL)	03/31/93	N001	MG/L		0.002		0.001	-
VANADIUM	03/31/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/31/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0728
NORTH COORDINATE: 24893.74 FT
EAST COORDINATE: 24934.93 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	03/31/93	0001	MG/L	<	0.005	W	0.005	-
	01/08/94	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	03/31/93	N001	MG/L	<	0.005	W	0.005	-
MANGANESE	03/31/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	03/31/93	N001	MG/L	<	0.01		0.01	-
MOLYBDENUM	03/31/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/31/93	N001	MG/L	<	0.01		0.01	-
NICKEL	03/31/93	0001	MG/L	<	0.04		0.04	-
	01/08/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	03/31/93	N001	MG/L	<	0.04		0.04	-
SULFATE	03/31/93	0001	MG/L		106		1	-
	01/08/94	0001			97		1	-
URANIUM	03/31/93	0001	MG/L		0.015		0.001	-
	01/08/94	0001			0.014		0.001	-
URANIUM (TOTAL)	03/31/93	N001	MG/L		0.015		0.001	-
VANADIUM	03/31/93	0001	MG/L	<	0.01		0.01	-
	01/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	03/31/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0729
NORTH COORDINATE: 23228.03 FT
EAST COORDINATE: 28349.91 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SURFICIAL (SF)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/02/93	0001	MG/L	<	0.005	W	0.005	-
	01/10/94	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	04/02/93	N001	MG/L	<	0.005	W	0.005	-
MANGANESE	04/02/93	0001	MG/L		0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	04/02/93	N001	MG/L		0.01		0.01	-
MOLYBDENUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-
NICKEL	04/02/93	0001	MG/L	<	0.04		0.04	-
	01/10/94	0001		<	0.04		0.04	-
NICKEL (TOTAL)	04/02/93	N001	MG/L	<	0.04		0.04	-
SULFATE	04/02/93	0001	MG/L		168		1	-
	01/10/94	0001			143		1	-
URANIUM	04/02/93	0001	MG/L		0.015		0.001	-
	01/10/94	0001			0.018		0.001	-
URANIUM (TOTAL)	04/02/93	N001	MG/L		0.013		0.001	-
VANADIUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0730
NORTH COORDINATE: 23222.16 FT
EAST COORDINATE: 28339.43 FT
06/12/81 TO 01/10/94
REPORT DATE: 09/07/94

FORMATION OF COMPLETION: SEMICONFINED SANDSTONE (SE)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	04/02/93	0001	MG/L	<	0.005	W	0.005	-
	01/10/94	0001		<	0.005		0.005	-
	01/10/94	0002		<	0.005		0.005	-
ARSENIC (TOTAL)	04/02/93	N001	MG/L	<	0.005		0.005	-
MANGANESE	04/02/93	0001	MG/L		0.05		0.01	-
	01/10/94	0001			0.11		0.01	-
	01/10/94	0002			0.11		0.01	-
MANGANESE (TOTAL)	04/02/93	N001	MG/L		0.04		0.01	-
MOLYBDENUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
	01/10/94	0002		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-
NICKEL	04/02/93	0001	MG/L	<	0.04		0.04	-
	01/10/94	0001		<	0.04		0.04	-
	01/10/94	0002		<	0.04		0.04	-
NICKEL (TOTAL)	04/02/93	N001	MG/L	<	0.04		0.04	-
SULFATE	04/02/93	0001	MG/L		400		1	-
	01/10/94	0001			364		1	-
	01/10/94	0002			371		1	-
URANIUM	04/02/93	0001	MG/L		0.001		0.001	-
	01/10/94	0001		<	0.001		0.001	-
	01/10/94	0002		<	0.001		0.001	-
URANIUM (TOTAL)	04/02/93	N001	MG/L		0.001		0.001	-
VANADIUM	04/02/93	0001	MG/L	<	0.01		0.01	-
	01/10/94	0001		<	0.01		0.01	-
	01/10/94	0002		<	0.01		0.01	-
VANADIUM (TOTAL)	04/02/93	N001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

APPENDIX C

SURFACE WATER AND SEDIMENT ANALYTICAL RESULTS

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0741 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/08/93	N001	MG/L		46.3		1.0	-
	06/08/93	N003			69.8		1.0	-
IRON (TOTAL)	06/08/93	N001	MG/L		0.43		0.03	-
	06/08/93	N003			0.46		0.03	-
LEAD (TOTAL)	06/08/93	N001	MG/L	<	0.003		0.003	-
	06/08/93	N003		<	0.003		0.003	-
MAGNESIUM (TOTAL)	06/08/93	N001	MG/L		13.1		0.1	-
	06/08/93	N003			20.1		0.1	-
MANGANESE (TOTAL)	06/08/93	N001	MG/L		0.05		0.01	-
	06/08/93	N003			0.05		0.01	-
MOLYBDENUM (TOTAL)	06/08/93	N001	MG/L		0.02		0.01	-
	06/08/93	N003		<	0.01		0.01	-
URANIUM (TOTAL)	06/08/93	N001	MG/L		0.006		0.001	-
	06/08/93	N003			0.006		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0742 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/08/93	N001	MG/L		40.7		1.0	-
IRON (TOTAL)	06/08/93	N001	MG/L		1.41		0.03	-
LEAD (TOTAL)	06/08/93	N001	MG/L		0.004		0.003	-
MAGNESIUM (TOTAL)	06/08/93	N001	MG/L		14.1		0.1	-
MANGANESE (TOTAL)	06/08/93	N001	MG/L		0.12		0.01	-
MOLYBDENUM (TOTAL)	06/08/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/08/93	N001	MG/L		0.025		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0743 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		160.		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		0.24		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L	<	0.003		0.003	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		38.1		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.12		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L		0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.013		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0744 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		58.1		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		0.13		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L	<	0.003		0.003	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		13.5		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.02		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.016		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0745 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		81.0		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		0.36		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L	<	0.003		0.003	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		21.9		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.05		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.008		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0746 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		107.		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		0.09		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L	<	0.001		0.001	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		39.4		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.06		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.008		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0794
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		40.9		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		1.95		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L		0.004		0.001	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		13.8		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.09		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.002		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0796
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	06/09/93	N001	MG/L		42.1		1.0	-
IRON (TOTAL)	06/09/93	N001	MG/L		3.12		0.03	-
LEAD (TOTAL)	06/09/93	N001	MG/L		0.004		0.001	-
MAGNESIUM (TOTAL)	06/09/93	N001	MG/L		14.2		0.1	-
MANGANESE (TOTAL)	06/09/93	N001	MG/L		0.14		0.01	-
MOLYBDENUM (TOTAL)	06/09/93	N001	MG/L	<	0.01		0.01	-
URANIUM (TOTAL)	06/09/93	N001	MG/L		0.002		0.001	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0999
NORTH COORDINATE:11111111.11 FT
EAST COORDINATE: 11111111.11 FT
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM (TOTAL)	03/14/93	N001	MG/L	<	0.05		0.05	-
	03/14/93	N002		<	0.05		0.05	-
	03/16/93	N003		<	0.05		0.05	-
	04/19/93	N004		<	0.05	J	0.05	-
	04/19/93	N005		<	0.05	J	0.05	-
AMMONIUM (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
ARSENIC (TOTAL)	03/14/93	N001	MG/L	<	0.005		0.005	-
	03/14/93	N002		<	0.005		0.005	-
	03/16/93	N003		<	0.005		0.005	-
	04/19/93	N004		<	0.005		0.005	-
	04/19/93	N005		<	0.005		0.005	-
BARIUM (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
BROMIDE (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
CADMIUM (TOTAL)	03/14/93	N001	MG/L	<	0.001	N	0.001	-
	03/14/93	N002		<	0.001	NW	0.001	-
	03/16/93	N003		<	0.001	W	0.001	-
	04/19/93	N004		<	0.01	IN	0.01	-
	04/19/93	N005		<	0.001	NW	0.001	-
CALCIUM (TOTAL)	03/14/93	N001	MG/L	<	0.5		0.5	-
	03/14/93	N002		<	0.5		0.5	-
	03/16/93	N003		<	0.5		0.5	-
	04/19/93	N004		<	0.5		0.5	-
	04/19/93	N005		<	0.5		0.5	-
	06/08/93	N001		<	0.1		0.1	-
	06/08/93	N002		<	0.1		0.1	-
CHLORIDE (TOTAL)	03/14/93	N001	MG/L	<	0.5		0.5	-
	03/14/93	N002		<	0.5		0.5	-
	03/16/93	N003		<	0.5		0.5	-
	04/19/93	N004		<	0.5		0.5	-
	04/19/93	N005		<	0.5		0.5	-
CHROMIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
	03/14/93	N002		<	0.01		0.01	-
	03/16/93	N003		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0999
NORTH COORDINATE:11111111.11 FT
EAST COORDINATE: 11111111.11 FT
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHROMIUM (TOTAL)	04/19/93	N004	MG/L	<	0.01	*	0.01	-
	04/19/93	N005		<	0.01	*	0.01	-
DISSOLVED ORGANIC CARBON (TOTAL)	03/14/93	N001	MG/L	<	1		1	-
	03/14/93	N002		<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
FLUORIDE (TOTAL)	03/14/93	N001	MG/L		0.84		0.1	-
	03/14/93	N002			0.84		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
GROSS ALPHA (TOTAL)	03/14/93	N001	PCI/L		0.0		1.9	1.0
	03/14/93	N002			0.0		1.9	0.9
	03/16/93	N003			0.0		1.9	1.1
	04/19/93	N004			0.0		1.9	1.1
	04/19/93	N005			0.4		1.8	1.2
GROSS BETA (TOTAL)	03/14/93	N001	PCI/L		0.0		4.2	2.3
	03/14/93	N002			0.0		4.2	2.3
	03/16/93	N003			0.0		4.3	2.4
	04/19/93	N004			0.0		4.1	2.3
	04/19/93	N005			0.0		4.1	2.2
IRON (TOTAL)	03/14/93	N001	MG/L	<	0.03	J	0.03	-
	03/14/93	N002		<	0.03	J	0.03	-
	03/16/93	N003			0.03		0.03	-
	04/19/93	N004		<	0.03	J	0.03	-
	04/19/93	N005		<	0.03	J	0.03	-
	06/08/93	N001			0.70		0.03	-
	06/08/93	N002		<	0.03		0.03	-
LEAD (TOTAL)	03/14/93	N001	MG/L	<	0.003		0.003	-
	03/14/93	N002		<	0.003		0.003	-
	03/16/93	N003		<	0.003		0.003	-
	04/19/93	N004		<	0.003		0.003	-
	04/19/93	N005		<	0.003		0.003	-
	06/08/93	N001		<	0.001		0.001	-
	06/08/93	N002		<	0.003		0.003	-
LEAD-210 (TOTAL)	03/14/93	N001	PCI/L		0.0		3.6	2.1
	03/14/93	N002			0.0		3.6	2.1
	03/16/93	N003			0.5		3.6	2.2
	04/19/93	N004			0.3		3.0	1.8
	04/19/93	N005			0.0		3.0	1.7
MAGNESIUM (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1	J	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
J - ESTIMATED VALUE

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0999
NORTH COORDINATE:11111111.11 FT
EAST COORDINATE: 11111111.11 FT
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM (TOTAL)	04/19/93	N005	MG/L	<	0.1	J	0.1	-
	06/08/93	N001		<	0.1		0.1	-
	06/08/93	N002		<	0.1		0.1	-
MANGANESE (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
	03/14/93	N002		<	0.01		0.01	-
	03/16/93	N003		<	0.01		0.01	-
	04/19/93	N004		<	0.01		0.01	-
	04/19/93	N005		<	0.01		0.01	-
	06/08/93	N001		<	0.01		0.01	-
	06/08/93	N002		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
	03/14/93	N002		<	0.01		0.01	-
	03/16/93	N003		<	0.01		0.01	-
	04/19/93	N004		<	0.01		0.01	-
	04/19/93	N005		<	0.01		0.01	-
	06/08/93	N001		<	0.01		0.01	-
	06/08/93	N002		<	0.01		0.01	-
NICKEL (TOTAL)	03/14/93	N001	MG/L	<	0.04		0.04	-
	03/14/93	N002		<	0.04		0.04	-
	03/16/93	N003		<	0.04		0.04	-
	04/19/93	N004		<	0.04		0.04	-
	04/19/93	N005		<	0.04		0.04	-
NITRATE (TOTAL)	03/14/93	N001	MG/L	<	1		1	-
	03/14/93	N002		<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
PHOSPHATE (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
POLONIUM-210 (TOTAL)	03/14/93	N001	PCI/L		0.0		0.9	0.4
	03/14/93	N002			0.0		0.9	0.5
	03/16/93	N003			0.0		0.9	0.5
	04/19/93	N004			1.8		0.9	0.9
	04/19/93	N005			1.2		0.9	0.8
POTASSIUM (TOTAL)	03/14/93	N001	MG/L	<	0.1		0.1	-
	03/14/93	N002		<	0.1		0.1	-
	03/16/93	N003		<	0.1		0.1	-
	04/19/93	N004		<	0.1		0.1	-
	04/19/93	N005		<	0.1		0.1	-
RADIUM-226 (TOTAL)	03/14/93	N001	PCI/L		0.4		0.4	0.3
	03/14/93	N002			0.2		0.4	0.3
	03/16/93	N003			0.0		0.4	0.2

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0999
NORTH COORDINATE:11111111.11 FT
EAST COORDINATE: 11111111.11 FT
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 (TOTAL)	04/19/93	N004	PCI/L		0.0		0.8	0.5
	04/19/93	N005			0.0		0.8	0.4
RADIUM-228 (TOTAL)	03/14/93	N001	PCI/L		5.7		3.3	2.4
	03/14/93	N002			5.4		3.3	2.4
	03/16/93	N003			1.2		3.3	2.1
	04/19/93	N004			0.2		2.9	1.7
	04/19/93	N005			0.7		2.9	1.8
RADON 222	03/16/93	N003	PCI/L		6		-	-
SELENIUM (TOTAL)	03/14/93	N001	MG/L	<	0.005		0.005	-
	03/14/93	N002		<	0.005		0.005	-
	03/16/93	N003		<	0.005		0.005	-
	04/19/93	N004		<	0.005		0.005	-
	04/19/93	N005		<	0.005		0.005	-
SILICA - SIO2 (TOTAL)	03/14/93	N001	MG/L	<	0.5		0.5	-
	03/14/93	N002		<	0.5		0.5	-
	03/16/93	N003		<	0.5		0.5	-
	04/19/93	N004		<	0.5	H	0.5	-
	04/19/93	N005		<	0.5	H	0.5	-
SODIUM (TOTAL)	03/14/93	N001	MG/L	<	1		1	-
	03/14/93	N002		<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
STRONTIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
	03/14/93	N002		<	0.01		0.01	-
	03/16/93	N003		<	0.01		0.01	-
	04/19/93	N004		<	0.01		0.01	-
	04/19/93	N005		<	0.01		0.01	-
SULFATE (TOTAL)	03/14/93	N001	MG/L	<	1		1	-
	03/14/93	N002		<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
THORIUM-230 (TOTAL)	03/14/93	N001	PCI/L		2.2		0.8	1.1
	03/14/93	N002			1.4		0.7	1.0
	03/16/93	N003			1.4		0.6	0.9
	04/19/93	N004			0.8		0.7	0.6
	04/19/93	N005			0.1		0.5	0.2
TOTAL DISSOLVED SOLIDS (TOTAL)	03/14/93	N001	MG/L	<	10		10	-
	03/14/93	N002		<	10		10	-
	03/16/93	N003		<	10		10	-
	04/19/93	N004		<	10		10	-
	04/19/93	N005		<	10		10	-
TOTAL KJELDAHL NITROGEN (TOTAL)	03/14/93	N001	MG/L	<	1		1	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0999
NORTH COORDINATE:11111111.11 FT
EAST COORDINATE: 11111111.11 FT
03/14/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL KJELDAHL NITROGEN (TOTAL)	03/14/93	N002	MG/L	<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
TOTAL ORGANIC CARBON	03/14/93	N001	MG/L	<	1		1	-
	03/14/93	N002		<	1		1	-
	03/16/93	N003		<	1		1	-
	04/19/93	N004		<	1		1	-
	04/19/93	N005		<	1		1	-
URANIUM (TOTAL)	03/14/93	N001	MG/L	<	0.001		0.001	-
	03/14/93	N002		<	0.001		0.001	-
	03/16/93	N003		<	0.001		0.001	-
	04/19/93	N004			0.001		0.001	-
	04/19/93	N005		<	0.001		0.001	-
	06/08/93	N001		<	0.001		0.001	-
	06/08/93	N002		<	0.001		0.001	-
VANADIUM (TOTAL)	03/14/93	N001	MG/L	<	0.01		0.01	-
	03/14/93	N002		<	0.01		0.01	-
	03/16/93	N003		<	0.01		0.01	-
	04/19/93	N004		<	0.01	*	0.01	-
	04/19/93	N005		<	0.01	*	0.01	-
ZINC (TOTAL)	03/14/93	N001	MG/L		0.006		0.005	-
	03/14/93	N002		<	0.005		0.005	-
	03/16/93	N003			0.031		0.005	-
	04/19/93	N004		<	0.005	J	0.005	-
	04/19/93	N005			0.007	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
J - ESTIMATED VALUE

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE
N005 - UNFILTERED REPLICATE SAMPLE

DATA FILE NAME: M:\DART\RVT01\SWQ10003.DAT

	Project		<- Working ->		<- Trend Baseline ->			<----------Resources---------->					
Work Package	Orig	Rem								Hours		Doll	
(ID)	Dur	Dur	Start	Finish	Start	Finish	Var	Code	Desc.	todt	atcmp	todat	a
S350202-01-T-505 :TAC RESOLVE NRC GEOMORPHIC COMMENTS													
(350201505)	35	25	31MAY94A	01AUG94	31MAY94	15JUL94	-17	ENG	ENGINEERING/	0	150	0	
S350200-01-T-670E:TAC PREP. FLTSP - CAN													
(350201670E)	23	23	05OCT94	04NOV94	28SEP93	28OCT93	-372	ENG	ENGINEERING/	0	13	7	
								ENV	ENVIRONMENTA	1	53	32	
								HYD	HYDROLOGICAL	0	18	12	
S350200-01-T-674 :TAC PREP SITE FILE/READINESS REVIEW-BUR (DELETED)													
(350201674)	29	0	24JAN94A	28AUG94A	22JUN93	30JUL93	-394	ENG	ENGINEERING/	0	0	25	
								ENV	ENVIRONMENTA	1	0	54	
								HYD	HYDROLOGICAL	0	0	14	
S350200-01-T-674C:TAC PREP SITE FILE/READINESS REVIEW-CAN													
(350201674C)	66	66	05OCT94	04JAN95	28SEP93	28DEC93	-372	ENG	ENGINEERING/	0	19	3	
								ENV	ENVIRONMENTA	0	39	6	
								HYD	HYDROLOGICAL	0	10	2	
S350203-01-T-675 :TAC PREPARE & DELIVER PRELIM SITE FILE													
(350201675)	44	25	01AUG94	30SEP94	01AUG94	30SEP94	0	ENV	ENVIRONMENTA	0	80	0	
S350201-01-T-675A:TAC PREPARE & DELIVER FINAL SITE FILE													
(350201675A)	33	33	01NOV94	15DEC94	01NOV94	15DEC94	0	ENG	ENGINEERING/	0	20	0	
S350202-01-T-675A:TAC PREPARE & DELIVER FINAL SITE FILE													
(350201675A)	33	33	01NOV94	15DEC94	01NOV94	15DEC94	0	HYD	HYDROLOGICAL	0	12	0	
S350203-01-T-675A:TAC PREPARE & DELIVER FINAL SITE FILE													
(350201675A)	33	33	01NOV94	15DEC94	01NOV94	15DEC94	0	ENG	ENGINEERING/	0	40	0	

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0741 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/08/93	0002	-			%		27.0		0.1	-
	06/08/93	0004	-					80.0		0.1	-
IRON	06/08/93	0002	-			MG/KG		10500.		0.3	-
	06/08/93	0004	-					2960.		0.3	-
LEAD	06/08/93	0002	-			MG/KG		10.7		0.3	-
	06/08/93	0004	-					3.6		0.3	-
MANGANESE	06/08/93	0002	-			MG/KG		455.		1.	-
	06/08/93	0004	-					180.		1.	-
MOLYBDENUM	06/08/93	0002	-			MG/KG		11.		1.	-
	06/08/93	0004	-				<	1.		1.	-
URANIUM (TOTAL)	06/08/93	0002	-			MG/KG		7.62		0.001	-
	06/08/93	0004	-					1.94		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0742 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/08/93	0002	-			%		24.9		0.1	-
IRON	06/08/93	0002	-			MG/KG		21200.		0.3	-
LEAD	06/08/93	0002	-			MG/KG		13.6		0.3	-
MANGANESE	06/08/93	0002	-			MG/KG		618.		1.	-
MOLYBDENUM	06/08/93	0002	-			MG/KG	<	4.		1.	-
URANIUM (TOTAL)	06/08/93	0002	-			MG/KG		10.4		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0743 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		44.7		0.1	-
IRON	06/09/93	0002	-			MG/KG		18000.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		21.9		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		235.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG		2.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		5.04		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0744 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		73.3		0.1	-
IRON	06/09/93	0002	-			MG/KG		12200.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		6.0		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		187.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG	<	1.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		5.50		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0745 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		70.1		0.1	-
IRON	06/09/93	0002	-			MG/KG		3150.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		4.8		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		54.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG		1.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		1.66		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0746 RESERVED FOR CDAY
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		22.0		0.1	-
IRON	06/09/93	0002	-			MG/KG		11000.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		67.7		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		314.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG		9.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		11.3		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0794
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		75.6		0.1	-
IRON	06/09/93	0002	-			MG/KG		5860.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		4.5		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		167.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG	<	1.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		2.03		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SITE: RVT01 RIVERTON
LOCATION: 0796
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/08/93 TO 06/09/93
REPORT DATE: 09/06/94

PARAMETER NAME	LOG DATE	SAMP ID	DEPTH RANGE (FT)	DIG. CODE	SAMP DESC	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERT.
% SOLIDS	06/09/93	0002	-			%		74.1		0.1	-
IRON	06/09/93	0002	-			MG/KG		8530.		0.3	-
LEAD	06/09/93	0002	-			MG/KG		3.9		0.3	-
MANGANESE	06/09/93	0002	-			MG/KG		214.		1.	-
MOLYBDENUM	06/09/93	0002	-			MG/KG		4.		1.	-
URANIUM (TOTAL)	06/09/93	0002	-			MG/KG		2.32		0.001	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

DATA FILE NAME: M:\DART\RVT01\SCI10000.DAT