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SITE OBSERVATIONAL WORK PLAN FOR THE UMTRA PROJECT SITE AT MONUMENT VALLEY, ARIZONA

September 1995

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SITE OBSERVATIONAL WORK PLAN FOR THE UMTRA PROJECT SITE AT MONUMENT VALLEY, ARIZONA

September 1995

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

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EXECUTIVE SUMMARY

The site observational work plan (SOWP) for the Monument Valley, Arizona, U.S. Department of Energy (DOE) Uranium Mill Tailings Remedial Action (UMTRA) Project site is one of the first site-specific documents developed to achieve ground water compliance at the site. This SOWP applies information about the Monument Valley site to a regulatory compliance framework that identifies strategies that could be used to meet ground water compliance. The compliance framework was developed in the UMTRA Ground Water programmatic environmental impact statement (DOE, 1995).

The DOE's goal is to implement a cost-effective site strategy that complies with the U.S. Environmental Protection Agency (EPA) ground water standards and protects human health and the environment. The compliance strategy that emerges in the final version of the SOWP will assess potential environmental impacts and provide stakeholders a forum for review and comment. When the compliance strategy is acceptable, it will be detailed in a remedial action plan that will be subject to review by the state and/or tribe and concurrence by the U.S. Nuclear Regulatory Commission (NRC).

Information available for the preparation of this SOWP indicates active remediation is the most likely compliance strategy for the Monument Valley site. Additional data are needed to determine the most effective remediation technology. These data will help define the horizontal and vertical extent of ground water contamination, characterize aquifer properties, and define biological and geochemical process in the aquifer. These data then will be used to determine the effectiveness of the currently identified compliance strategy and the feasibility of remediation technology.

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LIST OF ACRONYMS

Acronym	Definition
ACL	alternate concentration limit
ASTM	American Society for Testing and Materials
BIA	Bureau of Indian Affairs
DCO	data collection objective
DOE	U.S. Department of Energy
DQOs	data quality objectives
EA	environmental assessment
EDR	electrodialysis reversal
EPA	U.S. Environmental Protection Agency
GWPP	Ground Water Project Plan
MCL	maximum concentration limit
MDL	method detection limit
NRC	U.S. Nuclear Regulatory Commission
NEPA	National Environmental Policy Act
PEIS	programmatic environmental impact statement
QAIP	Quality Assurance Implementation Plan
RAP	remedial action plan
RRM	residual radioactive material
SOP	standard operating procedure
SPEAR	Software Program for Environmental Analysis and Reporting
SOWP	site observational work plan
TAGR	*Technical Approach to Ground Water Restoration*
TDS	total dissolved solids
UMTRA	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act

1.0 PURPOSE AND CONTENT

The Monument Valley, Arizona, site observational work plan (SOWP) will be used to develop an approach for achieving compliance with the U.S. Environmental Protection Agency (EPA) ground water standards (40 CFR Part 192; 60 FR 2854). The purpose of this SOWP is to document the observational approach, to recommend additional data collection efforts, and to assist in selecting an appropriate proposed ground water compliance strategy.

A SOWP summarizes site conditions, presents a site conceptual model based on existing characterization data, identifies the most likely site-specific compliance strategy, and defines data collection activities to address uncertainties. A site conceptual model describes the source of contaminants of potential concern and defines current site conditions and potential environmental and human health risks. This SOWP identifies data gaps in the site conceptual model and presents defensible data collection objectives (DCO) and appropriate data quality objectives (DQOs) for conducting additional fieldwork. This SOWP will be reviewed to incorporate the results of suggested data collection efforts.

Section 2.0 describes the regulatory framework that guides the selection of a ground water compliance strategy for Uranium Mill Tailings Remedial Action (UMTRA) Project sites. Section 3.0 defines the current conditions at the Monument Valley site and presents the site conceptual model, which includes potential environmental and human health risks, that supports the ground water compliance strategy proposed at this time. Section 4.0 provides the decision-making framework used to arrive at the proposed ground water compliance strategy. Section 5.0 presents additional data collections and activities needed to refine the site conceptual model and to select remediation technology.

The Monument Valley SOWP is a multi-year process of sequenced document preparation and field collection activities. Three versions will be prepared: Revision 0 (initial submittal), Revision 1, and Revision 2 (final revision).

The initial SOWP includes all previous information about the site, proposes a compliance strategy, describes additional data to be collected and how this data will assist in refining the most likely compliance strategy, and/or evaluates possible remediation technology. Following stakeholder review and resolution of comments, fieldwork will be conducted to collected additional data.

Revision 1 of this SOWP will include all existing site-related ground water data, evaluate the additional data collected and the DQOs used, address changes in the site conceptual model and the most likely compliance strategy as a result of new information, and summarize the results related to the DCOs. Revision 1 also will propose a pilot field and/or laboratory program for evaluating the effectiveness of the recommended remediation technology. Following stakeholder review and comment resolution of Revision 1, the pilot programs may be implemented.

The final revision (Revision 2) will present the most likely compliance strategy and the recommended remediation technology and will formally document the data collection

activities and applicable modeling results. The final revision will be prepared after review by affected stakeholders and comment resolution.

1.1 GROUND WATER COMPLIANCE STRATEGY

The current ground water compliance strategy for the Monument Valley site is active remediation. This most likely compliance strategy is based on the information presented in the site conceptual model (see Section 3.0). Ground water beneath the Monument Valley site was contaminated by water infiltrating from uranium ore processing activities. The aquifer contains five potential contaminants of concern: ammonium, nitrate, manganese, sulfate, and uranium. An active remediation strategy is proposed to attain the EPA maximum concentration limits (MCL) for the UMTRA Project, alternate concentration limits (ACL), or background ground water concentration levels.

1.2 RELATIONSHIP TO PROGRAMMATIC UMTRA PROJECT GROUND WATER DOCUMENTS

Programmatic documents that provide guidance for the SOWP include the UMTRA Ground Water Project Plan (GWPP), the draft programmatic environmental impact statement (PEIS) (DOE, 1993a) for the UMTRA Ground Water Project (DOE, 1995), and the *Technical Approach to Ground Water Restoration* (TAGR) (DOE, 1993b). The GWPP states the mission, need, and objectives for the UMTRA Ground Water Project and provides an overall technical plan and management approach for conducting the UMTRA Ground Water Project. The draft 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 analyze site-specific environmental impacts more efficiently. The TAGR provides general technical guidance for conducting the UMTRA Ground Water Project.

1.3 RELATIONSHIP TO SITE-SPECIFIC DOCUMENTS

The surface remedial action plan (RAP) provides site characterization information (DOE, 1993c). Updated, this information is used in this SOWP to formulate the site conceptual model. If the ground water compliance strategy for this site requires remedial action, a ground water RAP or surface RAP modification is prepared.

A baseline risk assessment identifies potential public health and environmental risks at the site (DOE, 1994a). This SOWP considers these potential risks and site-specific data interpreted after the risk assessment was completed, ensuring the most likely compliance strategy is protective of human health and the environment.

Finally, a site-specific National Environmental Policy Act (NEPA) document (e.g., an environmental assessment [EA]) will be prepared to determine any potential impacts of implementing this compliance strategy.

2.0 REGULATORY FRAMEWORK

This SOWP recommends a ground water compliance strategy for the Monument Valley site so as to achieve compliance with the EPA ground water standards applicable to Title I UMTRA Project processing sites (40 CFR Part 192; 60 FR 2854). The relationship of the Uranium Mill Tailings Radiation Control Act (UMTRCA), the EPA standards, the cooperative agreements, and the NEPA to the UMTRA Ground Water Project are identified below.

2.1 URANIUM MILL TAILINGS RADIATION CONTROL ACT

The U.S. Congress passed the UMTRCA (42 USC §7901 *et seq.*) in 1978 in response to public concerns about the potential health hazards from exposure to uranium mill tailings. The UMTRCA authorized the U.S. Department of Energy (DOE) to stabilize, dispose of, and control uranium mill tailings and other contaminated materials at uranium mill processing sites.

Three UMTRCA titles apply to uranium processing sites. Title I 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 remedial action to be selected and performed with the concurrence of the U.S. Nuclear Regulatory Commission (NRC) and in consultation with states and Indian tribes; 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. Title III applies to certain uranium mills in New Mexico. The UMTRA Project is responsible for administering only Title I of the UMTRCA.

In 1988, Congress amended the UMTRCA 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.

2.1.1 Environmental Protection Agency ground water standards

The UMTRCA requires the EPA to promulgate standards for protecting human health and the environment from hazardous constituents associated with uranium processing and the resulting residual radioactive materials (RRM). On 5 January 1983, the EPA published standards (40 CFR Part 192) for RRM disposal and cleanup. The standards were revised and a final rule was published on 11 January 1995 (60 FR 2854).

The standards address two ground water contamination scenarios. The first addresses future ground water contamination that may occur from tailings piles after disposal cell construction; the second addresses the cleanup of contamination that occurred before disposal of the tailings piles (60 FR 2854). The UMTRA Surface Project addresses future protection of the ground water at the disposal sites with the design of disposal cells and long-term surveillance plans. The UMTRA Ground Water Project addresses the residual contamination

that occurred at the processing sites before the surface remedial action was completed and is regulated by Subparts B and C of the EPA standards.

Subpart B, "Standards for Cleanup of Land and Buildings Contaminated With Residual Radioactive Materials from Inactive Uranium Processing Sites" (60 FR 2854) requires that remedial action at processing sites is conducted to ensure the amounts of RRM in ground water meet any one of three specified criteria:

- Background level: constituent concentration in the uppermost aquifer that was not affected by processing activities.

- MCL: the EPA's maximum limit for the UMTRA Project for concentrations of certain hazardous constituents in ground water. Table 2.1 gives the MCLs for inorganic constituents that apply to UMTRA Project sites.

- ACL: alternate limit for a hazardous constituent that does not pose a substantial present or potential future hazard to human health or the environment, as long as the limit is not exceeded. An ACL may be applied after considering options to achieve background levels or MCLs.

Under certain specific conditions, the DOE may apply supplemental standards to contaminated ground water in lieu of background levels, MCLs, or ACLs (60 FR 2854). Supplemental standards may be applied if any one of the following conditions is met:

- Remedial action necessary to implement Subpart A or B would pose a significant risk to workers or the public.

- Remedial action to meet the standards would directly produce environmental harm that is clearly excessive, compared to the health benefits of remediation, to persons living on or near the sites, now or in the future.

- The estimated cost of remedial action is unreasonably high relative to the long-term benefits, and the RRM does not pose a clear present or future hazard.

- There is no known remedial action.

- The remediation of ground water quality at any processing site is technically impractical from an engineering standpoint.

- The ground water is classified as limited use ground water. Subpart B of the EPA standards defines limited use ground water as ground water that is not a current or potential source of drinking water because total dissolved solids (TDS) exceed 10,000 milligrams per liter (mg/L); there is widespread ambient contamination that cannot be cleaned up using treatment methods reasonably employed in public water supply systems; or the quantity of

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

Constituent	MCL[b]
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Molybdenum	0.1
Nitrate (as NO_3)	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; 60 FR 2854.
[b]Milligrams per liter (mg/L) unless otherwise noted.
[c]Equivalent to 44 mg/L nitrate as nitrate (NO_3).
[d]Equivalent to 0.044 mg/L, assuming secular equilibrium between uranium -234 and -238.

pCi/L - picocuries per liter.

water available to a well is less than 150 gallons (gal) (570 liters [L]) per day (60 FR 2854). When limited use ground water applies, supplemental standards ensure that current and reasonably projected uses of the ground water are preserved (60 FR 2854).

- Radiation from radionuclides other than radium-226 and its decay products (e.g., thorium-230) is present in sufficient quantity and concentration to constitute a significant radiation hazard from RRM.

Subpart B allows natural flushing as a way of meeting the EPA standards. Natural flushing lets natural processes reduce the ground water contamination to EPA standards (background levels, MCLs, or ACLs), which must be met within 100 years. In addition, ground water must not be a current or projected source of drinking water during the natural flushing period. 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 natural flushing period.

Subpart C, "Implementation," provides guidance for implementing methods and procedures that will reasonably assure the provisions of Subpart B are satisfied. Subpart C requires meeting the conditions of Subpart B on a site-specific basis, using information gathered from site characterization and monitoring. Subpart C also requires that the plan meet the conditions of Subpart B, as stated in the compliance strategy plan or RAP that contains the compliance strategy; a demonstration of effectiveness; and a monitoring program, if required.

2.1.2 Cooperative agreements

The UMTRCA requires that remedial action includes full participation of the affected states and Indian tribes on whose lands the uranium mill tailings are located. The UMTRCA also directs the DOE to enter into cooperative agreements with these states and Indian tribes.

2.2 NATIONAL ENVIRONMENTAL POLICY ACT

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

Pursuant to the NEPA, the DOE drafted an UMTRA Ground Water Project PEIS to analyze the potential impacts of implementing four programmatic alternatives for ground water compliance at the UMTRA Project processing sites (DOE,

1995). The DOE will select the preferred alternative, which will be published in a record of decision. All subsequent Ground Water Project activity must comply with this record of decision.

The environmental impacts from implementing the proposed compliance strategies presented in the final Monument Valley SOWP will be addressed in a site-specific NEPA document that will meet NEPA requirements.

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3.0 SITE CONDITIONS

The Monument Valley site is on the Navajo Reservation in northern Arizona (Figure 3.1). It is accessed by Bureau of Indian Affairs (BIA) Navajo Service Road 6440, approximately 5 miles (mi) (8 kilometers [km]) south of the Arizona-Utah border and 14 mi (22 km) south of the Mexican Hat UMTRA Project disposal site. The Monument Valley site is not actually within Monument Valley, but in a remote area of Cane Valley. The site is the location of a uranium mill that operated from 1955 through 1968 (Figure 3.2).

3.1 SITE BACKGROUND INFORMATION

3.1.1 Data sources

This SOWP includes observations from site visits and review of data and documentation available at the UMTRA Project Document Control Center in Albuquerque, New Mexico Merritt (1971) and provides detailed descriptions of the uranium concentration process, mill byproducts, and process waste streams. Geologic and hydrologic conditions for the area are reported in Whitkind and Thaden (1963), Cooley et al. (1969), Irwin et al. (1971 [USGS Pro Paper 521-C]), and James (1973 [Guidebook]). Site-specific hydrogeologic conditions are described in the engineering assessment (DOE, 1981), the EA (DOE, 1989), the RAP (DOE, 1993c), the baseline risk assessment (DOE, 1994a), and the water sampling and analysis plan (DOE, 1994b).

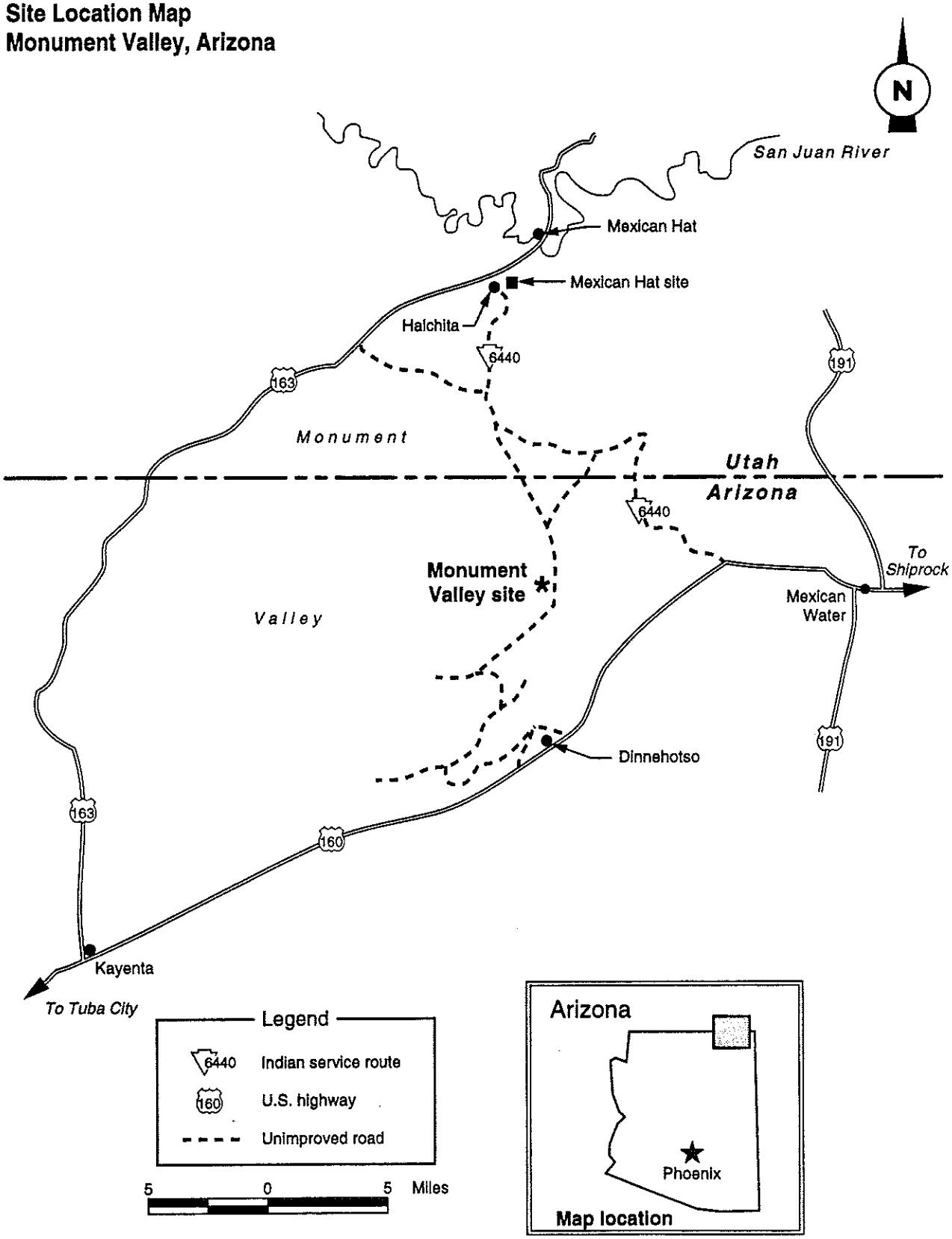
Additional site-specific information was obtained by reviewing and evaluating other geologic and hydrologic reports and by examining monitor well completion reports and ground water chemistry data contained in the DOE's Software Program for Environmental Analysis and Reporting (SPEAR) (DOE, 1993e). The SPEAR data include the results of periodic water quality monitoring at the site from 1980 to 1995.

3.1.2 Site history

Mining in the Monument Valley site vicinity began in 1942 at Monument No. 2 Mine, approximately 1 mi (1.6 km) west of the site (Figure 3.2). Monument No. 2 Mine operated as a strip mine from 1942 through 1949 (Whitkind and Thaden, 1963). Underground and strip mining were conducted from 1949 until the mill closed in 1968.

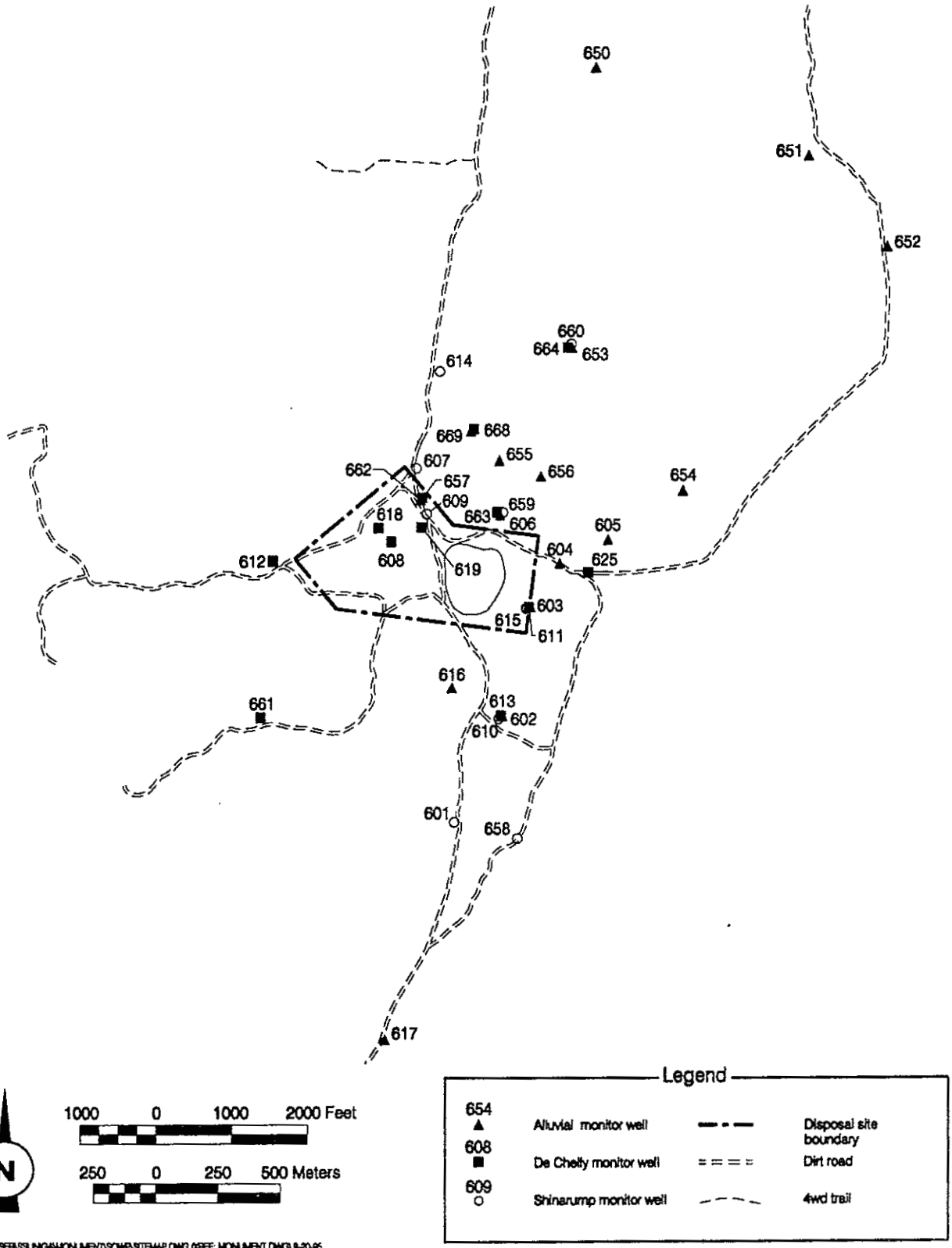
Before 1955, there was no mill at the site and all ore was trucked to uranium mills in Durango and Naturita, Colorado. Mill operations began at the Monument Valley site in 1955. From 1955 through 1964 the mill was a mechanical separator. In this operation, ore was crushed and sorted by grain size. The finer-grained material, which was higher in uranium content, was shipped off-site for chemical concentration to the Durango and Naturita, Colorado, mills (FBDU, 1981). No chemicals were used, other than minor amounts of flocculants. However, large amounts of water were used to separate the

Figure 3.1
Site Location Map
Monument Valley, Arizona



MAC: SITE/MON/SOWP/SITELOC

Figure 3.2
Location of Uranium Mill and Monitor Wells
Monument Valley, Arizona, Site



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fine- and coarse-grained materials. The coarser-grained material remained on the site and was piled in the areas identified as former mill and old tailings (Figure 3.3). The water came from on-site wells in the De Chelly Formation.

Phase II of the mill operation commenced in 1964 after installation of batch leaching equipment. This process continued for approximately 3 years, during which approximately 1,000,000 tons of sandy tailings were processed (925 tons per day). A separate heap leaching operation was used on an additional 100,000 tons of low-grade ore. Both operations required large quantities of chemicals to remove the uranium and vanadium from the former tailings and low-grade ore (Merritt, 1971).

The mill buildings and milling equipment were removed after 1968. Beginning in 1992, the tailings piles, windblown tailings, concrete foundations, and debris were removed from the site and placed in the Mexican Hat UMTRA Project disposal cell. Relocation of these materials was completed in January 1994.

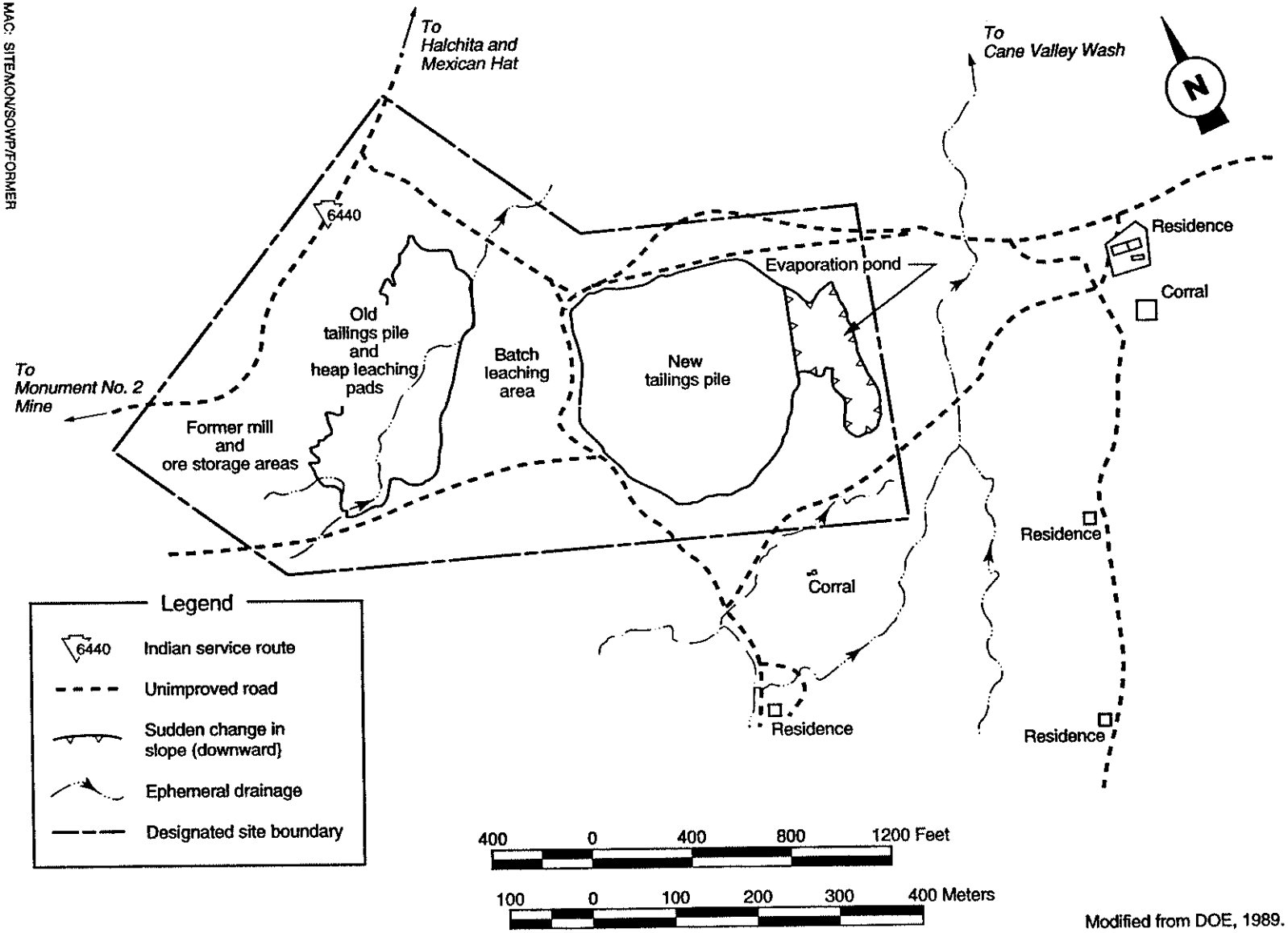
The mill site was leased from the Navajo Nation until 1968, when the mill closed and the lease expired. Control of the site, structures, and materials reverted to the Navajo Nation at that time (DOE, 1989).

3.1.3 Sources of ground water contamination

Some ground water contamination probably occurred during the mechanical processing period (1955 to 1964) as a result of water draining from stockpiles of the finer-grained material and, to a lesser extent, from the sandy tailings that were placed as a slurry. The primary contaminants would have been the relatively soluble components of the ore: uranium, calcium, and sulfate (the source of calcium and sulfate would have been gypsum, which was part of the ore body). Infiltration of the contaminated water would have occurred at the areas designated former mill and old tailings (Figure 3.3). The amount of infiltrated water and concentrations of contaminants is unknown. Section 3.4 presents further information on the chemistry of this possible source of contaminants.

Both the batch and heap leaching operations used sulfuric acid to leach out uranium and molybdenum. The process used to remove the uranium and vanadium from the batch leaching solution is not known, but an ion exchange process probably was used. The ion exchange resin probably was regenerated with a nitrate solution. After the uranium and vanadium were extracted from this regenerant liquid, the remaining spent liquid probably was discharged to the new tailings pile along with the tailings. Merritt (1971) states that the sulfuric acid heap leaching solution was neutralized to pH 4 with ammonia; then lime (calcium oxide) was added to raise the pH to 7 to produce a bulk precipitate, which was trucked to the Shiprock, New Mexico, where the uranium and vanadium were extracted. The spent neutralization solution probably was discharged to the new tailings pile and the heap-leach material was left in place.

Figure 3.3
Former Mill Operating Area, Monument Valley, Arizona, Site



Modified from DOE, 1989.

Thus, process chemicals were an additional source of sulfate, nitrate, calcium, and ammonium.

3.1.4 Quantities of waste water and processing chemicals

Estimates for the quantities of water, sulfuric acid, ammonia, and nitrate used in the 1964 to 1967 period are based on general estimates of chemical usage in uranium mills (Merritt, 1971; HEW, 1962). The HEW report suggests the probable water usage was approximately 850 gal (3218 L) per ton of reprocessed tailings. Chemical usage per ton of ore processed, based on the HEW report, are sulfuric acid, 30 to 500 pounds; ammonia, 1 to 30 pounds; and ammonium nitrate, 15 to 20 pounds. In lieu of ammonium nitrate, nitric acid may have been used for ion exchange regeneration. Due to the lack of specific information on the mill, more precise estimates for chemical and water quantities are unavailable.

The tailings piles, leach areas, and evaporation pond remained on the site until early 1994, when all contaminated surface materials were removed during the UMTRA Surface Project. Therefore, the potential for infiltration of ground water contaminants remained until that time. However, after milling ceased, the potential for contaminant infiltration was somewhat limited by the amount of rainfall and the climate, as discussed in Section 3.3. Section 3.4 provides additional detail on site-specific contaminants.

3.2 GEOLOGY AND HYDROLOGY

3.2.1 Physical setting

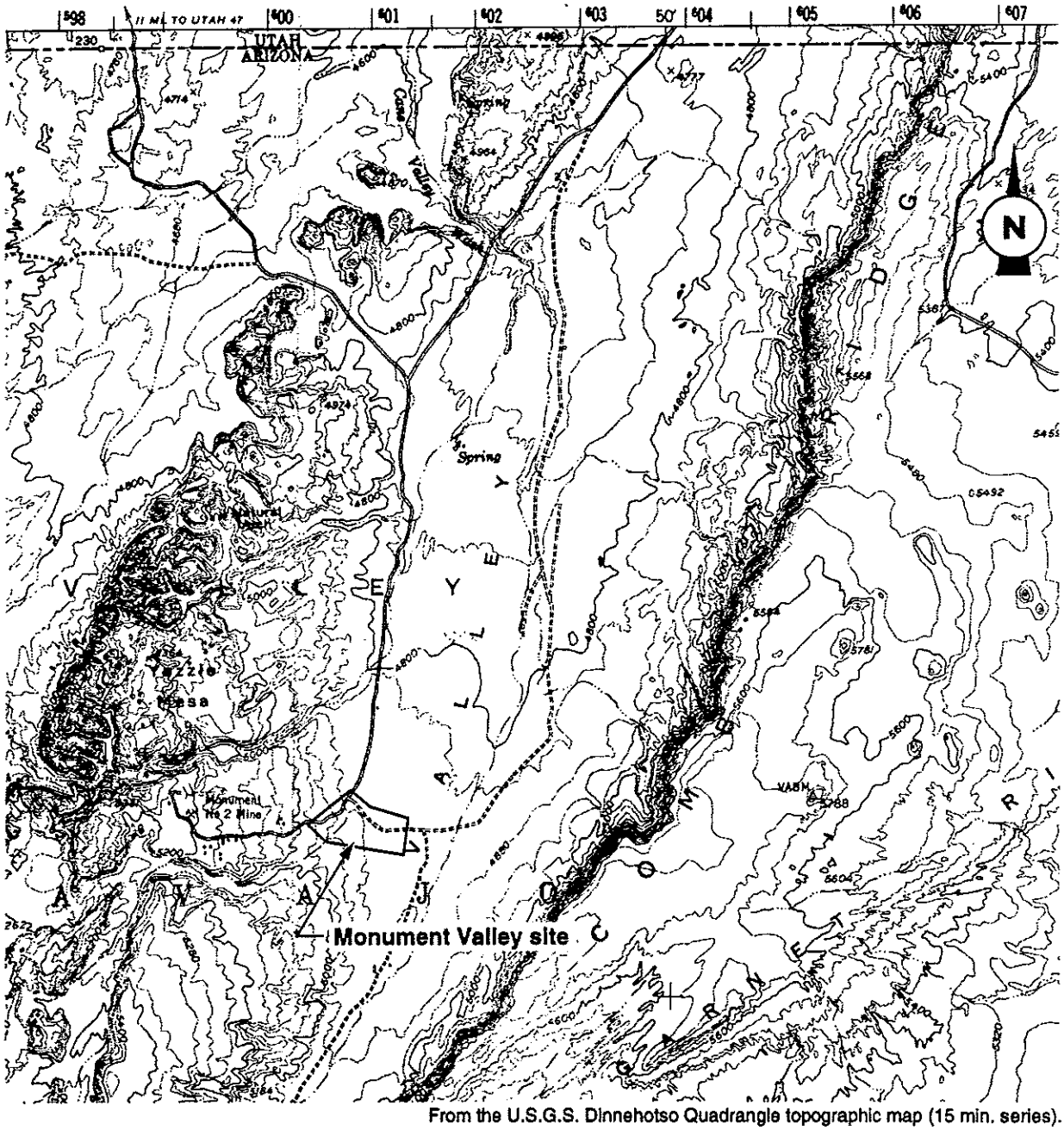
The Monument Valley site is on the west side of Cane Valley, which drains to the north. The valley floor elevation is approximately 4800 feet (ft) (1500 meters [m]) above mean sea level along Cane Valley Wash, east of the tailings pile (Figure 3.4).

The valley is bordered on the east by Comb Ridge (Figure 3.4), a 600-ft (200-m)-high escarpment of Navajo, Kayenta, and Wingate Sandstones. On the west side of the valley (where the tailings were located), the bedrock dips to the east at approximately 5 degrees and rises up to Yazzie Mesa at an elevation of over 5300 ft (1600 m) (Figures 3.4 and 3.5). The valley between these bedrock outcrops is filled with windblown (eolian) sand and water-transported sand, gravel, and rock fragments.

3.2.2 Climate

The site is arid, receiving approximately 8 inches (20 centimeters [cm]) of annual precipitation. Annual snowfall ranges between 10 and 40 inches (25 to 100 cm). The two driest months are generally May and June; most precipitation usually occurs during two time periods: July through August and December through February (Cooley et al., 1969).

Figure 3.4
Physiographic Features in the Vicinity of the Monument Valley, Arizona, Site



From the U.S.G.S. Dinnehotso Quadrangle topographic map (15 min. series).

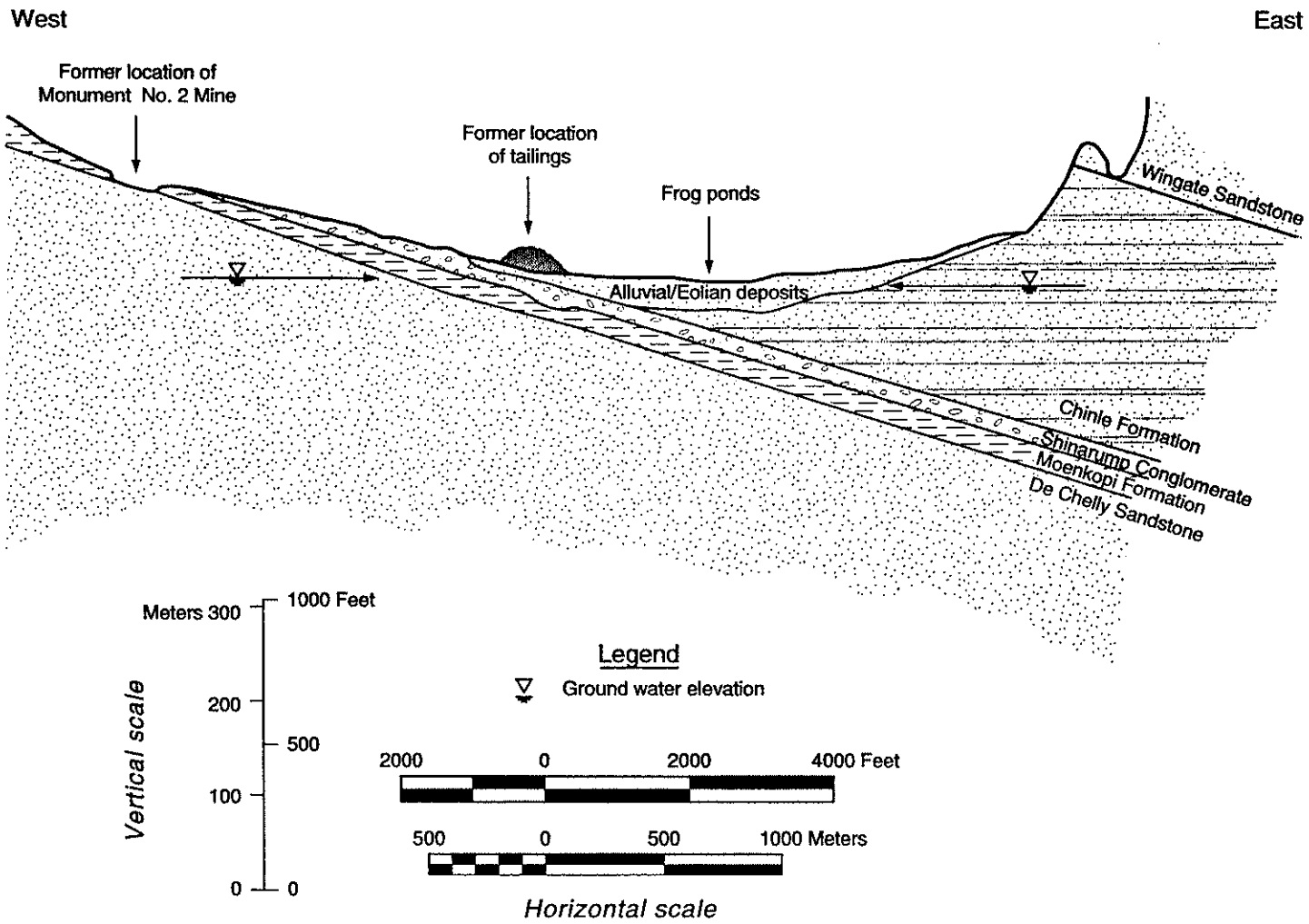
1 0 1 2 3 Miles

1 0 1 2 3 4 5 Kilometers

Legend
Paved road
Unimproved road

MAC: SITE/MON/SOWP/PHYSIO

Figure 3.5
East-West Geologic Cross Section Through the Area of the Monument Valley, Arizona, Site



MAC: SITEMONSOWP/GEOXSEC

Rainfall during the summer (July-August) commonly occurs during high-intensity, short duration storms, which encourage runoff. Precipitation during the winter, however, usually occurs during low-intensity, longer-duration storms (Cooley et al., 1969).

The weather station closest to the Monument Valley site is in Mexican Hat, Utah, approximately 14 mi (22 km) north of the Monument Valley site. DOE (1993c) summarizes climatological data for the Mexican Hat weather station for the period 1951 through 1980, reporting the average annual pan evaporation rate is 84.4 inches (214 cm) at Mexican Hat. Pan evaporation rates exceed precipitation every month except January. The highest rates are from May through August, when pan evaporation exceeds 10 inches (25 cm) per month.

Temperatures show considerable variation within 24-hour periods and across seasons. Winters are cold, with temperatures typically below freezing from November through March. Summers are hot, with highs from 90 degrees Fahrenheit (°F) to the low 100s (32 to 38 degrees Celsius [°C]).

The potential for rainfall infiltration and recharge to the ground water system may be limited in the summer months due to the rainfall patterns, high evaporation rates, and evapotranspiration from plants. However, the rainfall pattern in the winter months, combined with lower evaporation rates and limited evapotranspiration from plants (due to the freezing temperatures), may increase the potential for ground water recharge during these months.

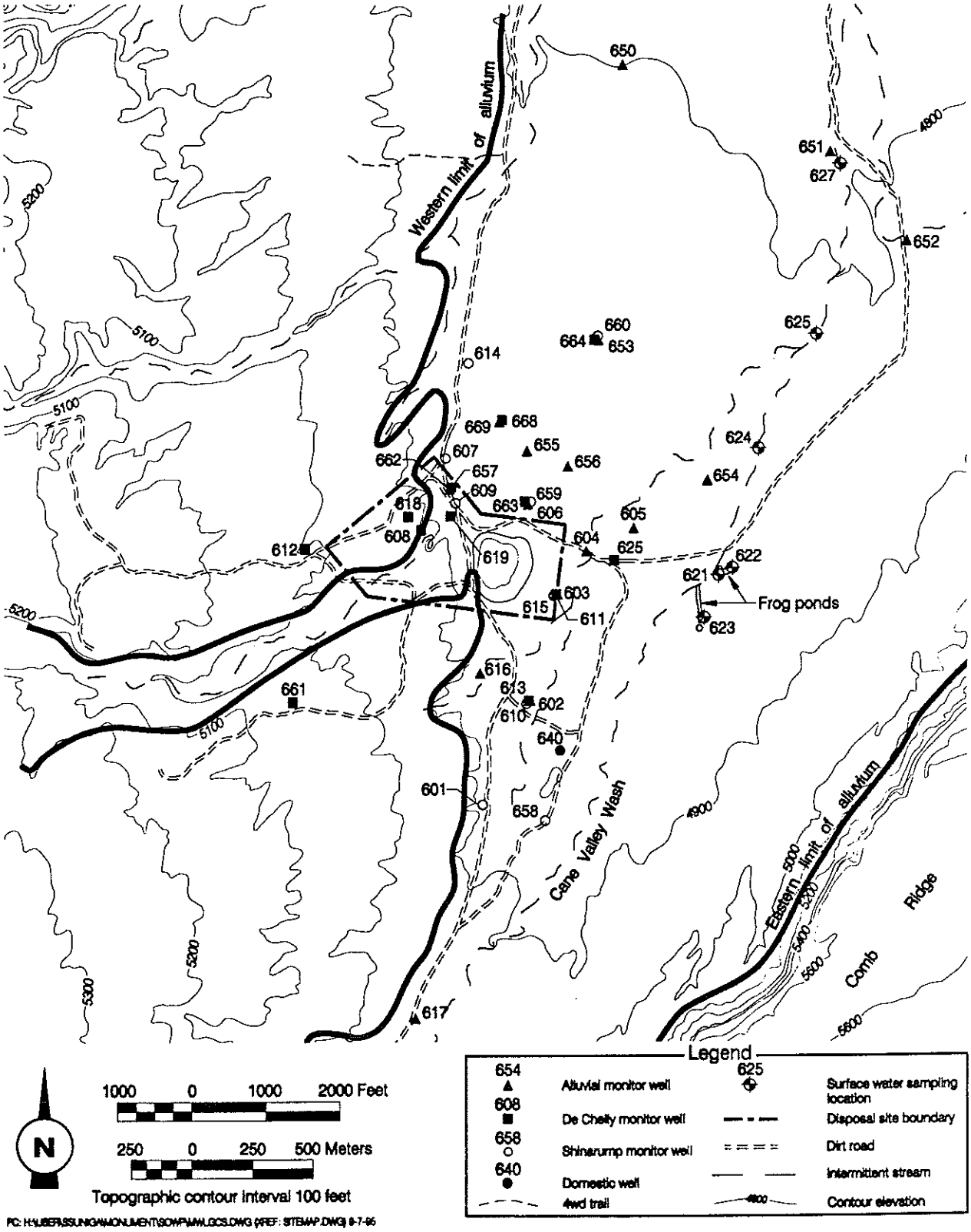
An alternate interpretation of the potential for recharge is based on site observations. Although evaporation rates exceed precipitation every month except January, recharge may occur throughout the year when there is sufficient rainfall to create surface runoff. Site observations have shown that moderately heavy rains (e.g., summer thunderstorms) result in rapid runoff to the low-lying areas, which usually are covered by relatively permeable sands and little vegetation. The runoff infiltrates rapidly through the sand, potentially recharging the underlying aquifers.

3.2.3 Ground water hydrology

The geologic formations of concern underlying the Monument Valley site are, in descending order, 1) the unconsolidated windblown and alluvial deposits (hereafter referred to as the alluvial aquifer), 2) the Shinarump Member of the Chinle Formation (called the Shinarump Conglomerate), 3) the Moenkopi Formation, and 4) the De Chelly Sandstone of the Cutler Formation (Whitkind and Thaden, 1963). Figure 3.6 shows monitor well locations at the site.

Well logs prepared when monitor wells were installed at the site were used to prepare the cross sections. The geologic units (e.g., Moenkopi Formation, De Chelly Sandstone) were identified by comparing the descriptions of Whitkind and Thaden (1963) to the lithologic descriptions on the well logs and

Figure 3.6
Monitor Well and Surface Sampling Locations
Monument Valley, Arizona, Site



observations of geologic outcrops at and near the site. Copies of the well logs and well completion details are presented in Appendix A and are summarized in Table 3.1. The table includes total well depth, screen and sand pack interval, elevation at the top of the well casing, and the hydrologic unit monitored by each well. Table 3.2 summarizes the hydrologic properties of each geologic unit.

Alluvial aquifer

Geology. The alluvial aquifer consists of windblown deposits of fine- to medium-grained sands and water-transported sand, gravel, and bedrock fragments. Because the alluvial aquifer is derived in part from the nearby uranium-bearing rock units, it naturally contains uranium.

The sediments that comprise the alluvial aquifer are limited in areal extent and vary in thickness. The unit is more than 100 ft (30 m) thick in the center of Cane Valley, but thins toward each edge of the valley and is not present at the bedrock exposures along the eastern and western sides of the valley. The alluvium is thickest (120 ft [37m]) at well MON-01-0657. (Note: All well numbers in this report include the prefix "MON-01-0." For ease of reading, this prefix is cited only in tables.

Figure 3.7 shows the thickness and extent of the alluvium in the site vicinity. The areal extent of the alluvium was estimated from aerial photographs of the site and from Whitkind and Thaden (1963). The alluvium thickness was estimated from well logs (Appendix A).

The above information (i.e., well logs, aerial photographs, and the geologic report) and field observations of the surficial geology and rock outcrops strongly indicate there are buried channels covered by alluvial and windblown sands near the center of Cane Valley and under a portion of the UMTRA site. For example, the alluvium is thickest at well 657 and neither the Shinarump Conglomerate or Moenkopi Formation are present at that location.

The buried channels were created before or during the early periods of alluvial deposition and eroded through the Shinarump Conglomerate and portions (or, in some places, all) of the Moenkopi Formation. The channels result in thicker areas of the alluvium and a more direct connection (hydraulically) between the alluvial aquifer and the De Chelly Sandstone.

Hydrology. Ground water within the alluvial aquifer is unconfined. Depths to ground water range from the land surface near the center of Cane Valley Wash to slightly more than 30 ft (10 m) below grade near the site and the approximate center of Cane Valley. Figure 3.8 shows depth to water below grade (i.e., land surface) for the alluvial aquifer. The map was prepared by comparing topographic contours of the land surface (Garnet, 1988) to water levels in alluvial aquifer wells (Figure 3.9).

Table 3.1 Well construction summary, Monument Valley, Arizona, site

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	GROUND ELEVATION (FT MSL)	BOREHOLE DEPTH (FT)	BOREHOLE DIAMETER (INCHES)	CASING ELEVATION (FT MSL)	CASING LENGTH (FT)	CASING DIAMETER (INCHES)	SCREEN BEGINNING DEPTH (FT)	SCREEN LENGTH (FT)	FLOW CODE	FORMATION OF COMPLETION
0601	54980.4	88017.7	4881.51	24.00	6.625	4884.43	24.00	2.000	12.00	10.0	U	SR
0602	56377.4	88661.2	4861.53	35.00	6.625	4864.02	31.50	2.000	19.50	10.0	N	AL
0603	57812.7	89036.9	4846.64	55.00	6.625	4848.56	55.00	2.000	43.00	10.0	C	AL
0604	58397.0	89424.6	4837.30	30.00	6.625	4839.09	30.00	2.000	13.00	15.0	C	AL
0605	58707.6	90066.7	4831.42	32.00	6.625	4833.96	31.00	2.000	14.00	15.0	D	AL
0606	59034.2	88634.0	4860.44	47.00	6.625	4863.31	47.00	2.000	32.00	10.0	D	AL
0607	59657.2	87519.2	4869.41	30.00	6.625	4871.26	27.50	2.000	12.50	10.0	D	SR
0608	58685.7	87189.4	4901.08	120.00	6.625	4903.11	120.00	2.000	98.00	20.0	O	DC
0609	59052.1	87652.9	4878.30	15.00	6.625	4880.17	14.0	2.000	7.00	5.0	O	SR
0610	56338.8	88611.6	4860.83	130.5	6.625	4861.81	85.00	2.000	63.00	20.0	N	SR
0611	57811.0	89017.5	4846.35	185.00	6.625	4848.35	185.00	2.000	163.00	20.0	N	DC
0612	58437.2	85614.8	5000.09	215.00	6.625	5001.74	215.00	2.000	175.00	20.0	N	DC
0613	56377.8	88643.7	4860.81	160.00	6.625	4862.82	160.00	2.000	138.00	20.0	N	DC
0614	60940.5	87832.6	4854.28	84.50	8.0	4855.66	70.00	2.000	48.00	20.0	D	SR
0615	57794.4	88980.7	4847.50	110.00	6.625	4849.29	90.00	2.000	68.00	20.0	C	SR
0616	56747.3	87987.6	4869.00	-	-	4869.92	8.00	-	-	-	N	AL
0617	52090.6	87094.4	4907.96	-	-	4908.96	-	-	-	-	N	AL
0618	58868.3	87016.1	4920.00	153.00	12.000	4921.02	153.00	12.000	-	-	O	DC
0619	58876.5	87587.9	4886.52	154.00	12.000	4887.42	154.00	12.000	-	-	O	DC
0625	58272.5	89803.1	4838.80	89.00	12.000	4840.09	89.00	12.000	-	-	C	DC
0650	64970.2	89923.8	4790.15	99.50	7.875	4793.29	99.50	4.000	77.50	20.0	D	AL
0651	63788.9	92734.3	4781.46	82.00	7.875	4784.51	82.00	4.000	20.00	60.0	D	AL
0652	62581.5	93759.3	4800.69	56.00	7.875	4803.84	58.00	4.000	34.00	20.0	D	AL
0653	61249.3	89596.3	4832.14	78.00	7.875	4834.94	78.00	4.000	56.00	20.0	D	AL
0654	59351.4	91063.4	4824.41	79.00	7.875	4827.01	79.00	4.000	57.00	20.0	C	AL
0655	59754.6	88624.1	4857.73	60.00	7.875	4860.39	60.00	4.000	38.00	20.0	D	AL
0656	59545.2	89175.1	4852.07	60.00	7.875	4854.61	60.00	4.000	38.00	20.0	D	AL
0657	59266.0	87596.5	4881.18	140.00	7.875	4883.21	138.00	4.000	121.00	15.0	O	DC
0658	54763.4	88857.0	4876.19	165.00	7.875	4878.82	157.00	4.000	135.00	20.0	N	SR
0659	59069.8	88670.3	4860.84	110.00	7.875	4863.63	109.00	4.000	87.00	20.0	D	SR
0660	61303.4	89584.3	4831.38	155.00	7.875	4834.16	155.00	4.000	133.00	20.0	D	SR
0661	56366.1	85447.7	5057.34	218.00	7.875	5059.99	212.00	4.000	190.00	20.0	N	DC
0662	59236.5	87577.5	4877.07	70.00	7.875	4879.81	69.50	4.000	37.50	30.0	D	AL
0663	59069.6	88593.5	4861.56	217.00	7.875	4864.41	217.00	4.000	175.00	40.0	D	DC
0664	61255.9	89537.0	4832.84	233.00	7.875	4835.76	233.00	4.000	211.00	20.0	D	DC
0668	60171.4	88287.0	4864.27	218.00	7.875	4866.71	215.00	4.000	180.00	20.0	D	DC
0669	60146.3	88247.8	4863.19	56.00	7.875	4865.78	56.00	4.000	34.00	20.0	D	AL
0804	58152.6	88835.3	4847.30	20.00	7.000	-	-	-	-	-	O	TA
0805	58152.6	88835.3	4847.30	15.00	7.000	-	-	-	-	-	O	TA

FORMATION OF COMPLETION CODE:
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
AL - ALLUVIUM
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
U - UPGRADIENT
N - UNKNOWN
C - CROSS GRADIENT
D - DOWN GRADIENT
O - ON-SITE

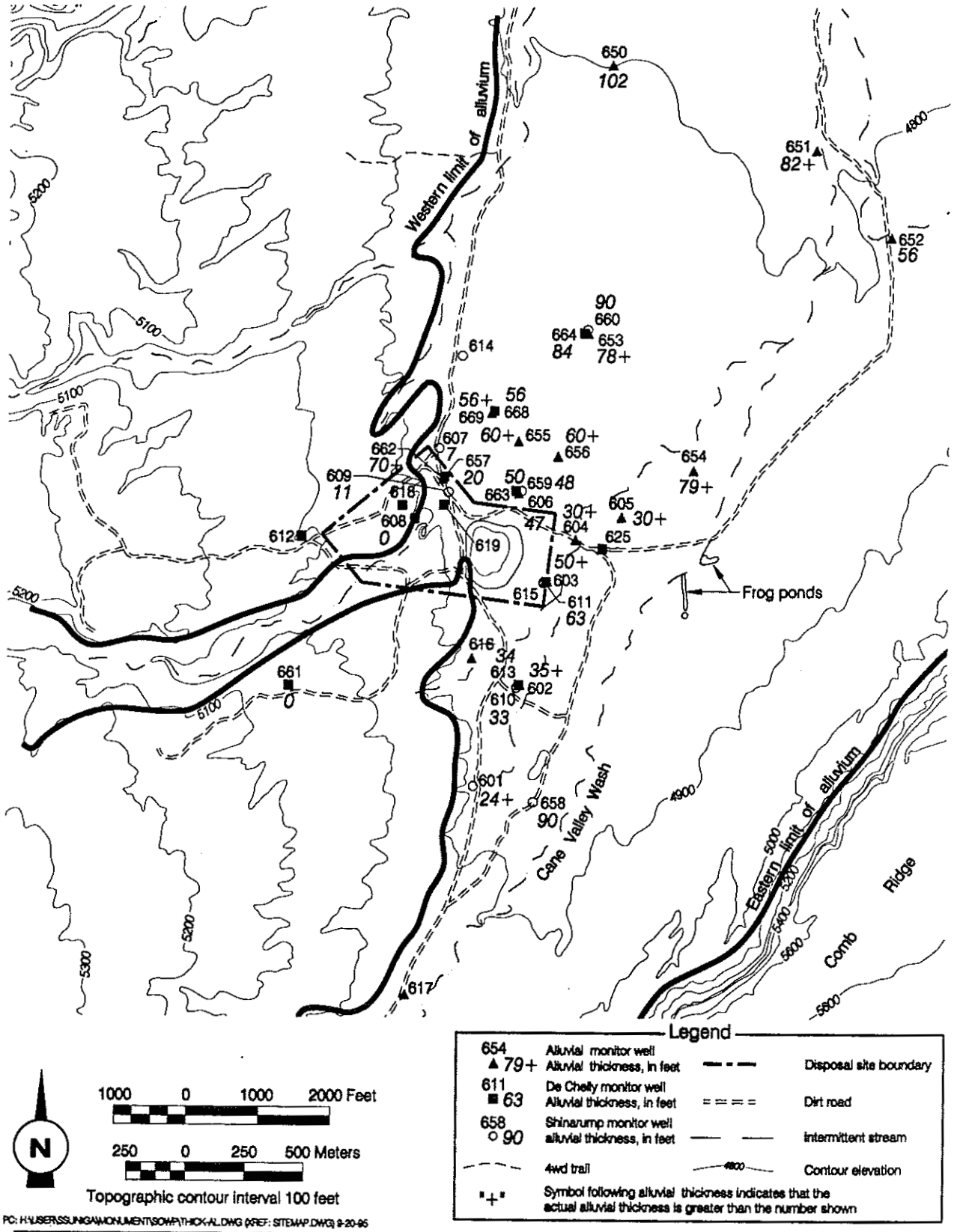
Note: All well numbers in this table include the prefix "MON-01-0."

Table 3.2 Summary of hydrologic properties of the geologic units, Monument Valley, Arizona, site

Unit	General lithologic composition	Thickness	Type	Flow direction	Gradient	Hydraulic conductivity	Porosity	Ground water velocity (per year)
Alluvial aquifer	Sand and gravel	0-100 ft (0-30 m)	Aquifer, unconfined	North	0.01	20 ft/day (6 m/day)	0.25	300 ft (100 m)
Shinarump Conglomerate	Sandstone, conglomerate, mudstone-weakly cemented	(0-90 ft) (0-30 m)	Aquifer, unconfined and semi-confined	North	0.01	0.4-8 ft/day (0.1-2.4 m/day)	0.25	6-100 ft (2-30 m)
Moenkopi Formation	Shaley siltstone and sandstone-strongly cemented	0-60 ft (0-20 m)	Confining unit	NM	NM	NM	NM	NM
De Chelly Sandstone	Fine-grained sandstone-weakly cemented	500 ft (150 m)	Aquifer, semiconfined	North	0.01	6 ft/day (2 m/day)	0.15	150 ft (45 m)

NM - not measured.

Figure 3.7
Thickness of Alluvium
Monument Valley, Arizona, site



Topographic contour interval 100 feet

Legend

654 ▲ 79+	Alluvial monitor well Alluvial thickness, in feet	Disposal site boundary
611 ■ 63	De Chelly monitor well Alluvial thickness, in feet	Dirt road
658 ○ 90	Shinarump monitor well alluvial thickness, in feet	Intermittent stream
	4wd trail	Contour elevation
"+"	Symbol following alluvial thickness indicates that the actual alluvial thickness is greater than the number shown	

PC: H:\USER\SSUNIGA\MONUMENT\SOWP\THICK-AL.DWG (XREF: SITEMAP.DWG) 9-20-95

Figure 3.8
Approximate Depth to Water in the Alluvium
Monument Valley, Arizona, Site

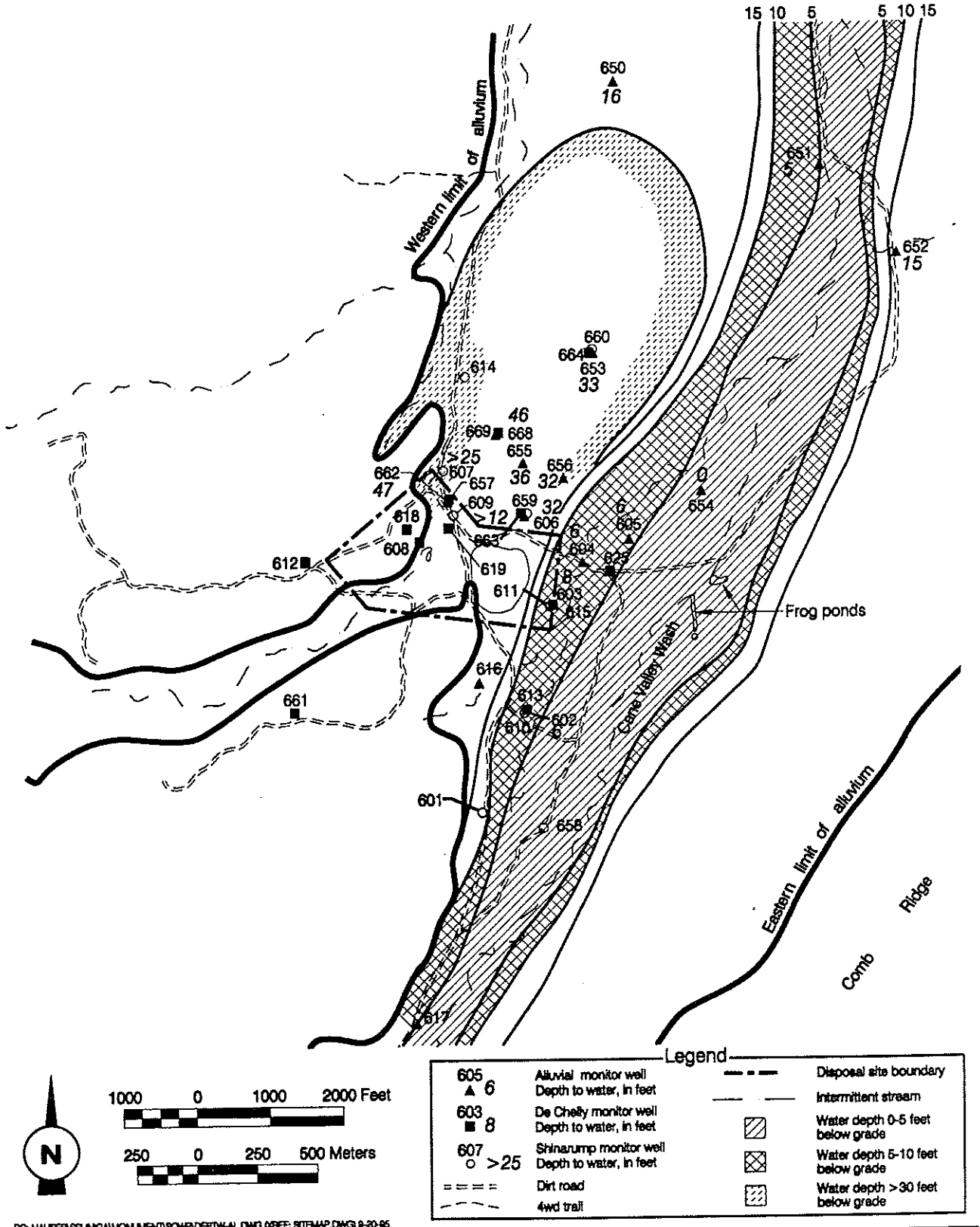


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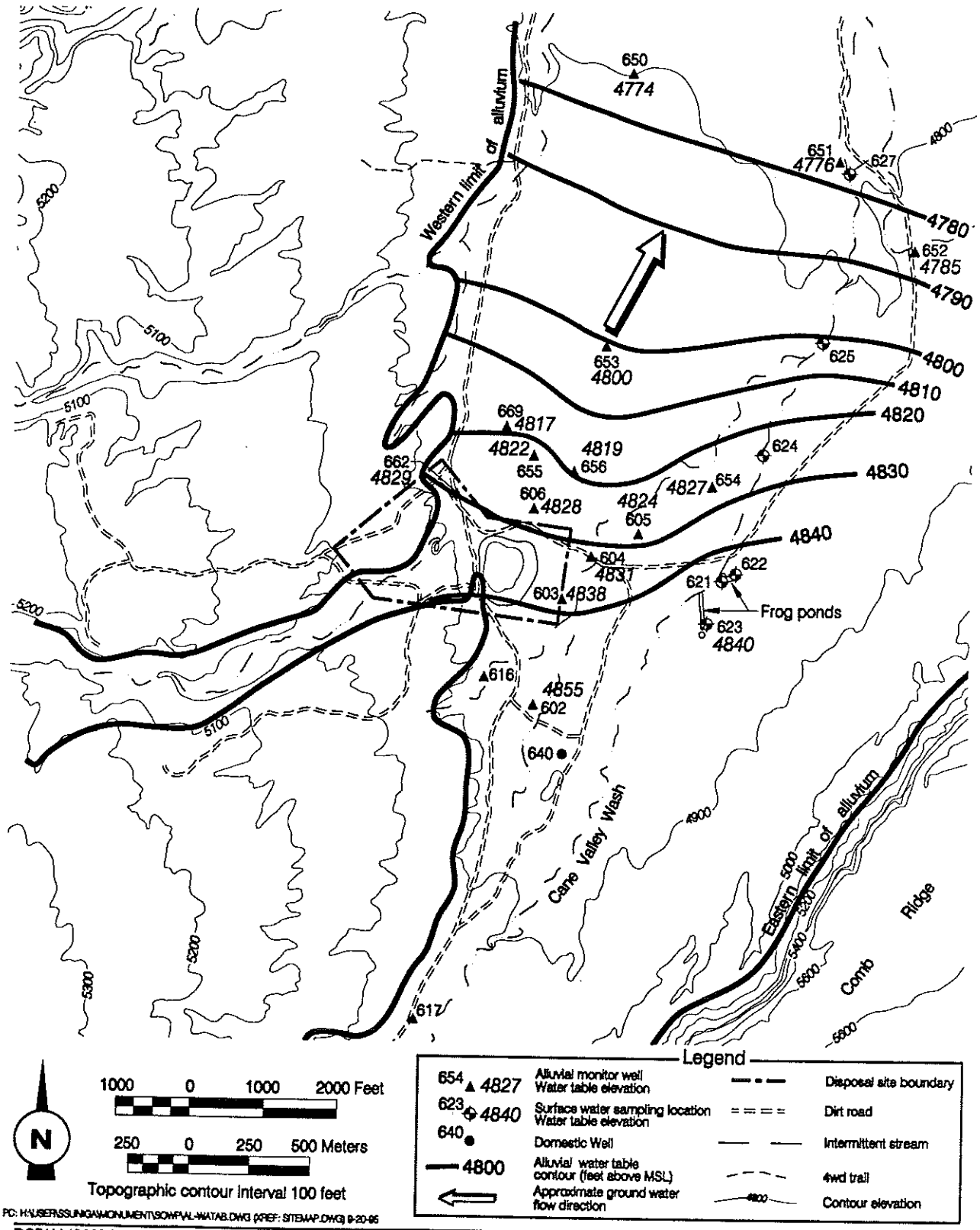
Figure 3.9
Alluvial Water Table Contours, 7-8 December 1994
Monument Valley, Arizona, Site



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A comparison of water-level measurements (Appendix B) shows slight differences in water-level elevations over time. However, the water-table contour map (Figure 3.9) is representative of the water-table configuration and can be used to determine ground water flow direction and gradient.

Overall, ground water flows north in the alluvial aquifer in the site vicinity, with some localized variations. For example, water-table contours near the Frog Ponds indicate the ponds act as a recharge area to the alluvial aquifer. This observation is substantiated by the curvature of the contours (i.e., the contours indicate a local high spot or mound) and ground water flow away from the ponds. The ponds probably are fed by water from the De Chelly Sandstone, thus providing the source of recharge in that area. The alluvial aquifer and the De Chelly Sandstone are connected because the confining units between the De Chelly Sandstone and the alluvial aquifer are either thin or non-existent in the Frog Pond area, and/or one or more wells (not visible at land surface) are completed in the De Chelly Sandstone at the ponds. Because the potentiometric surface of the De Chelly Sandstone is at or above the elevation of the water table and land surface in that area, water will flow at the ground surface from the De Chelly Sandstone. Geochemical data supporting recharge of the alluvial aquifer from the De Chelly Sandstone are presented in Section 3.4, Geochemistry.

The ground water mound caused by the Frog Ponds also has influenced the configuration of the contaminant plume. Any existing wells were likely installed prior to or during mill operation. Because of the presence of the mound, the plume is narrower and is prevented from migrating toward the area of the Frog Ponds. Section 3.4 details the extent of the plume.

Water-level measurements taken during December 1994 (Figure 3.9) show the hydraulic gradient in the alluvial aquifer is 0.01 in the site vicinity. This gradient was calculated using equation 5.8 from Driscoll (1986), the difference in water-level elevations, and the distance between wells 603 and 653. These two wells parallel the direction of ground water flow:

$$i = \frac{h_1 - h_2}{L}$$

Where: i = *hydraulic gradient*
$h1$ = water-level elevation at well 603
$h2$ = water-level elevation at well 653
L = *distance between wells 603 and 653*

Using the information in Appendix B for December 1994 and the distance between the two wells shown on Figure 3.9.

$$i = \frac{4838.21 - 4800.20 \text{ ft}}{3500 \text{ ft}}$$

$$i = \frac{38.01 \text{ ft}}{3500 \text{ ft}}$$

$$i = 0.01$$

Hydraulic conductivity computed from aquifer pumping test data resulted in a value of 20 ft [6 m] per day for the alluvial aquifer. Appendix F of the Monument Valley and Mexican Hat RAP includes the hydraulic conductivity calculations (DOE, 1993c).

The porosity of the alluvial aquifer has not been measured. However, most of the aquifer materials are fine- to medium-grained sand and gravel. The total porosity of sand ranges from 0.25 to 0.50 and the total porosity of gravel ranges from 0.25 to 0.40. Because the alluvial materials are poorly sorted (i.e., the aquifer materials are a wide range of grain sizes), the porosity of the alluvial aquifer likely is at the low end of the sand and gravel porosity ranges (Freeze and Cherry, 1979). Because effective porosity (the pore spaces through which water readily travels) is lower than total porosity, the effective porosity of the alluvial aquifer is approximately 0.25.

Ground water velocity is calculated from the following equation 5.18a from Driscoll, (1986):

$$V_a = \frac{K_i}{n}$$

Where: Va = average ground water flow velocity
K = hydraulic conductivity
i = hydraulic gradient
n = porosity

Using these hydraulic conductivity, hydraulic gradient, and porosity data, the following velocity can be calculated:

$$V_a = \frac{(6.10 \text{ m per day})(0.01)}{0.25}$$

$$V_a = 0.24 \text{ m per day, or } 90 \text{ m per year.}$$

It is important to note that a comparison between the actual extent of site-related contaminants (based on water quality results from monitor wells) and the theoretical extent of the plume (based on the above velocity calculation and the

period of mill operation) do not agree. Mill operations began in 1955, and large amounts of water were used and discharged on or near the site. It is reasonable to assume that discharged water containing dissolved components of the ore (e.g., sulfate) reached the water table 3 years after mill startup (i.e., in 1958). Approximately 35 years have elapsed since the start of contamination, yielding a theoretical plume travel distance of 10,500 ft (3200 m). To calculate plume travel, multiply the ground water velocity (300 ft [90 m] per year) by the number of years contaminants could have been in the ground water system (35 years).

Based on water quality results of late 1994, the sulfate plume is at least 3000 ft (1000 m) downgradient from the former mill site (i.e., it is present at well 653) but it appears to be less than about 6500 ft (2000 m) downgradient from the former mill site (i.e., it is not present at well 650, although this well is screened in a deeper portion of the aquifer and may not intercept shallow ground water contamination). This equates to an approximate ground water velocity of about 90 to 200 ft (25 to 60 m) per year, calculated by dividing the length of the plume (e.g., 3000 ft [1000 m]) by the number of years it was present in the ground water system (i.e., 35 years).

Six factors could account for the difference between theoretical and observed plume extent. Four relate to uncertainties in velocity equation input: 1) the estimate of the time the plume was present in the ground water system, 2) the estimate of hydraulic gradient, 3) the estimate of porosity, and 4) the estimate of hydraulic conductivity. The fifth factor relates to possible effects of the aquifer matrix on contaminant migration. The sixth is the possibility that contaminated ground water is not uniformly distributed vertically in the aquifer and therefore not intercepted by well 650. In keeping with the observational approach for site assessment and cleanup, further investigations to evaluate factors 1, 3, and 5 will be initiated only if necessary, and will be presented in a later version of this document.

Recharge to the alluvial aquifer is from precipitation and from upward leakage from the aquifers below. Recharge is also provided by discharge from artesian monitor wells 611, 613, and 615 and former production well 625, which are completed in the De Chelly Sandstone and occasionally flow at ground surface. There also is recharge to the aquifer from the De Chelly Sandstone in the Frog Pond area. Discharge from the alluvial aquifer is through evapotranspiration, evaporation where the water table is at or near land surface, and occasional discharges to Cane Valley Wash when and where the water table intersects the ground surface. Pumping from the alluvial aquifer is limited, accounting for very minor discharge compared to natural aquifer discharge. Pumping of the alluvial aquifer does not occur downgradient from the site.

Shinarump Conglomerate

Geology. The Shinarump Conglomerate is a heterogeneous combination of lenticular, cross-bedded formations of sandstone and conglomerate with

occasional thin mudstone layers. Large quantities of fossil plant matter and silicified wood are associated with the coarser-grained materials. The coarser-grained materials (i.e., conglomerate) are generally at the base of the unit, grading upward into finer-grained materials (i.e., sandstone and some mudstone). The most probable method of deposition for the unit was as alluvial fans (Whitkind and Thaden, 1963). The Shinarump Conglomerate west of the site at the location of the Monument No. 2 Mine (Figure 3.4) was the source of vanadium and uranium ore.

The Shinarump Conglomerate is present at land surface west of the site (in the vicinity of the Monument No. 2 Mine) and under the alluvial aquifer within Cane Valley. It is up to up to 90 ft (30 m) thick at well 664 (near the center of Cane Valley); but it is not present at well 657, which is near the north boundary of the site. Well 657 probably is in the area of a buried channel, which (based on the well logs) appears to have eroded the unit. The Shinarump Conglomerate was replaced by alluvium at that location.

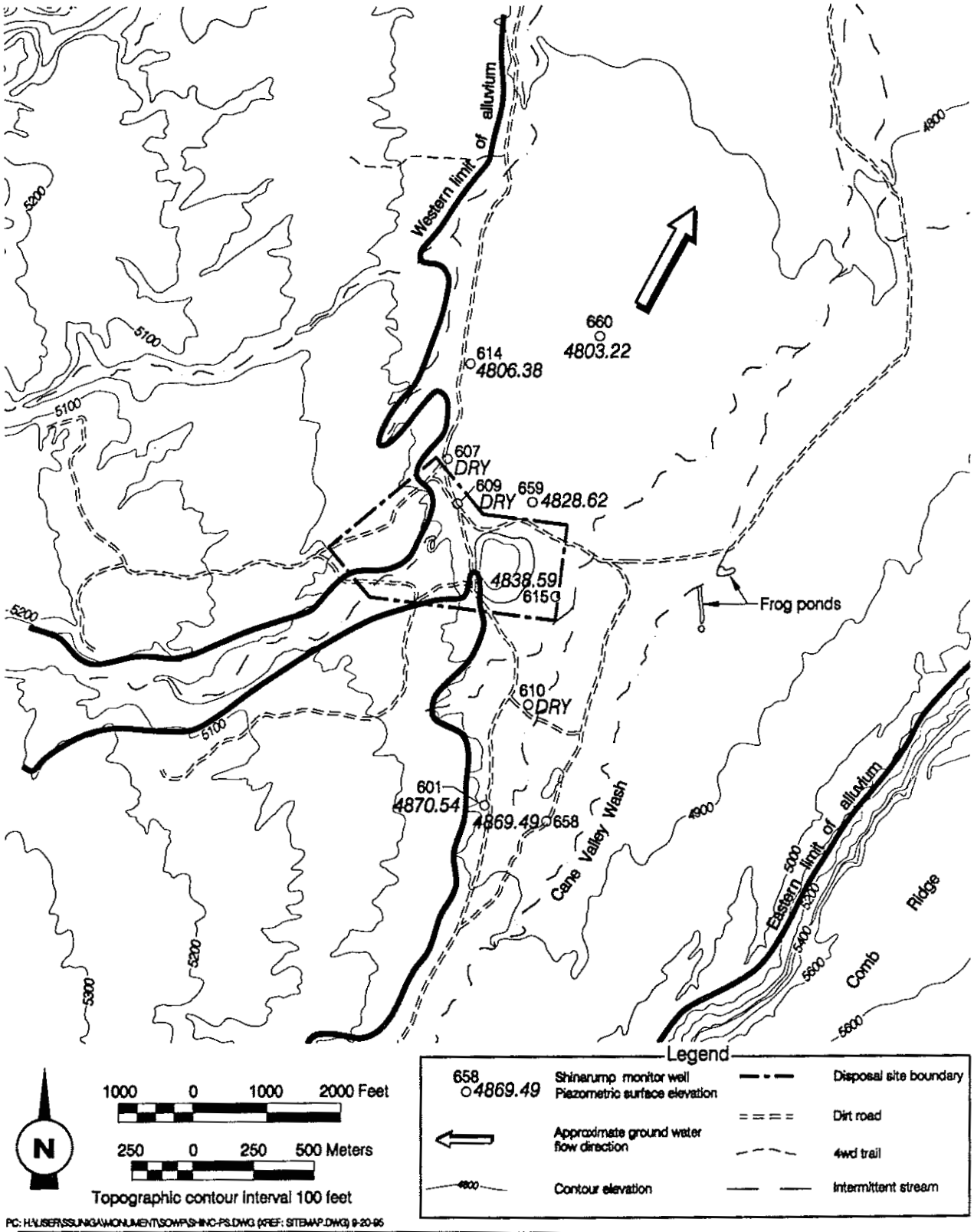
Hydrology. Ground water within the Shinarump Conglomerate occurs under both unconfined and semiconfined conditions. Water is unconfined where it is present in the unit and where outcrops of the Shinarump Conglomerate are present at land surface. In the site vicinity, unconfined portions of the Shinarump Conglomerate are not common because water usually is not present in the unit where it outcrops (i.e., the depth to water is usually greater than the depth to the bottom of the unit where it outcrops). Most water within the Shinarump Conglomerate is under semiconfined conditions. The upper portions of the unit are finer-grained and act as the semiconfining bed.

Water level measurements at the site indicate a ground water flows north (Figure 3.10). Using the equations presented in Section 3.2.3, the hydraulic gradient for the Shinarump Conglomerate is 0.01 between wells 658 and 660. (The December 1994 water-level measurements at well 658 and 660 are 4869.49 and 4803.22 ft (1484.24 and 1464.04 m), respectively. The distance between the two wells is 6600 ft (2011.70 m), resulting in a hydraulic gradient of 0.01).

Hydraulic conductivity (computed from four slug tests in the Shinarump Conglomerate) varies from 0.4 to 8 ft (0.1 to 2.4 m) per day. Hydraulic conductivity calculations are included in Appendix F of the Monument Valley and Mexican Hat RAP (DOE, 1993c). The range of hydraulic conductivity values may be due to the heterogeneous composition of the sediments that comprise the Shinarump Conglomerate and the uncertainties associated with the results of the slug tests.

Porosity measurements of the Shinarump Conglomerate have not been made; however, porosity can be estimated from Table 2.4 of Freeze and Cherry (1979). The unit consists primarily of conglomerate (not listed in the table) and sandstone (which has a porosity range of 0.05 to 0.30). The conglomerate portions of the Shinarump Conglomerate probably are similar in porosity to a mixture of sand and

Figure 3.10
Shinarump Conglomerate Piezometric Surface, 7-8 December 1994
Monument Valley, Arizona, Site



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gravel (based on the descriptions in the well logs); therefore, a good estimate of the effective porosity is about 0.25. The amount of cementing materials is relatively minor in the sandstone (Whitkind and Thaden, 1963); therefore, the effective porosity (about 0.25) of the sandstone portions of the Shinarump Conglomerate probably is closer to the upper bound of porosity on the Freeze and Cherry (1979) table.

Ground water velocity in the Shinarump Conglomerate can be estimated from the velocity equations presented in Section 3.2.3. Using a gradient of 0.01, a hydraulic conductivity of 0.4 ft (0.1 m) per day, and a porosity of 0.25, the velocity is 6 ft (2 m) per year. Using the same gradient and porosity, but the upper estimate of hydraulic conductivity (i.e., 8 ft [2 m] per day), the ground water velocity is 100 ft (30 m) per year.

Recharge to the Shinarump Conglomerate is from rainfall and possibly from upward leakage from the De Chelly Sandstone in some areas, and infiltration of water from the alluvial aquifer in other areas. Discharge from the Shinarump Conglomerate probably is limited to the alluvial aquifer. There are no known water supply wells in the Shinarump Conglomerate in the site vicinity.

Moenkopi Formation

Geology. The Moenkopi Formation is a dark- and reddish-brown shaley siltstone and sandstone that underlies the Shinarump Conglomerate. The color of the Moenkopi Formation contrasts greatly with the light gray of the Shinarump Conglomerate and the light tan of the De Chelly Sandstone. The unit likely was deposited in a near-shore mud flat type of environment, where lagoons, playas, and deltas formed (Whitkind and Thaden, 1963).

Where present, the Moenkopi Formation is about 15 to 60 ft (5 to 20 m) thick in the site vicinity, based on logs of the wells that have fully penetrated the unit. Variations in thickness probably are a result of erosion during the deposition of the Shinarump Conglomerate. The Moenkopi formation is not present near the northern site boundary (well 657), where a buried channel has completely eroded the unit.

Hydrology. The Moenkopi Formation acts as a confining unit due to the fine-grained nature of the sediments that comprise it. Calcium carbonate, silica, and iron oxide are present as intergranular cement (Whitkind and Thaden, 1963), adding to the confining nature of the unit by decreasing the hydraulic conductivity.

The degree to which the Moenkopi Formation acts as a confining unit depends on its low hydraulic conductivity and thickness. Because the thickness of the unit varies, its effectiveness as a confining unit also varies. For example, the unit is absent at well 657. Therefore, the alluvial aquifer and De Chelly Sandstone are in hydraulic connection in that area. Where the Moenkopi Formation is thin or absent, water can exchange between the De Chelly Sandstone and the Shinarump Conglomerate and/or the alluvial aquifer.

Generally, there is an upward hydraulic gradient between the De Chelly Sandstone and the overlying aquifers and water can flow only from the De Chelly to the upper units. The gradient has reversed at times (during pumping of former mill supply wells); however, the wells are no longer pumped and the upward gradient has reestablished.

Because the Moenkopi Formation acts as a confining unit (wells completed in the unit would not produce water), monitor and water-supply wells have not been completed in it. Therefore, piezometric surface maps have not been made, and hydraulic gradient, hydraulic conductivity, and ground water velocities have not been estimated.

De Chelly Sandstone

Geology. The De Chelly Sandstone is a grayish-yellow-to-tan, fine-grained sandstone. Although none of the UMTRA Project wells fully penetrated the unit, Whitkind and Thaden (1963) report that it is approximately 500 ft (150 m) thick in the area of the site. It is the lowest aquifer beneath the Monument Valley tailings site and is underlain by the low-permeability Organ Rock Shale. The sand grains consists almost entirely of quartz, and the unit is weakly cemented with silica, calcium carbonate, and iron oxide. The iron oxide gives the De Chelly Sandstone unit its color (Whitkind and Thaden, 1963).

Hydrology. Ground water within the De Chelly Sandstone generally is confined by the overlying Moenkopi Formation. It probably is unconfined, or only partially confined in the vicinity of the buried channel near the northern site boundary.

The piezometric surface of the De Chelly Sandstone within Cane Valley is slightly above ground surface to about 160 ft (48 m) below ground surface, due to variations in ground surface elevations across the valley (see Appendix B for water-level measurements). Wells completed in the De Chelly Sandstone will flow where the piezometric surface is above ground surface. This generally occurs in the topographically lower portions of Cane Valley (e.g., at wells 611, 613, and 625). Areas west of the site are topographically higher, and the depth to the piezometric surface is greater.

Figure 3.11 is the piezometric surface map for the De Chelly Sandstone for December 1994. Ground water flows generally north. Using the equations presented in Section 3.2.3, the distance between wells 663 and 664 (2400 ft [730 m]), and the 8 December 1994 water-level elevations for wells 663 and 664 (4831.84 and 4806.56 ft [1472.76 and 1465.06 m], respectively), the horizontal hydraulic gradient is 0.01.

Figure 3.12 shows the difference in hydraulic head between the De Chelly Sandstone and the alluvial aquifer for December 1994. The figure was generated by comparing the alluvial aquifer water-table map (Figure 3.9) to the De Chelly Sandstone piezometric surface map (Figure 3.11). December 1994 is representative of low water use and essentially nonpumping conditions for both the

Figure 3.11
De Chelly Piezometric Surface, 7-8 December 1994
Monument Valley, Arizona, Site

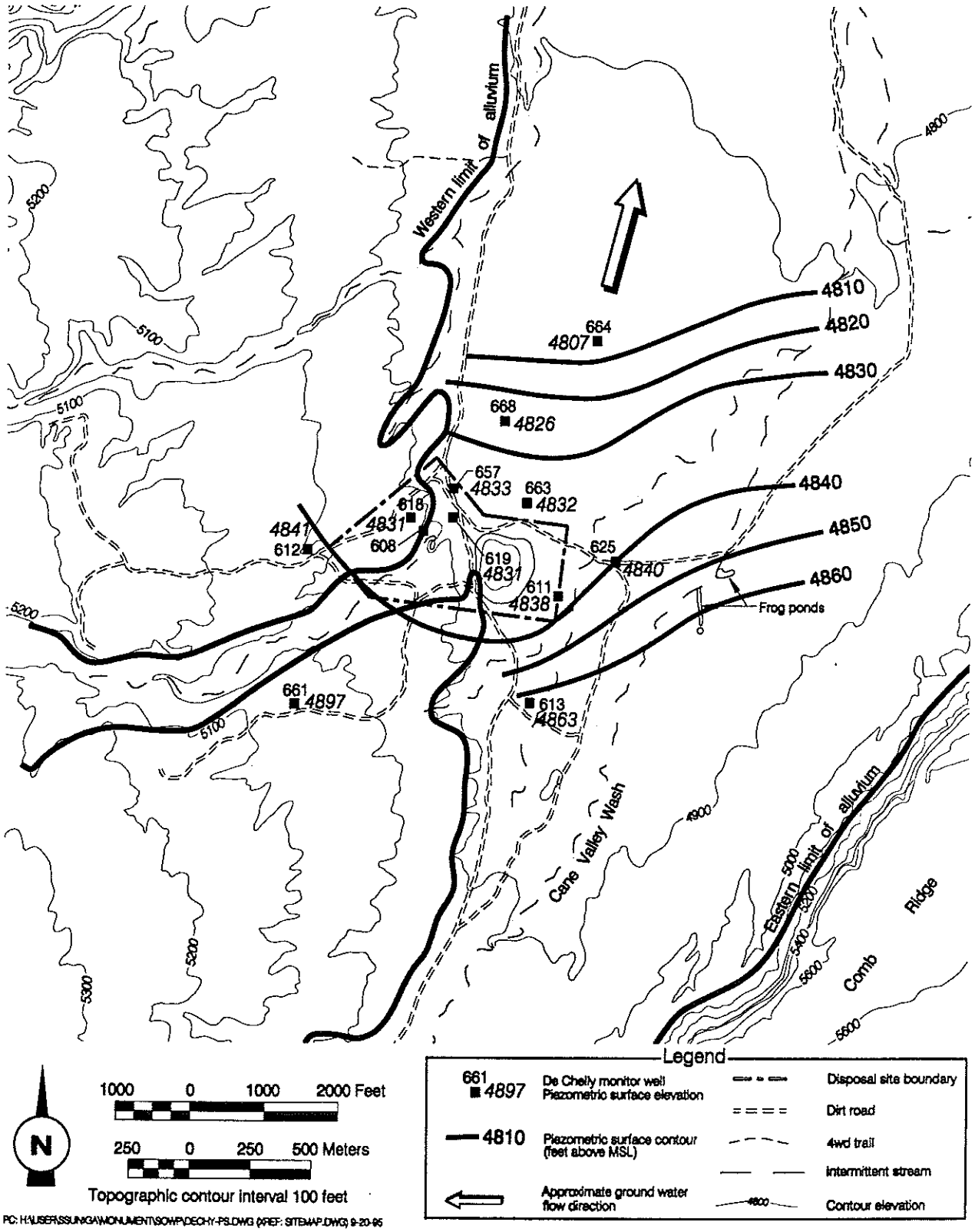

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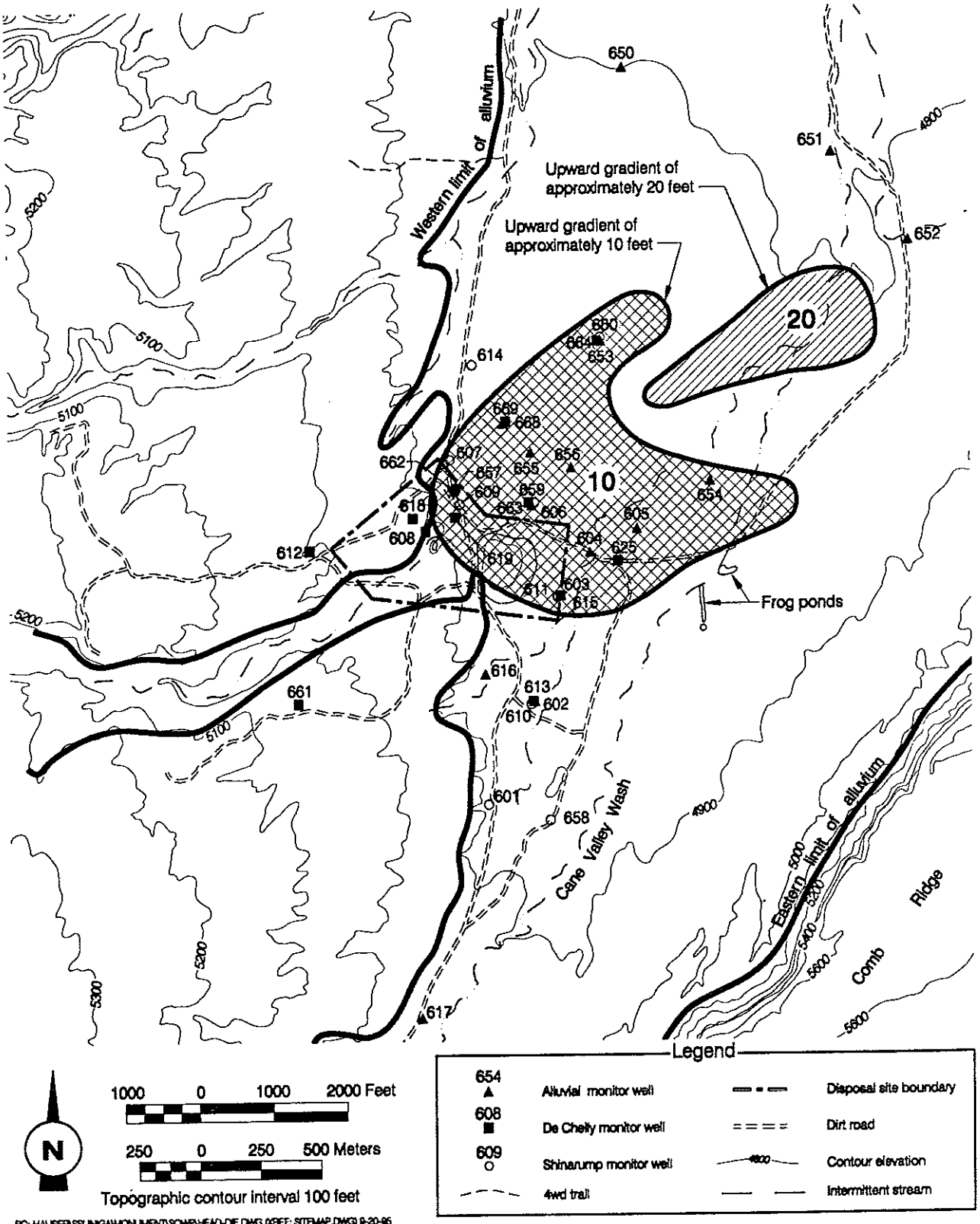
Figure 3.12
Head Difference Between the De Chelly and Alluvium, 7-8 December 1994
Monument Valley, Arizona, Site



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alluvial aquifer and the De Chelly Sandstone; the only water use would have been relatively minor withdrawals for limited domestic use. An upward gradient from the De Chelly Sandstone connects it to the alluvial aquifer. Water levels in the De Chelly aquifer are about 10 to 20 ft (3 to 6 m) higher than water levels in the alluvial aquifer. Where the upward gradient occurs, it prevents downward migration from the alluvium to the De Chelly.

The hydraulic conductivity computed from an aquifer pumping test in the De Chelly Sandstone is 6 ft (2 m) per day. Hydraulic conductivity calculations are included in Appendix F of the Monument Valley and Mexican Hat RAP (DOE, 1993c).

The porosity of the De Chelly Sandstone has not been measured; however, porosity can be estimated from Table 2.4 of Freeze and Cherry (1979). The unit consists of sandstone (with porosity of 0.05 to 0.30). Because the sandstone is fine-grained and contains some cementing materials, a good estimate of the effective porosity is near the lower portion of the range listed, and is likely about 0.15.

Ground water velocity in the De Chelly Sandstone can be estimated from the velocity equations presented in Section 3.2.3. Using a gradient of 0.01, a hydraulic conductivity of 6 ft (2 m) per day, and a porosity of 0.15, the velocity is 150 ft (45 m) per year.

Recharge to the De Chelly Sandstone is from rainfall runoff and snowmelt. Although precipitation is limited, the De Chelly Sandstone has a relatively large outcrop area along Cane Valley, west and south of the site. Much of the bedrock outcrop is buried beneath alluvial and windblown sands and water may infiltrate rapidly through these sands and into the De Chelly aquifer. Loss of recharge to plants is limited, due to the sparse vegetation where the sandstone is exposed at land surface. Discharge is from springs and wells (e.g., the Frog Ponds and well 625), through vertical leakage into overlying units and some water-supply wells for domestic and stock use.

3.2.4 Surface water hydrology

Surface water features in the vicinity of the Monument Valley site are Cane Valley Wash, several small drainage channels (arroyos), and several ponds known locally as the Frog Ponds (Figure 3.6). Cane Valley Wash flows roughly south to north, with a drainage area of approximately 90 square miles (mi^2) (230 km^2) (57,000 acres [ac] [23,000 hectares (ha)] south of the UMTRA site (DOE, 1993c).

Surface water flow in the small drainage channels in the site vicinity is ephemeral (i.e., occurring only after heavy rainfall or snowmelt), as is flow along the length of Cane Valley Wash. However, small pools within the wash have standing water for prolonged periods (several weeks or longer). Water in these pools is a result of the water table intersecting land surface. As water levels decline, the pools get smaller and eventually go dry. The exact locations of all of the pools, their size, and duration are not known, but the pools begin in the wash east of monitor well 658 and occur downstream (north) for several miles.

The most obvious surface water features in the site vicinity are the Frog Ponds. They contain water all year, likely as a result of discharge from the De Chelly aquifer. There may be wells in the vicinity of the ponds (the wells are not visible at land surface). The confining units above the De Chelly Sandstone are absent or thin.

The ponds act as a local recharge area to the alluvial aquifer, based on the configuration of the water table in the vicinity of the ponds (Figure 3.9), with ground water flowing away from the ponds as a result of a ground water mound in that area. If the ponds were an area of discharge from the alluvial aquifer (i.e., if the ponds were fed by water from the alluvial aquifer), the water-table contours would show the ponds as a low area, and ground water in the alluvial aquifer would flow toward (not away from) the ponds.

3.2.5 Geochemical data for ground water, tailings solutions, surface water, and sediments

The DOE collected validated ground water quality data from the processing site and vicinity from April 1985 through December 1994. These data and associated statistical reports are available through the UMTRA Project Team (DOE, 1993e). A total of 38 wells were sampled, including 32 DOE monitor wells, 3 former Vanadium Corporation of America water wells used for processing uranium and vanadium ores, and 3 private wells (Table 3.1). These wells were completed in different hydrogeologic units, including the windblown and alluvial surficial deposits (alluvial aquifer), the Shinarump Conglomerate, and the De Chelly Sandstone. In Table 3.1, these wells are compiled according to hydrogeologic zone of completion and location (upgradient, crossgradient, or downgradient).

The most recent information available (ground water and surface water quality data obtained since 1988) were used to assess ground water and surface water quality, due to the improved analytical detection limits and quality control procedures for this period. Data from one to eight sampling rounds were incorporated from each well.

From April 1988 through December 1994, most ground water samples were filtered prior to analysis. One round of unfiltered analyses for all constituents was collected from two wells (614 and 616). The 21 to 29 wells were analyzed (at least once and up to 8 times) for most constituents, including major elements and ammonium, arsenic, barium, cadmium, chromium, manganese, iron, molybdenum, radium-226, radium-228, selenium, strontium, uranium, vanadium, and zinc. Analyses from unfiltered ground water data generally are not available for aluminum, beryllium, boron, bromide, cobalt, copper, mercury, nickel, silver, and tin. An analysis of paired filtered and unfiltered data indicates that, for most constituents, there are no notable differences. The exceptions are iron, lead-210, manganese, and zinc, which show higher concentrations in

the unfiltered samples, apparently being adsorbed onto suspended particles in ground water.

Organic solvents probably were not used in the milling process. Nonetheless, in 1990, ground water from the processing site was screened for organic constituents (Hill, 1989; DOE, 1989) listed in Appendix IX of 40 CFR Part 264 of the Resource Conservation and Recovery Act. This screening included one tailings solution sample and one ground water sample. Common laboratory-derived contaminants such as phthalates were detected in either the tailings or ground water samples at levels near the laboratory method detection limit (MDL). Methyl iodide was possibly detected in the ground water below the MDL; further sampling is required to confirm its presence in ground water. The herbicide 2,4,5-T was detected in the tailings solution near the MDL, but not in ground water. No other organic constituents were detected in this screening.

Tailings solutions were sampled in October 1985 and April 1986. Samples were collected at the new tailings pile and evaporation pond using suction lysimeters. At each location, lysimeters were installed at different depths. At the new tailings pile, lysimeters were installed at 5, 10, 15, and 20 ft (1.5, 3, 4.5, and 6.1 m) below the tailings surface (lysimeters 814, 815, 816, and 817, respectively). At the evaporation pond area east of the new tailings pile, lysimeters were installed at 15 and 20 ft (4.5 and 6.1 m) below the surface (lysimeters 805 and 804, respectively).

Samples of tailings solution were not collected from the old tailings pile. However, two analyses of water leachate are available for samples from this pile.

Surface water and near-surface water samples were collected from the Frog Ponds east of the site, and from locations in Cane Valley Wash. Surface water samples were collected from the Frog Ponds from June 1982 through December 1994. These pond samples were collected at three separate locations (621, 622, and 623). Surface water samples were collected in December 1993 and 1994 from a shallow pool about 1200 ft (370 m) downstream of the Frog Ponds in Cane Valley Wash (624), and in December 1993 from a second shallow pool about 3400 ft (1030 m) downstream of the Frog Ponds. A near-surface water sample was collected about 1 mi (1.6 km) downstream by digging a 2-ft (0.61 m)-deep hole in the bed of the wash and allowing it to fill with water seeping from the alluvium (location 627). Three rounds of data are available from this location. Both filtered and unfiltered data are available for surface and near-surface water samples. One analysis is available from a sample collected in 1993 from a spring west of Cane Valley Wash (620).

Sediment samples were collected in June 1993 from the Frog Ponds and Cane Valley Wash at surface water locations 623, 620, 624, 625, and near-surface water location 627.

Appendix C provides all surface water, ground water, sediment, and lysimeter analytical data used in this report. To illustrate the general quality of various ground waters, median concentrations of constituents are used in summary tables within this section. In most cases, these median values are representative of water quality.

3.2.6 Background ground water quality

Alluvial aquifer

Background ground water quality is defined as the quality the water would have if uranium milling activities had not taken place. Background ground water quality data for the alluvial aquifer near the processing site are available from upgradient monitor wells 602 and 603 and from upgradient private wells 616 and 617 (Figure 3.13).

Water quality is similar in these four wells (Table 3.3). TDSs range from about 400 to 450 mg/L. The predominant anion is bicarbonate (reported as alkalinity in Table 3.3) with lesser amounts of sulfate and chloride. The predominant cation is sodium with lesser amounts of magnesium, calcium, potassium, and strontium. Nitrate is present over a range of less than 0.04 to 44 mg/L (expressed as NO_3), with a median concentration of about 5 mg/L. Commonly detected trace constituents include barium, bromide, fluoride, iron, lead-210, manganese, radium-226, radium-228, selenium, uranium, and zinc. The water is alkaline (pH of about 7.8 to 8.2) and oxidizing (oxidation-reduction potential of about 400 to 450 millivolts [mV]).

Shinarump aquifer

Background ground water quality data for the Shinarump aquifer are available from upgradient monitor wells MON-01-0601 and -0615 (Figure 3.13). Ground water in the Shinarump is a sodium carbonate type, similar in composition to that in the alluvial aquifer (Table 3.3). TDS ranges from about 300 to 430. The water is slightly alkaline (pH of about 7.8) and oxidizing (oxidation-reduction potential of about 250 to 440 mV). Trace constituents are similar to those in the alluvial aquifer and include antimony, cadmium, molybdenum, selenium, and uranium. Nitrate is present with a median concentration of about 4 mg/L. Particulate (filterable) concentrations of iron, manganese, and zinc are high in the background wells, with concentrations of iron in unfiltered samples of up to 107 mg/L (Table 3.4).

De Chelly aquifer

Background ground water quality data for De Chelly aquifer are available from upgradient monitor wells 612 and 613 (Figure 3.13). Ground water in the De Chelly is a sodium-carbonate type. The water is chemically similar to that in the alluvial and Shinarump aquifers, but more dilute (Table 3.4). TDS ranges

Figure 3.13
Location of Monitoring Wells Completed in the Alluvial Aquifer and Surface Water Sampling Locations Monument Valley, Arizona, Site

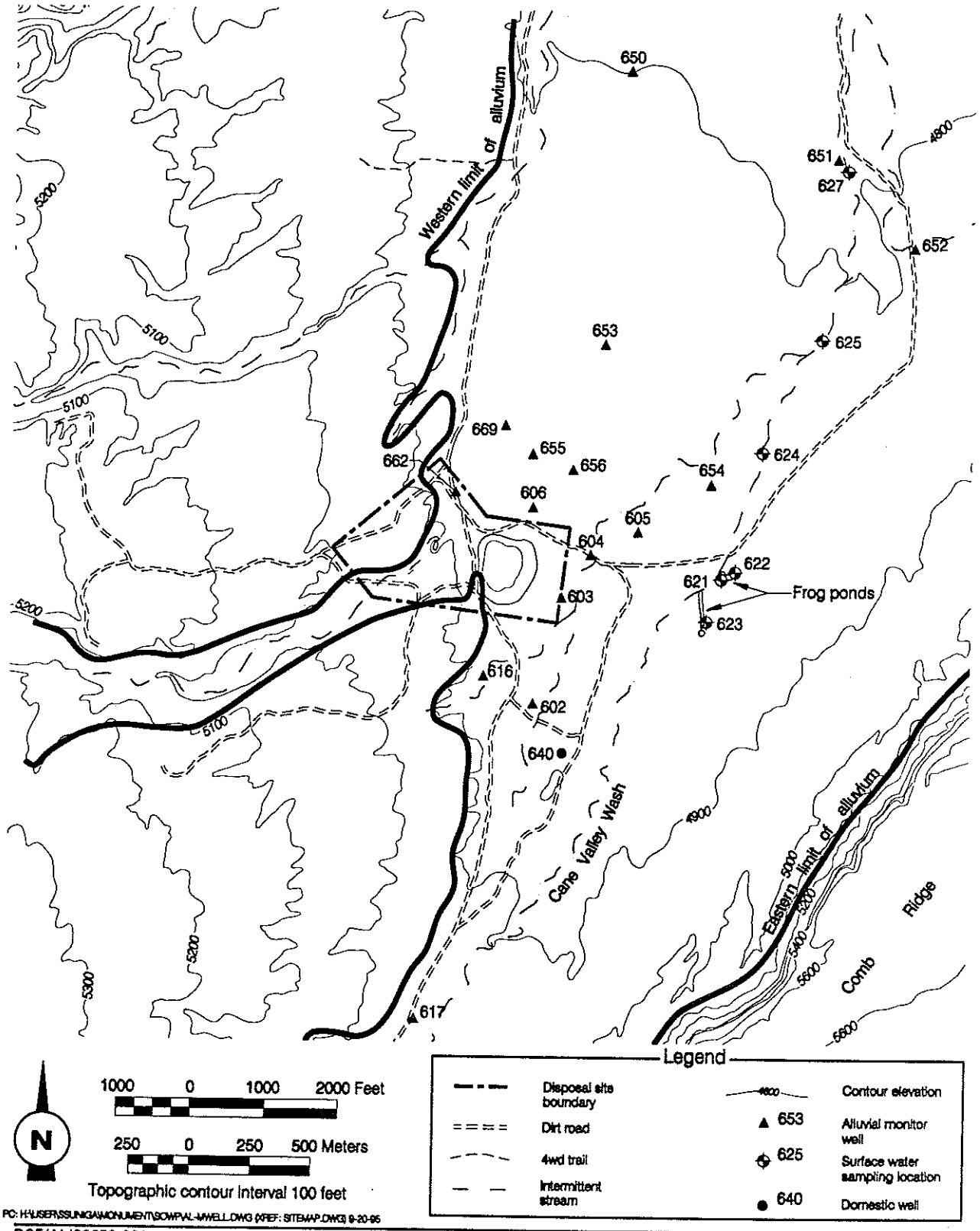

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Table 3.3 Background ground water quality in the alluvial aquifer, Monument Valley, Arizona, site

	Well location			
Constituent	MON-01-0602	MON-01-0603	MON-01-0616	MON-01-0617
Alkalinity	217	200	242	270
Aluminum	<0.05	<0.05	<0.05	0.06
Ammonium	<0.1	0.3	<0.1	<0.01
Arsenic	0.005	0.005	<0.01	<0.01
Barium	0.05	0.05	0.11	0.08
Bromide	0.2	0.1	<0.1	NA
Cadmium	0.0005	0.0005	<0.001	0.0015
Calcium	28	19	36	23
Chloride	15	12	12	23
Fluoride	0.2	0.15	0.3	NA
Iron	<0.03	<0.03	<0.03	<0.1
Iron (unfiltered)	0.15	0.12	0.14	0.23
Lead-210	<2.0	<2.0	NA	NA
Lead-210 (unfiltered)	<2.0	<2.0	5.3	5.7
Magnesium	19	14	30	42
Manganese	<0.01	<0.01	<0.01	<0.01
Manganese (unfiltered)	0.003	0.005	0.005	0.005
Mercury	<0.0002	0.0002	<0.0002	<0.0002
Molybdenum	0.005	0.005	<0.007	0.01
Nitrate	4.1	4.5	5.8	13.8
pH	7.8	7.8	8.2	8.2
Phosphate	0.2	0.3	<0.1	0.1
Potassium	1.9	2.5	1.1	0.6
Radium-226	0.7	0.4	<0.5	2.9
Radium-228	0.8	1.2	<0.3	<0.3
Redox potential	441	450	NA	407
Selenium	0.004	0.003	<0.005	<0.005
Silica	14	12	26	31
Sodium	100	100	72	111
Strontium	0.28	0.24	0.47	0.52
Sulfate	130	115	134	123
Sulfide	0.28	0.28	<1	NA
Thorium-230	1	<1	<1	NA
TDS	441	396	420	450
Uranium	0.004	0.003	0.004	0.007
Vanadium	<0.005	<0.005	<0.01	0.01
Zinc	<0.005	0.013	<0.01	<0.02
Zinc (unfiltered)	0.015	0.007	0.039	0.043

Notes:

1. Data listed are median concentrations for filtered samples (except as noted) collected from 1988 through 1994.
2. All data in milligrams per liter (mg/L) except for the following: lead-210, radium-226, radium-228, thorium-230 in picocuries per liter; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
3. < indicates less than the given value.
4. NA = not analyzed.
5. The following were never detected in either filtered or unfiltered background ground water (method detection limit is given in parentheses): antimony (0.03 mg/L), beryllium (0.005 mg/L), boron (0.005 mg/L), chromium (0.005 mg/L), cobalt (0.03 mg/L), copper (0.01 mg/L), lead (0.005 mg/L), nickel (0.04 mg/L), silver (0.01 mg/L), thallium (0.01 mg/L), and tin (0.005 mg/L).

Table 3.4 Background ground water quality in the Shinarump and De Chelly aquifers, Monument Valley, Arizona, site

	Shinarump		De Chelly	
Constituent	MON-01-0601	MON-01-0615	MON-01-0612	MON-01-0613
Alkalinity	280	226	121	185
Aluminum	0.07	<0.1	NA	<0.1
Ammonium	0.13	<0.1	<0.1	<0.1
Antimony	0.004	<0.003	<0.003	<0.003
Arsenic	<0.005	0.003	<0.01	<0.005
Barium	0.05	0.05	NA	0.05
Cadmium	0.0004	0.0003	0.004	0.0005
Calcium	28	18	28	16
Chloride	15	10	6	8
Fluoride	0.2	0.4	NA	0.3
Iron	<0.03	0.14	NA	<0.03
Iron (unfiltered)	107	2.95	NA	0.04
Lead-210	<2	<7.3	NA	<2.0
Lead-210 (unfiltered)	<2	7.2	NA	5.8
Magnesium	18	16	18	29
Manganese (unfiltered)	1.46	0.35	NA	0.005
Molybdenum	0.005	<0.005	0.01	0.005
Nitrate	4.3	4.3	8.0	4.3
pH	7.8	7.8	7.6	8.0
Phosphate (unfiltered)	2.6	<0.1	NA	<0.1
Potassium	1.9	3.1	5.3	2.8
Radium-226	<0.3	1.2	NA	<0.3
Radium-228	1.35	2.7	NA	<1.0
Redox Potential	442	248	NA	446
Selenium	0.005	<0.002	<0.005	<0.005
Silica	14	9	NA	11
Sodium	99	88	13	50
Strontium	0.29	0.63	NA	0.35
Sulfate	125	63	20	60
TDS	429	327	313	195
Uranium	0.005	0.001	0.010	0.004
Vanadium	<0.005	<0.005	NA	0.005
Zinc	<0.005	0.013	NA	<0.005
Zinc (unfiltered)	0.15	0.038	NA	0.005

Notes:

1. Data listed are median concentrations for filtered samples (except as noted) collected from 1988 through 1994. Only one analysis is available for well MON-01-0612.
2. All data in milligrams per liter (mg/L) except for the following: lead-210, radium-226, radium-228, thorium-230 in pCi/L; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
3. < indicates less than the given value.
4. NA = not analyzed.
5. The following were never detected in either filtered or unfiltered background ground water (method detection limit is given in parentheses): beryllium (0.005 mg/L), bromide (0.1 mg/L), chromium (0.005 mg/L), cobalt (0.005 mg/L), copper (0.02 mg/L), mercury (0.0002 mg/L), nickel (0.04 mg/L), silver (0.01 mg/L), sulfide (0.01 mg/L), thallium (0.01 mg/L), and thorium-230 (1.0 pCi/L)

from about 200 to 300 mg/L. The water is slightly alkaline (pH of about 7.6 to 8.0) and oxidizing (oxidation-reduction potential of about 450 mV). Trace constituents include cadmium, molybdenum, uranium, and vanadium. Nitrate is present with median concentrations ranging from 4.3 to 8 mg/L.

3.2.7 Ground water flow from the De Chelly aquifer to the alluvial aquifer

Vertical head distributions indicate the potential for upward ground water flow from the De Chelly aquifer into the alluvial aquifer. Ground water levels and ground water quality data from the Frog Ponds and well 654 suggest that this flow is, in fact, occurring.

Ground water levels in monitor well 654 are above the land surface, so the well flows at the surface. The boring log and well completion record indicate that well 654 is screened in the lower portion of the alluvial aquifer (from 51 to 79 ft [15.5 to 24.0 m]) below the surface (Appendix A). The fact that the well is flowing suggests that the alluvial aquifer may be receiving recharge from the De Chelly aquifer at this location. In addition, the presence of a ground water mound in the area of the Frog Ponds suggests vertical ground water flow from the De Chelly aquifer as the source of water for the Frog Ponds.

Water quality data further indicate that the source of water in both the Frog Ponds and the alluvium in the vicinity of monitor well 654 is vertical flow from the De Chelly aquifer rather than the horizontal flow in the alluvial aquifer. In general, background water quality in the De Chelly aquifer has lower concentrations of major elements than those of the alluvial aquifer (Table 3.5). By contrast, higher concentrations of major elements in the alluvial aquifer reflect the influence of near-surface evaporation on ground water quality. The chemistry of ground water from well 654 is like that of the De Chelly aquifer when it is compared to background water quality in both the De Chelly and alluvial aquifers (Table 3.5). Water from the Frog Ponds (at location 623, near the source surface water flow in the frog ponds) is also similar to De Chelly water quality, especially the concentrations of chloride and sulfate. Higher concentrations of sodium and alkalinity reflect dissolution of surface evaporite salts, which form on the banks of Frog Ponds and then are transported into the surface water by rain, wind, and livestock trampling the banks. Thus, both water level data and geochemical data indicate that, at least locally, there is recharge of the alluvial aquifer from the De Chelly aquifer.

3.2.8 Nature and extent of contamination

Sources of ground water contamination

There were two major sources of ground water contamination at the site: the old tailings pile heap leach pad and the new tailings pile. The old tailings pile was composed of the sand tailings, which were a residual product of the mechanical upgrading of ore. The upgrading process used water that contained a minor amount of flocculents but no other processing chemicals. Thus, tailings

Table 3.5 Water quality data from alluvial well 654 and Frog Ponds compared to the De Chelly and alluvial aquifer data, Monument Valley, Arizona, site

Constituent	MON-01-0654	Frog Ponds (MON-01-0623)	De Chelly aquifer (background wells MON-01-0612 and -0613)	Alluvial aquifer (background wells MON-01-0602, -0603, -0616, and -0617)
Alkalinity	176	276	121 - 185	200 - 270
Calcium	42	46	16 - 28	19 - 36
Chloride	6	9	6 - 8	12 - 23
Magnesium	18	29	18 - 29	14 - 42
Nitrate	0.5	<1.0	4 - 8	4 - 14
Potassium	2.5	2.9	2.8 - 5.3	0.6 - 2.5
Sodium	24	48	13 - 50	72 - 111
Sulfate	42	36	20 - 60	115 - 134
Total dissolved solids	242	350	313 - 195	396 - 450
Uranium	0.001	0.003	0.010 0.004	0.003 - 0.007

Notes:
1. Data expressed as milligrams per liter. Alkalinity expressed as milligrams per liter calcium carbonate equivalent.
2. Data listed are median values, or the range in median values for background wells.
3. < indicates less than the given value.

solutions in the old pile basically were water-equilibrated to minerals in the ore. Heap leaching of these old tailings occurred in the area where they were stored. Heap leach pads were lined to collect the leachate which contained sulfuric acid. By contrast, the new tailings pile contained sands tailings and processing solutions. The processing solutions contained sulfate, nitrate, and ammonium from the processing chemicals.

Table 3.6 summarizes results of analyses of solutions in or derived from the old and new tailings piles. There are no direct analyses of tailings solutions from the old pile. However, leaching experiments on tailings collected from the old pile demonstrate that water in contact with the old tailings would contain primarily calcium and sulfate and several trace constituents including arsenic, cadmium, chromium, copper, lead, uranium, and vanadium. These constituents probably are derived from the dissolution of ore-associated minerals in the tailings, including gypsum (calcium sulfate), uranyl vanadates, and minor amounts of copper-bearing minerals (Whitkind and Thaden, 1963). The dissolution of the mineral gypsum (hydrous calcium sulfate) may explain the predominance of both calcium and sulfate in the old tailings leachates.

Direct analysis of tailings solutions are available from the new tailings pile (Table 3.6). In general, the concentrations of these solutions increased with decreasing depth in the pile, reflecting seepage of the solutions from the base of the pile, and infiltration of precipitation into the top of the pile. The tailings solutions were acid (pH as low as 4.3). The solutions are ammonium-nitrate and calcium-sulfate solutions, reflecting the presence of gypsum in the ores, the dissolution of other calcium-bearing minerals in the ores, and the addition of

Table 3.6 Chemistry of tailings solutions and leachates, Monument Valley, Arizona, site

Constituent	Leachate (old tailings pile)	Tailings solution (new tailings pile)	Tailings solution (evaporation pond subsoil)
Alkalinity	NA	2	44
Aluminum	1.8	5.5	0.9
Ammonium	NA	1200	47
Antimony	NA	0.003	<0.003
Arsenic	0.31	<0.01	<0.01
Barium	0.14	0.3	0.5
Cadmium	0.115	<0.001	<0.001
Calcium	446	626	425
Chloride	6.1	20	45
Chromium	0.24	0.02	0.03
Cobalt	NA	1.41	0.11
Copper	0.55	0.11	0.04
Fluoride	NA	NA	1.7
Iron	1.2	1.86	0.04
Lead	0.43	<0.01	<0.01
Magnesium	97	78.3	135
Manganese	35	3.94	0.77
Molybdenum	<0.06	0.32	0.24
Nickel	NA	1.1	0.15
Nitrate	NA	530	570
pH	6.3	4.3	7.2
Phosphate	NA	NA	NA
Potassium	48	21.9	5.2
Radium-226	NA	13	4.7
Radium-228	NA	NA	NA
Redox Potential	535	NA	NA
Selenium	<0.06	<0.005	<0.005
Silica	6.6	NA	NA
Silver	NA	<0.01	<0.01
Sodium	97	70.7	362
Strontium	NA	0.07	1.6
Sulfate	1450	4510	1610
TDS	NA	6850	2900
Uranium	0.74	0.075	1.08
Vanadium	6.2	1.08	0.91
Zinc	NA	3.9	0.13

Notes:

1. Leachate data in milligrams per kilogram (mg/kg) except for pH (in standard units) and redox potential (in millivolts).
2. Data listed are maximum measured concentrations in filtered samples.
3. Leachate data are from samples MV004-01 and MV004-02 (DOE, 1983).
4. Tailings solution data are from evaporation pond locations 0804 and 0805; and from new tailings piles locations 0814 through 0817.
5. Tailings solution data in milligrams per liter (mg/L) except for the following: radium-226 in picocuries per liter, pH in standard units, redox potential in millivolts; alkalinity expressed as mg/L calcium carbonate equivalent.
6. < indicates less than the given value.
7. NA = not analyzed.
8. The following were not detected (method detection limit is given in parentheses): boron (0.1 mg/L), mercury (0.0002 mg/L), silver (0.01 mg/L), sulfide (0.01 mg/L), and tin (0.005).

sulfuric acid and ammonium nitrate to the processing solutions. Chloride levels are notably low in these solutions and about the same as in background ground waters. Metals and trace elements include aluminum, iron, manganese, antimony, barium, chromium, cobalt, copper, molybdenum, nickel, strontium, uranium, vanadium, and zinc. These elements were derived from the dissolution of the ores.

Solutions beneath the evaporation pond area differ from those in the tailings piles. Notably, the acidity of the solutions has been reduced by reactions with carbonate minerals in the subsoil. Also, the ammonium and sulfate concentrations decreased, and sodium concentrations increased. These changes reflect reactions of the tailings solutions with the subsoil. The resulting solution is a calcium-sodium-nitrate-sulfate solution. As with the tailings solutions, chloride concentrations are notably low (45 mg/L), only slightly exceeding background concentrations (up to 23 mg/L). All metals and trace elements (except antimony) present in the tailings solutions are also present in the evaporation pond area.

Ground water contamination in the alluvial aquifer

The surficial alluvial aquifer is the aquifer most affected by the ground water contamination. Four constituents associated with the processing solutions serve as indicators for delineating the extent of ground water contamination: calcium, sulfate, nitrate, and uranium. All four occur in background ground water, but at lower levels than in the tailings solutions. Also, all four tend to be mobile in the ground water under the conditions of the site.

Maps showing the distribution of sulfate, nitrate, and uranium indicate there may be two separate plumes of ground water contamination at the site (Figures 3.14, 3.15, and 3.16). The calcium distribution is not shown as a figure because it closely reflects the sulfate distribution. One plume extends north from the western portion of the site (the western plume) while the second plume extends north from the eastern portion of the site (the eastern plume). The western plume may be associated with the old tailings pile and heap leach pad area, which were located on windblown sands overlying a buried channel. This plume is characterized by several constituents that occur at high levels above background, including sulfate, calcium, magnesium, strontium, and uranium. The western plume also contains nitrate. However, compared to background concentrations, elevated sulfate concentrations extend beyond the limits of elevated nitrate. Table 3.7 compares constituent concentrations in water from tailings solutions and a background well to median values for the two wells displaying the greatest contamination levels in the eastern and western plumes (wells 606 and 655, respectively).

By contrast, the eastern plume is smaller than the western plume, and is characterized by the highest observed concentrations of nitrate and ammonium in ground water at the site. Other contaminants (sulfate and uranium) are present, but at lower levels than those observed in the western plume.

Figure 3.14
Distribution of Sulfate in the Alluvial Aquifer
Monument Valley, Arizona, Site

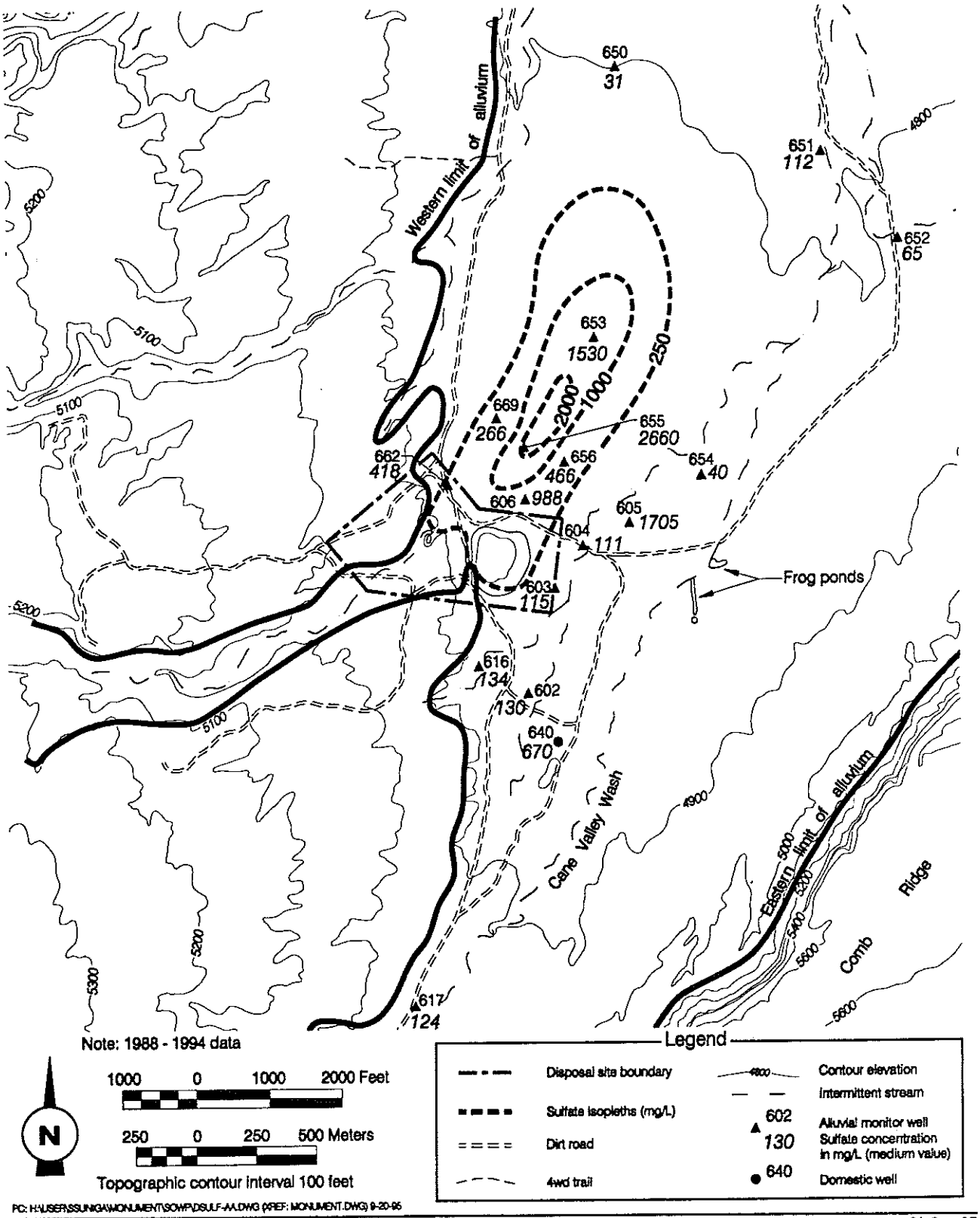

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Figure 3.15
Distribution of Nitrate in the Alluvial Aquifer
Monument Valley, Arizona, Site

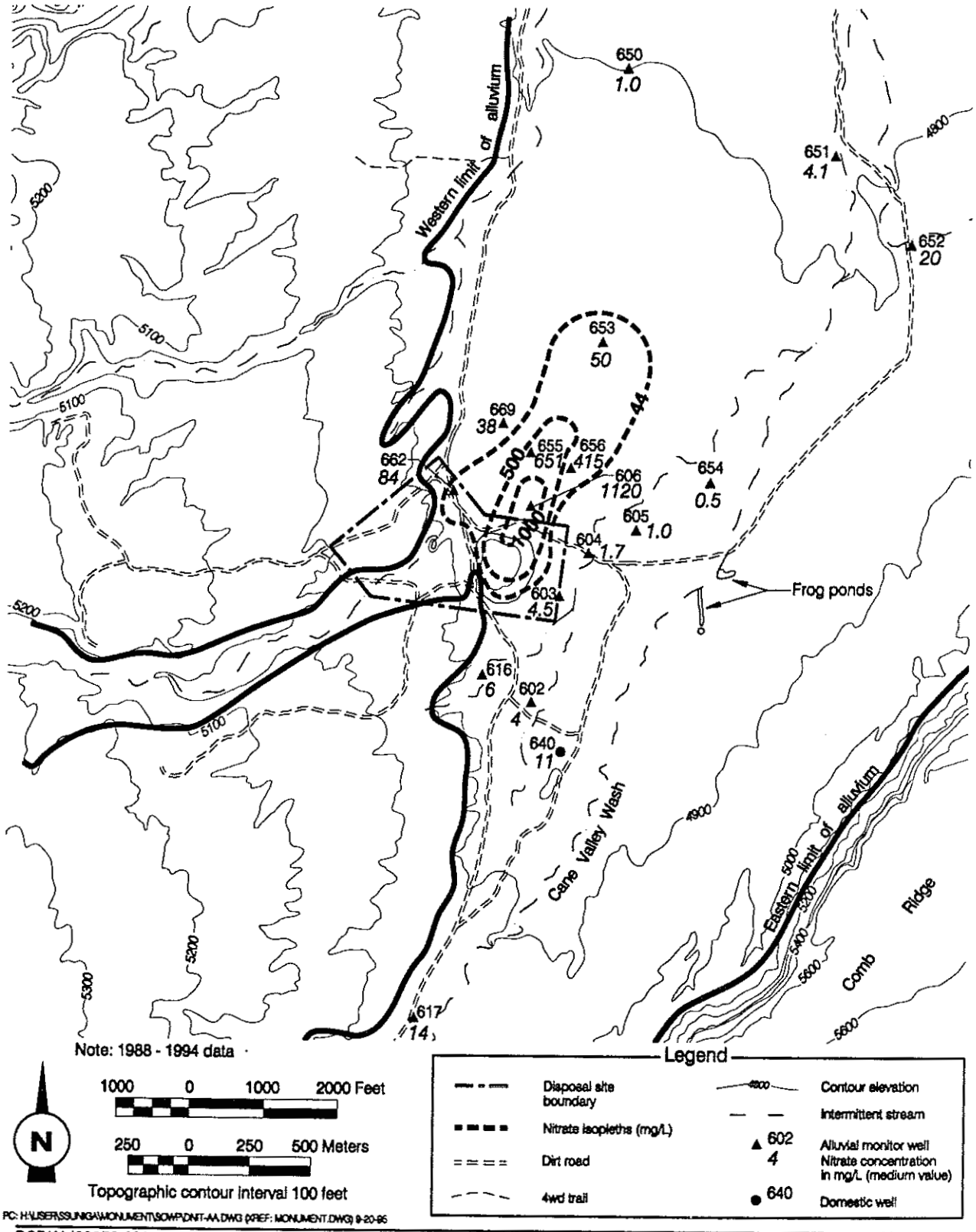

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Figure 3.16
Distribution of Uranium in the Alluvial Aquifer
Monument Valley, Arizona, Site

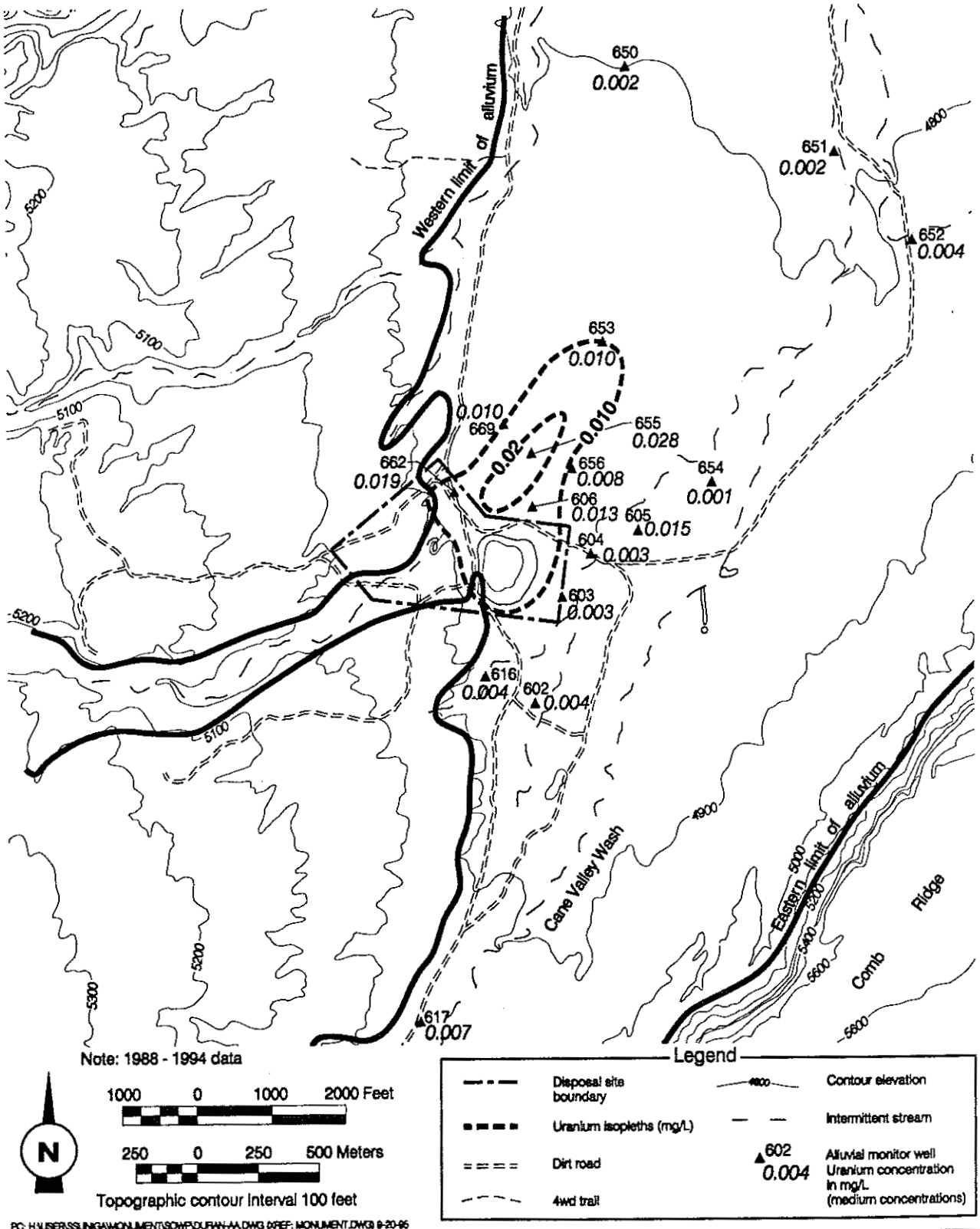

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Table 3.7 Comparison of contaminated ground water to tailings solution and background ground water quality data in the alluvial aquifer, Monument Valley, Arizona, site

Constituent	Tailings solutions (maximum observed)	MON-01-0606 (contaminated)	MON-01-0655 (contaminated)	MON-01-0617 (background)
Alkalinity	44	316	307	268
Aluminum	5.5	<0.1	<0.1	<0.1
Ammonium	1200	346	268	<0.01
Antimony	0.003	<0.003	<0.003	<0.003
Arsenic	<0.01	<0.01	<0.01	<0.01
Barium	0.5	0.05	0.05	0.08
Bromide	NA	NA	NA	NA
Boron	NA	0.20	<0.05	NA
Calcium	626	226	410	22
Chloride	45	17	32	23
Chromium	0.03	<0.01	<0.01	<0.01
Cobalt	1.41	<0.05	<0.05	<0.05
Copper	0.11	<0.01	<0.01	NA
Fluoride	1.7	0.4	0.2	NA
Iron	1.86	<0.03	<0.03	<0.05
Iron (unfiltered)	NA	10.3	0.06	0.23
Lead-210	NA	<3.6	<2.0	NA
Lead-210 (unfiltered)	NA	5.6	5.2	5.7
Magnesium	135	122	306	41
Manganese	3.94	0.11	0.04	<0.01
Manganese (unfiltered)	NA	0.20	0.05	<0.005
Molybdenum	0.32	<0.01	<0.01	0.01
Nickel	1.1	<0.04	<0.04	<0.04
Nitrate	570	1120	651	14
pH	4.3	7.20	7.18	8.20
Phosphate	NA	0.4	0.4	NA
Potassium	22	12	27	0.6
Radium-226	13	0.35	<0.3	2.9
Radium-228	NA	1.5	<1.0	<1.0
Redox potential	NA	450	460	407
Selenium	<0.005	<0.005	<0.005	<0.005
Silica	NA	22	16	31
Sodium	362	96	165	111
Strontium	1.6	1.8	2.9	0.52
Sulfate	4510	902	2270	103
Tin	NA	<0.005	<0.005	NA
Thorium-230	NA	<1.0	<1.0	NA
TDS	6850	2084	4165	450
Uranium	1.08	0.013	0.028	0.007
Vanadium	1.08	<0.01	<0.01	0.018
Zinc	3.9	0.010	0.003	<0.005
Zinc (unfiltered)	NA	0.029	0.019	0.043

Notes:

1. Tailings solution data are the maximum observed values for filtered samples collected from lysimeters.
2. Ground water data listed are median values for filtered samples (except as noted) collected from 1988 through 1994.
3. All data in milligrams per liter (mg/L) except for the following: lead-210, radium-226, radium-228, thorium-230 in picocuries per liter; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
4. < indicates less than the given value.
5. NA = not analyzed.
6. The following were not detected in samples of tailings solutions and ground water (method detection limit is given in parentheses): beryllium (0.005 mg/L), cadmium (<0.001), lead (0.01 mg/L), mercury (0.0002) , silver (0.01 mg/L), and thallium (0.01 mg/L).

The plumes may overlap in the area of monitor well 655. The most contaminated ground water is the ammonium-nitrate calcium-sulfate water in the eastern plume, and the calcium-nitrate-sulfate water in the western plume.

Ground water sampled from monitor wells 606 and 655 represent the most contaminated ground water observed in the monitor wells. However, both wells are downgradient of (rather than beneath) the former tailings piles. Lysimeter data, though old (1983), suggest that beneath the evaporation pond area, the magnitude of contamination may be greater than that observed in downgradient monitor wells. More data are needed to confirm this supposition.

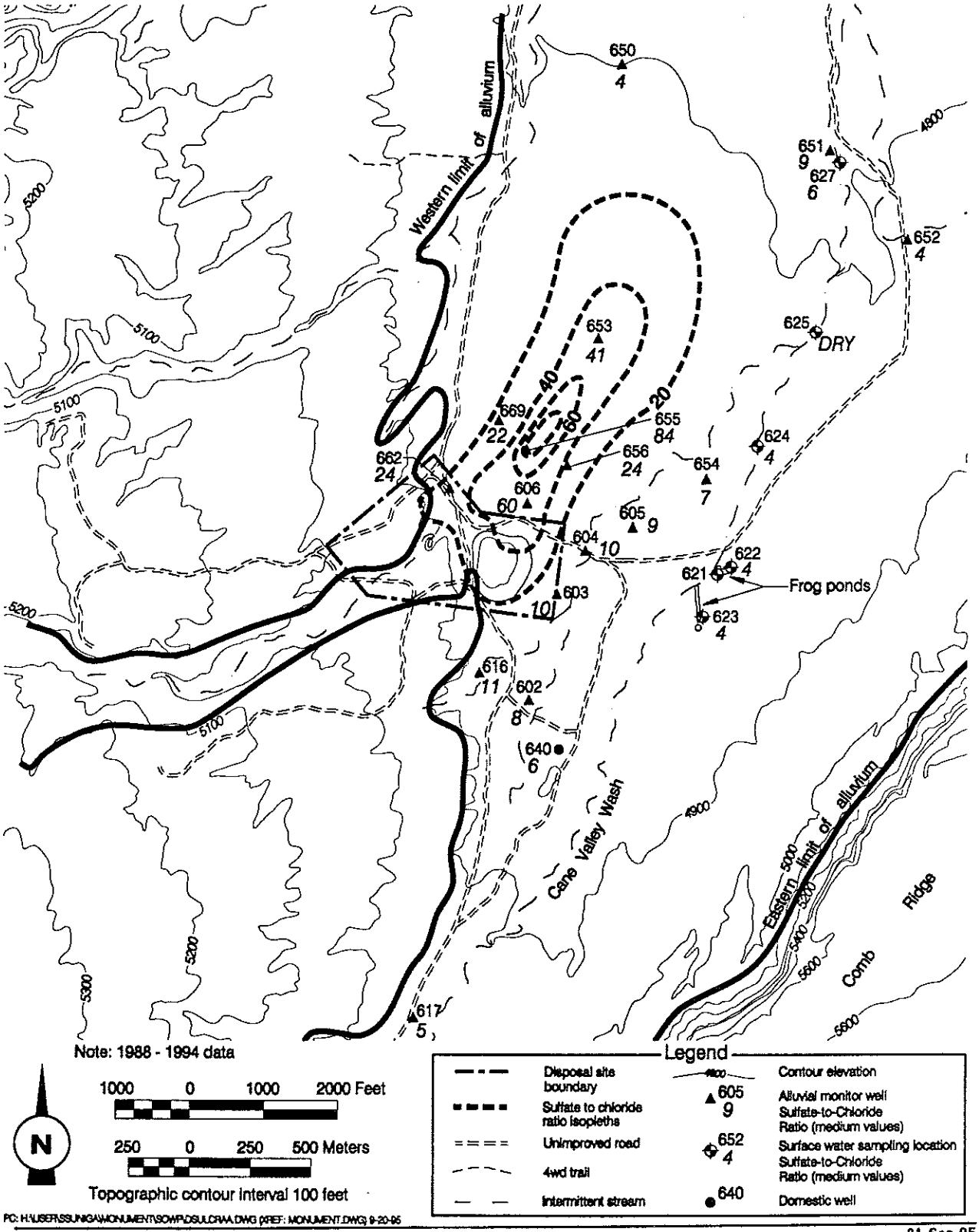
One monitoring well east (crossgradient) of the site has relatively high sulfate concentrations (well 605). Also, a private well (no longer operable) upgradient of the site has relatively high sulfate concentrations compared to the ground water in background wells. Uranium concentrations are also higher than in the background samples. However, ground water in these wells is not thought to be influenced by contaminated ground water flow, but by ground water 1) with salts concentrated by evaporation, or 2) in contact with naturally occurring soluble salts in the alluvial aquifer. This is indicated by 1) the fact that private well 640 is located upgradient of the site and therefore cannot be affected by contaminated ground water flow; 2) the lack of nitrate (above background levels) in these two wells; and 3) the presence of relatively high concentrations of chloride. As noted, chloride concentrations in the tailings pore fluids are low.

The elevated concentrations of chloride, calcium, magnesium, sodium, potassium, alkalinity, and uranium are consistent with evaporative concentration of natural ground water. During evaporation, concentrations of major elements tend to remain at constant proportions. Thus, while sulfate and chloride concentrations increase, their relative proportions remain the same. In background ground water, the sulfate-to-chloride ratio is about 11 to 1 or less (Figure 3.17). By contrast, in the tailings solutions the sulfate-to-chloride ratio was about 137 to 1 or greater (based on data from lysimeters within the new tailings pile) because during ore processing, sulfate was added to the processing solutions while chloride was not. In contaminated ground water, the proportion of sulfate to chloride is greater than 11 to 1, ranging from about 60 to 1 (Figure 3.17).

Ground water in wells 640 and 605 have sulfate-to-chloride ratios in the range of background (6 to 1 and 9 to 1, respectively) (Figure 3.17).

Based on all indicators of ground water contamination (sulfate, nitrate, uranium, and sulfate-to-chloride ratios), the extent of contamination appears to be within an area delineated by monitor wells 603, 604, 605, 654, 652, 651, and 650 east and north of the site; however, the vertical distribution of the plume is poorly known and shallow ground water contamination could extend further downgradient than is shown in Figure 3.14 (in the area of wells 650, 651, 652, and 654). The hydraulic gradient prevents contamination from extending south of the site, and the depositional limit of the alluvial aquifer corresponds to the

Figure 3.17
Distribution of Sulfate to Chloride Ratios in the Alluvial Aquifer and Surface Waters Monument Valley, Arizona, Site



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western limit of possible contamination in the aquifer (Figures 3.14 through 3.17).

The vertical distribution of ground water contamination is not fully known. The saturated zone in the alluvial aquifer is from 0 to at least 60 ft (18 m) thick in the area of ground water contamination. In a few wells near the site, such as wells 603 and 606, the alluvial aquifer is thin and almost the entire saturated thickness of the alluvial aquifer is screened. Further from the site, where the aquifer is thicker (wells 655, 656, and 653), only the upper 25 to 40 ft (8 to 12 m) of the saturated thickness of the alluvial aquifer is screened. Still further from the site, in wells 650 and 654, only the lower 50 to 84 feet (15 to 26 m) of the saturated thickness of the aquifer is screened. Thus, the lateral and vertical distribution of contamination is not fully characterized in those areas. Northeast of the site, near wells 651 and 652, most of the saturated thickness is screened. However, the upper 10 to 15 ft (3 to 4.5 m) of the saturated thickness remain to be sampled for ground water contamination.

Ground water contamination in the Shinarump aquifer

Ground water data collected since 1988 are available from five wells completed in the Shinarump aquifer: 601, 614, 615, 659, and 660. Wells 601 and 615 are the background wells, while the remainder are downgradient of the site. Of these, only well 614 displays evidence of site-related ground water contamination. In this well, the indicator parameters (calcium, sulfate, and nitrate) are elevated about 2 to 5 times those of background. Also, sulfate-to-chloride ratios exceed 11 to 1, suggesting contamination. Uranium is about 6 times background, but the level (median of 0.032 mg/L) is still below the UMTRA uranium MCL. Table 3.8 compares the median values from this well to that in background.

Ground water contamination in the Shinarump aquifer at well 614 may be due to cross-formational flow of contaminated ground water from the alluvial aquifer into the upper portion of the Shinarump aquifer. The magnitude of contamination in well 614, compared to the distribution of contamination in the alluvial aquifer, is consistent with this model. In well 614, the ground water table is essentially at the contact between the alluvial and Shinarump aquifers. Therefore, the contaminated ground water would have to flow laterally (from the southeast) rather than vertically into the Shinarump at this point.

The two Shinarump wells (614 and 659) immediately beneath the contaminated plume within the alluvial aquifer do not show evidence of ground water contamination.

3.2.9 Ground water contamination in the De Chelly aquifer

Two wells within the De Chelly aquifer (619 and 657) show the influence of site-related contamination. In both wells, located within a few hundred feet of each other, concentrations of calcium, nitrate, sulfate, and uranium exceed

Table 3.8 Comparison of contaminated to background ground water quality data in the Shinarump aquifer, Monument Valley, Arizona, site

Constituent	MON-01-0601 (background)	MON-01-0615 (background)	MON-01-0614 (contaminated)
Alkalinity	280	226	189
Aluminum	0.07	<0.1	<0.1
Ammonium	0.125	<0.1	<0.1
Antimony	0.004	<0.003	<0.003
Arsenic	0.005	0.003	0.005
Barium	0.05	0.05	0.1
Boron	0.05	<0.1	<0.1
Bromide	<0.1	NA	<0.1
Cadmium	<0.005	<0.001	<0.001
Calcium	28.4	17.5	88.0
Chloride	15.1	9.9	20.0
Fluoride	0.2	0.4	0.2
Iron	<0.03	0.13	<0.03
Iron (unfiltered)	107	2.95	3.06
Lead	<0.005	<0.01	<0.01
Lead 210	<2.0	<2.0	NA
Lead-210 (unfiltered))	<2.0	7.2	NA
Magnesium	18	16	57
Manganese	0.005	0.005	<0.01
manganese (unfiltered)	1.46	0.35	0.11
Molybdenum	0.005	<0.005	<0.007
Nitrate	4.25	4.3	25.2
pH	7.79	7.84	7.59
phosphate (unfiltered)	2.6	<0.1	1.3
Potassium	1.9	3.1	1.8
Radium-226	0.3	1.2	0.5
Radium-228	1.4	2.7	1.0
Redox potential	442	248	456
Selenium	0.005	<0.005	0.005
Silica	14	9	14
Sodium	99	88	31
Strontium	0.29	0.63	0.69
Sulfate	125	63	255
Thorium-230	<1.0	NA	<1.0
TDS	429	327	663
Uranium	0.005	0.001	0.032
Vanadium	<0.025	<0.005	<0.01
Zinc	0.0025	0.0130	0.005
Zinc (unfiltered)	0.143	0.038	0.050

Notes:
1. Data listed are median values for filtered samples (except as noted) collected from 1988 through 1994.
2. All data in milligrams per liter (mg/L) except for the following: lead-210, radium-226, radium-228, thorium-230 in picocuries per liter; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
3. < indicates less than the given value.
4. NA = not analyzed.
5. The following were not detected in filtered ground water samples (method detection limit is given in parentheses): beryllium (0.005 mg/L), cadmium (0.001), chromium (0.005), cobalt (0.05), copper (0.02 mg/L), mercury (0.0002), nickel (0.04 mg/L), silver (0.01 mg/L), thallium (0.01 mg/L), and tin (0.01 mg/L).

background concentrations (Table 3.9). Also, sulfate-to-chloride ratios exceed 11 to 1, consistent with site-related contamination. Both wells are in the area of the site once occupied by the old tailings pile and heap leach pads. This area is underlain by a 100-ft (30-m)-deep buried channel, in bedrock filled with water-transported and windblown sands. The boring log for well 657 indicates the channel has eroded through the Shinarump and Moenkopi such that the alluvial aquifer rests directly upon the De Chelly Sandstone in this area. Also, well 619 was used to provide processing water during milling operations, and water for the tailings removal operations. Pumping this well appears to have drawn contaminated ground water from the alluvial aquifer into the De Chelly Sandstone in this area. No other wells in the De Chelly aquifer show evidence of site-related ground water contamination.

Contaminants above background

Contaminants identified as above background in the alluvial aquifer are ammonium, calcium, chloride, iron, magnesium, manganese, nitrate, potassium, silica, sodium, strontium, sulfate, uranium, vanadium, and zinc (DOE, 1994a). Several of these (chloride, silica, sodium, vanadium, and zinc) occur at levels only slightly elevated above background (less than 3 times background) and are poor indicators of contamination. Those that occur at moderate levels above background (3 to 10 times background) are iron, magnesium, strontium, and uranium. Contaminants that provide the greatest contrast to background (more than 10 times background) are ammonium, calcium, nitrate, and sulfate.

3.2.10 Contaminant fate and transport mechanisms

Site-related contaminants in ground water will be subject to dispersion, radioactive decay, and various chemical reactions, including oxidation/reduction reactions, precipitation and coprecipitation, adsorption onto the aquifer mineral surfaces, cation exchange, and possibly biologically controlled oxidation/reduction reactions.

Ground water quality data provide insight into the fate and transport of site-related contaminants in ground water at the site. Several constituents identified in the tailings solutions are absent or occur at much lower levels in the contaminated ground water, due to reactions of these contaminants with the aquifer matrix. Contaminants present in tailings solutions, but absent (below detection) in ground water at the site, are trace metals, including antimony, chromium, cobalt, copper, molybdenum, and nickel. Contaminants in tailings solutions that are greatly attenuated, but detectable above background, are ammonium, radium-226, uranium, and vanadium. Contaminants that are at levels in ground water similar to those in the tailings solutions are major cations and anions (calcium, nitrate, magnesium, chloride, potassium, strontium, and sulfate) (Table 3.7).

Dispersion and precipitation reactions control concentrations of the major cations and anions such as calcium, iron, magnesium, nitrate, potassium, silica,

Table 3.9 Comparison of contaminated to background ground water quality data in the De Chelly aquifer, Monument Valley, Arizona, site

Constituent	MON-01-0612 (background)	MON-01-0613 (background)	MON-01-0619 (contaminated)	MON-01-0657 (contaminated)
Alkalinity	121	185	189	193
Aluminum	NA	<0.1	NA	NA
Ammonium	<0.1	<0.1	<0.1	<0.1
Antimony	NA	<0.003	<0.003	<0.003
Arsenic	0.01	<0.005	<0.005	0.005
Barium	NA	0.05	<0.1	0.20
Boron	NA	<0.05	NA	<0.1
Bromide	NA	<0.1	NA	<0.1
Cadmium	0.004	<0.005	NA	0.001
Calcium	28	16	56	64
Chloride	6	8	7	8
Fluoride	NA	0.3	NA	0.2
Iron	NA	<0.03	<0.03	<0.03
Iron (unfiltered)	NA	0.04	<0.03	0.06
Lead 210	NA	<2.0	<2.0	<2.0
Lead-210 (unfiltered))	NA	5.8	NA	NA
Magnesium	18	29	32	41
Manganese	NA	<0.005	<0.01	<0.01
manganese (unfiltered)	NA	<0.005	<0.01	<0.01
Molybdenum	0.01	0.005	0.03	<0.01
Nitrate	8.0	4.3	20	20
pH	7.64	8.01	7.20	7.39
phosphate (unfiltered)	NA	<0.1	<0.1	<0.1
Potassium	5.3	2.8	2.0	1.8
Radium-226	NA	0.3	NA	<1.0
Radium-228	NA	<1.0	NA	<1.0
Redox potential	NA	447	447	431
Selenium	<0.005	0.0025	NA	<0.005
Silica	NA	11	13	14
Sodium	13	50	22	15
Strontium	NA	0.35	0.45	0.51
Sulfate	20	61	73	127
Thorium-230	NA	<1.0	NA	<1.0
TDS	195	289	320	335
Uranium	0.010	0.004	0.134	0.064
Vanadium	NA	0.005	0.02	0.06
Zinc	NA	0.003	0.105	<0.005
Zinc (unfiltered)	NA	0.005	0.035	0.197

Notes:

1. Data listed are median values for samples collected from 1988 through 1994.
2. All data in milligrams per liter (mg/L) except for the following: lead-210, radium-226, radium-228, thorium-230 in picocuries per liter; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
3. < indicates less than the given value.
4. NA = not analyzed.
5. The following were not detected in filtered ground water samples (method detection limit is given in parentheses): beryllium (0.005 mg/L), cadmium (0.001), chromium (0.005), cobalt (0.05), copper (0.02 mg/L), lead (0.005), mercury (0.0002), nickel (0.04 mg/L), silver (0.01 mg/L), thallium (0.01 mg/L), and tin (0.01 mg/L).

sodium, strontium, and sulfate. Precipitation/dissolution reactions will occur in the portion of the plumes closest to the former tailings piles. Precipitation reactions currently are active because the shallow ground water in this zone is oversaturated with gypsum. With the tailings piles removed, the ground water sulfate concentrations will decrease, allowing gypsum to redissolve. Dissolution will buffer sulfate and calcium concentrations until the gypsum is exhausted. At this point, dispersion with background water will lower sulfate and calcium concentrations.

Cation exchange reactions with clays and oxidation to nitrate perhaps, mediated by bacterial action, will decrease ammonium concentrations. Dispersion and adsorption mainly will decrease manganese, uranium, vanadium, and zinc concentrations.

3.2.11 Surface water and sediments

Field observations along Cane Valley Wash are important in interpreting the results of sediment and surface water sampling. In the area of the Frog Ponds and Cane Valley Wash north of monitor well 658 (upgradient of the site), the ground water table in the alluvial aquifer is commonly at or within a few feet of the surface. Capillary action keeps the sediments in the bottom of the wash wet, and evaporation of the capillary water results in the precipitation and accumulation of a 1- to 3-mm-thick crust of salts over most of the surface of the wash. In some areas downstream of the Frog Ponds, the area covered by salts is more than 300 ft (100 m) wide. Examination of these salts indicates that they are predominantly sodium carbonate and very soluble. Wind transport of the salts has been observed, inferring that wind ablation and dissolution of the salts during rains precludes the formation of thick salt deposits in the wash.

Natural scour pools in the wash are common and often intersect the ground water table. Except after rains, water in these surface pools is derived from the near-surface ground water affected by evaporation and transpiration. Thus, the water in the pools along the wash tend to have high TDS as determined by electrical conductivity measurements in the field.

Sediment results

Table 3.10 presents chemical results for sediments collected in 1993. Sediment collected from the northernmost Frog Pond (location 623) is upgradient from the site and was not identified as a vicinity property. Therefore, location provides sediment background samples. Levels of arsenic, strontium, uranium, vanadium, and zinc are low compared to average concentrations in soils and sediments (Shacklette and Boerngen, 1984), possibly reflecting the sandy, well sorted nature of the sediments derived from windblown sands. Sulfate concentrations are notable, and may reflect the accumulation of natural sulfate salts in the sediments due to evaporation.

Table 3.10 Summary of sediment chemistry data, Monument Valley, Arizona, site

Constituent	MON-01-0623 (background)	MON-01 -0624	MON-01 -0626	MON-01 -0627	MON-01 -0620
Arsenic	0.9	0.6	0.8	0.9	4
Nitrate	1.8	3.8	0.4	0.9	0.9
Strontium	116	46	26	54	28
Sulfate	771	935	42	35	48
Uranium	<1.0	<1.0	<1.0	<1.0	1.0
Vanadium	6	3	5	9	9.0
Zinc	10.7	10.8	6.8	29.2	18.7

Notes:
1. Samples collected June 1993.
2. All data in milligrams per kilogram.
3. < indicates less than the given value.

Comparison of sediments in Cane Valley Wash (624, 626, and 627) indicates no notable differences in sediment chemistry from those in the Frog Ponds area. Zinc at location 627 and arsenic at location 620 are elevated when compared to the Frog Pond sample; however, more data would be required to determine if these levels of arsenic and zinc are beyond the range of ambient values.

Surface water results

Table 3.11 summarizes surface water sampling results. Location 623 serves as a background sample. Locations 621 and 622 are downstream (north) of 623, in a second frog pond fed by water in the southern frog pond. This northern pond was a vicinity property. The banks were stabilized with uranium mineralized rock. The rock was removed during surface remediation. Because water samples from locations 621 and 622 were collected before remediation, some constituents in surface water at these locations could be elevated by the ore rock. However, the hydraulic gradient precludes contamination of the Frog Ponds by ground water discharge.

Variations in alkalinity, chloride, magnesium, sodium, sulfate, and TDS at sampling locations 621, 622, and 623 are due to differences in evaporative constituent concentrations caused by climatic conditions at the time of sampling. For example, chloride concentrations vary from 5 to 172 mg/L while sulfate varies from 10 to 452 mg/L in the same samples. The sulfate-to-chloride ratio tends to remain the same during evaporative concentration (provided saturation with sulfate salts is not reached, as is the case with the sampled surface waters). In the background surface water samples, the sulfate-to-chloride ratio is about 4 to 1. Likewise, in samples from locations 621 and 622, the sulfate-to-chloride ratios also are about 4 to 1, regardless of the sulfate concentration. Thus, variations in most constituents in these samples are due to varying amounts of evaporative concentration. This also may be true of uranium and molybdenum. However, the former presence of ore rock in the southern pond is another possible source of ore uranium and molybdenum.

Table 3.11 Summary of surface water quality data, Monument Valley, Arizona, site

Constituent	MON-01-0623 (background)	MON-01 -0621	MON-01 -0622	MON-01 -0624	MON-01-0626	MON-01 -0627	MON-01 -0620
Alkalinity	213 - 371	194 - 361	218 - 486	275 - 598	946	7250 - 15106	352
Ammonium	<0.1 - 0.1	<0.1 - 2.1	<0.1 - 0.1	<0.1 - 0.12	<0.1	0.5 - 2.3	0.2
Arsenic	<0.1 - 0.1	<0.01 - 0.01	<0.01 - 1.0	<0.1 - 0.12	NA	NA	NA
Arsenic (unfiltered)	<0.005	<0.002	<0.002	NA	NA	0.036	0.019
Barium	NA	0.1 - 0.22	<0.1 - 0.2	NA	NA	NA	NA
Boron	NA	0.08 - 0.8	0.06 - 1.0	NA	NA	NA	NA
Calcium	41 - 49	34 - 44	32 - 42	19 - 42	24	8.9 - 9.5	48
Chloride	8 - 15	5 -11	7.2 - 110	15 - 33	78	568 - 938	15
Fluoride	NA	0.2 - 0.4	0.2 - 0.6	NA	NA	NA	NA
Iron	<0.03	<0.03 - 0.03	<0.03	<0.03	NA	0.64	NA
Iron (unfiltered)	NA	<0.005 - <0.01	NA	1.09	NA	23.9	14.5
Lead-210 (unfiltered)	NA	5.6	4.8	NA	NA	NA	NA
Magnesium	23 - 29	20 - 32	25 - 58	36 - 67	63	50 - 82	27
Manganese	0.02 - 0.16	<0.01 - 0.13	0.02 - 0.07	<0.01 - 0.01	0.05	<0.2 - 0.17	NA
Manganese (unfiltered)	0.08 - 0.99	0.005	0.009	0.04 - 0.14	0.30	0.34 - 0.7	1.53
Molybdenum	<0.01	<0.007 - <0.01	<0.01 - 0.09	<0.01	NA	<0.2	NA
Molybdenum (unfiltered)	<0.01	<0.005	<0.005	<0.01	NA	0.12	0.03
Nitrate	<1 - 1	< 1.0 - 5.3	<1.0 - 4.8	<1 - <1	<1	< 1 - 4.4	<1
pH	7.4 - 8.1	7.2 - 9.3	8.1 - 8.6	8.6 - 9.1	8.6	7.9 - 10.3	8.03
Phosphate	0.48	0.6	0.6	0.24	NA	24	1.4
Potassium	2.2 - 8.6	1.3 - 6.0	2.5 - 5.0	9.8 - 21	19.2	47 - 73	2
Radium -226	NA	0 - 6.8	0.1 - 0.3	NA	NA	NA	NA
Radium - 228	NA	0 - 1.8	0.2 - 1.1	NA		NA	NA
Redox Potential	438	NA	NA	365	NA	606	NA
Selenium	NA	<0.005 - <0.005	<0.005 - 0.012	NA	NA	NA	NA
Selenium (unfiltered)	NA	<0.0015	<0.0015	NA	NA	NA	NA
Silica	17 - 19	8 - 11	11 - 52	1.5 - 17	NA	1.7 - 4.4	32
Sodium	35 - 55	30 - 45	36 - 337	68 - 148	445	2930 - 9850	112
Strontium	0.48 - 0.64	0.42 - 0.55	0.4 - 0.52	0.65 - 0.72	0.71	<0.2 - 0.33	0.3
Sulfate	29 - 70	10 - 35	32 - 452	53 - 63	224	2020 - 5990	100
Sulfide	NA	<0.1 - 1.1	< 0.01 - 1.31	NA		NA	NA
TDS	300 - 420	262 - 350	307 -1300	282 - 790	1570	8420 - 26600	490
Tin	NA	<0.005 - <0.01	<0.005 - <0.01	NA	NA	NA	NA
Thallium	NA	<0.01 - <0.01	<0.01 - <0.01	NA	NA	NA	NA
Thorium-230	NA	0.4	0.5 - 0.5	NA	NA	NA	NA
Total dissolved solids	300 - 420	262 - 402	310 - 1300	282 - 790	NA	5670 - 26600	490

Table 3.11 Summary of surface water quality data, Monument Valley, Arizona, site (Concluded)

Constituent	MON-01-0623 (background)	MON-01 -0621	MON-01 -0622	MON-01 -0624	MON-01-0626	MON-01 -0627	MON-01 -0620
Uranium	0.002 - 0.004	0.0005 - 0.044	<0.001 - 0.015	0.025 - 0.124	0.040	0.087 - 0.217	NA
Uranium (unfiltered)	<0.001 - 0.006	0.014	<0.001	0.019 - 0.123	NA	0.022-0.157	0.028
Vanadium	<0.01 - <0.01	<0.01 - <0.05	<0.01 - 0.03	<0.01 - 0.01	0.01	<0.2 - 0.31	NA
Vanadium (unfiltered)	<0.01 - 0.06	0.003	<0.002	<0.01 - 0.02	NA	0.09 - 0.25	0.04
Zinc	<0.05	<0.005 - 0.005	<0.005 - 0.006	<0.05	NA	<1	NA
Zinc (unfiltered)	0.11 - 0.21	0.005	0.005	<0.05	NA	0.08 - 0.17	0.033

Notes:

1. Data listed are the range of analytical results for filtered samples (except as noted) collected from 1988 through 1994.
2. Only one sample of unfiltered data is available for location 620 during this period.
3. All data in milligrams per liter (mg/L) except for the following: radium-226 in picocuries per liter; pH in standard units; redox potential in millivolts; alkalinity as mg/L calcium carbonate equivalent.
4. < indicates less than the given value.
5. NA = not analyzed.
6. The following were analyzed only at locations 621 and 622, but not detected in either filtered or unfiltered samples (method detection limit given in parentheses): aluminum (0.2) beryllium (0.01), cadmium (0.005), chromium (0.01), cobalt (0.05), copper (0.05), lead (0.01), mercury (0.0002), nickel (0.04), tin (0.01) and thallium (0.01).

Sampling the southern pond after remediation will help determine if past observed uranium is natural or a result of site-related contamination.

Surface and near-surface water quality data from Cane Wash also indicate evaporation of ground water discharge to the wash is affecting water quality. Samples collected from location 627 best demonstrate this. Water collected at this location is sodium-carbonate water, with dissolved carbonate concentrations of up to 15,100 mg/L. This high carbonate concentration is the expected result of evaporation of sodium bicarbonate water, such as characterizes background water in the area. By contrast, the contaminated ground water does not have elevated concentrations of bicarbonate or carbonate. Further, it can be demonstrated that evaporation of a calcium sulfate water, such as the contaminated ground water at the site, would lead to a saline water containing little or no carbonate (Drever, 1982). Thus, the high TDS near surface water is not related to contaminated ground water discharge to Cane Valley Wash. The conditions listed below support this conclusion.

- Chloride concentrations much higher than those found in contaminated ground water.

- Sulfate to chloride ratios of about 5 to 1, consistent with an evaporative concentration of natural ground water discharge rather than discharge of contaminated ground water.

- The relatively low concentration indicators of ground water contamination other than sulfate, including calcium, nitrate, and ammonium.

Thus, it is clear that the variations in most, if not all, constituent concentrations in Cane Valley Wash are due to varying rates of evaporation and ground water discharge. Chloride concentrations suggest that evaporation may concentrate natural constituents in near-surface waters by a factor of 60 or more. Given that the background ground water discharging to the wash contain up to 0.006 mg/L uranium, it is reasonable to expect uranium concentrations of more than 0.36 mg/L in evaporated surface water. This is especially true because uranium is very soluble and stable in the presence of dissolved carbonate. Nonetheless, the available data do not completely rule out the possibility that at least some uranium, molybdenum, and vanadium in the wash are derived from ore rock and tailings used to construct haul-road crossings over the wash and its tributaries. This possibility, however, is not supported by the available sediment data discussed above.

Surface water data were collected once since 1988, from a spring 2 mi (3.2 km) downgradient of the site. This spring (location 620) is on a tributary to Cane Valley Wash. Water quality data are similar to those of the Frog Ponds and do not show evidence of contaminated ground water discharge. Uranium, vanadium, and molybdenum are at elevated levels when compared to location 623; because of the vicinity property (haul-road crossing) upstream of the

sampling location, it cannot be determined if these three ore-related elements occur naturally or are due to uranium ore rock washed down the stream.

3.3 HUMAN HEALTH RISK SUMMARY

The 1994 baseline risk assessment evaluated the potential public health and environmental risks of ground water contamination caused by activities at the former Monument Valley processing site (DOE, 1994a). Site-specific data collected after the risk assessment was completed are used in this document to help determine a probable compliance strategy for the site. Section 3.4 summarizes the ecological risk.

Domestic ground water use is defined in this document as water used for drinking, bathing, and other household purposes such as cooking and garden irrigation. Ground water is the sole source of domestic water in the Monument Valley area. Domestic well users upgradient of the site and several domestic wells downgradient of the site have not been impacted by the contaminant plume (Figure 3.14). The depth to ground water is shallow in some areas near the site (i.e., Cane Valley Wash). In the areas where ground water reaches the surface, ponds form that are accessed by people and animals. However, these areas have not been impacted by the contaminated ground water; therefore, complete exposure pathways to contaminated ground water discharging to the surface water and sediment do not exist.

Currently, no one uses the contaminated ground water and, therefore, no human health risks have resulted from the use of the water. However, future use of the contaminated ground water is possible. Evaluation of potential future use indicates certain health risks could occur if the contaminated ground water (i.e., ground water within the most contaminated portion of the plume) were ingested as drinking water.

3.3.1 Contaminants of potential concern

Contaminants of potential concern are contaminants that could cause adverse health effects if taken into the body. Contaminants of potential concern were selected for the Monument Valley site using the following procedure.

Initially, if a constituent statistically exceeded background concentrations, it was placed on a screening list that included the following constituents: ammonium, calcium, chloride, iron, magnesium, manganese, nitrate, potassium, silica, sodium, strontium, sulfate, uranium, vanadium, and zinc (Table 3.12).

If the maximum detected concentration of a constituent on the screening list fell into acceptable nutritional requirement levels that would not be exceeded with exposure, it was not retained as a contaminant of potential concern. The constituents that fell into this category were chloride, iron, potassium, and zinc.

Table 3.12 Constituents detected above background and evaluated in the 1994 risk assessment, Monument Valley, Arizona, site

Contaminant	Exposure range[a] (mg/kg-day)	Background exposures[b] (mg/kg-day)	Nutritional requirement[c] (mg/kg-day)	Dietary range[d] (mg/kg-day)	Comments
Ammonium	6-13	0.02	NA	NA	Ammonium is not a dietary component but is produced in the body at levels greater than 4000 mg/day[d]. If the concentrations in the water combine with what is created in the body, toxicity is not expected to occur. Ammonium can convert into nitrate.
Calcium	11-19	2	23	20-37	Detected concentrations fall within nutritional requirements. If concentrations in the water are added to the dietary intake range, exposure falls above the high end of the dietary intake range but adverse effects would not be expected.
Chloride	0.8-1	2	5-21	170	Concentrations detected in the water fall below daily nutritional requirements; detected concentrations are considered to be at safe levels.
Iron	n.d.-0.2	0.02	0.3	0.3-1	Concentrations detected in the water fall below daily nutritional requirement. If added to the upper end of the dietary range, skin discoloration or iron organ-bioaccumulation could occur.
Magnesium	8-10	2	2-5	10	Concentrations detected in the water fall within the higher end of the nutritional requirement range and if added to the dietary range would exceed that range. However, adverse effects would not be expected.
Manganese	0.001-0.03	0.0003	0.03-0.09	0.03-0.08	Concentrations fall below nutritional requirement and dietary range; manganese is more bioavailable in water than food, risk assessment determined highest exposure levels have the potential to exhibit mild toxic effects.
Nitrate	28 - 46	1	NA	NA	Detected in concentrations determined toxic by the risk assessments (especially to infants); detected above the MCL. The conversion of ammonium into nitrate would increase the nitrate concentration.
Potassium	0.7-1	0.07	0.4-0.6	46	Detected concentrations fall below nutritional requirements; if added to the dietary range, concentrations are considered to be safe.

Table 3.12 Constituents detected above background and evaluated in the 1994 risk assessment, Monument Valley, Arizona, site (Concluded)

Contaminant	Exposure range[a] (mg/kg-day)	Background exposures[b] (mg/kg-day)	Nutritional requirement[c] (mg/kg-day)	Dietary range[d] (mg/kg-day)	Comments
Silica	0.6-0.7	1	NA	NA	Constituent does not have a nutritional requirement, dietary range is not available. Detected concentrations are below levels where toxic effects would be expected.
Sodium	4-8	4	3-18	50-140	Detected concentrations fall below nutritional requirement; hypertension already is seen in the general population in the reported dietary range and the addition of sodium from the water would not alter this interpretation.
Strontium	0.07-0.2	0.02	NA	0.01-0.06	Detected concentrations fall above dietary intake range; evaluated in the risk assessment as being at levels where toxic effects are not expected.
Sulfate	57-100	10	NA	NA	Detected in concentrations determined toxic by the risk assessment (especially to infants); proposed primary maximum contaminant level is 500 mg/L.
Uranium	0.0003-0.0004	0.0002	NA	NA	Detected concentrations fall below levels where toxic effects have been observed; however, exceeds the MCL (0.044 mg/L) in the De Chelly Formation (0.13 mg/L).
Vanadium	0.002	0.0007	NA	0.0002-0.0005	Detected concentrations fall above dietary intake range; evaluated in the risk assessment as at levels where toxic effects are not expected to occur.
Zinc	0.02	0.0005	5.0 - 15.0	0.2-0.4	Detected concentrations fall below nutritional requirement; if added to the dietary range, concentrations are considered safe.

[a] Range of exposures are calculated from the highest concentrations detected to date in the upper aquifer. However, the highest on-site uranium concentration was in the De Chelly Formation (0.135 mg/L). Concentrations used on this table are from the 1994 risk assessment.
[b] Background exposures are calculated on the highest concentration detected to date.
[c] Nutritional requirement range includes infant, child, and adult recommended dietary allowance (DOE, 1994a).
[d] DOE (1994a), unless otherwise specified.
[e] Summerskill and Wolpert (1970).
NA - not available.

If the maximum detected concentration of a constituent on the screening list fell into the high end of expected dietary ranges but was of low toxicity, it was not retained as a contaminant of potential concern. The constituents that fell into this category were ammonium, calcium, magnesium, silica, and sodium.

All remaining constituents on the list were considered contaminants of potential concern because of their potential toxic effects if ingested. These contaminants were evaluated quantitatively in the risk assessment: nitrate, sulfate, manganese, strontium, vanadium, and uranium. Of these contaminants, uranium is the only carcinogen.

Five exposure routes were evaluated for their potential adverse health effects: ground water ingestion and dermal contact, the ingestion of garden produce irrigated with contaminated ground water, and the ingestion of milk and meat from livestock watered with ground water from the contaminated aquifer. Toxicity due to exposure from these exposure routes was evaluated by calculating the exposure dose, using the upper 95 percent confidence limit of the mean concentration in ground water. The main exposure route risk contributors were identified by calculating a ratio of these exposure doses to the exposure dose from ground water ingestion (as drinking water). Ground water used as a sole source of drinking water was determined to contribute the greatest potential risk relative to all the exposure pathways screened. Therefore, the use of ground water as drinking water was further evaluated quantitatively.

Probability distributions for contaminant concentrations and exposure variables were integrated to estimate the range of contaminant exposure doses people could ingest from a hypothetical well constructed in the most contaminated portion of the plume. Filtered water quality data from 1988 to 1993 from DOE monitor well 655 were used to evaluate on-site levels of contaminants in the alluvial aquifer. The estimated amounts of contaminants a child could ingest through drinking water were compared to toxic effects anticipated for each contaminant at these amounts. Children (1 to 10 years) were evaluated for these exposure scenarios because children consume relatively more water than adults and, consequently ingest a higher contaminant dose than adults. However, when a subpopulation was identified as more sensitive to exposure to certain contaminants, that population was evaluated. For the Monument Valley site, infants have been identified as the population most sensitive to sulfate and nitrate. Adults were evaluated for the carcinogen uranium, because carcinogens are evaluated over a lifetime of 70 years.

3.3.2 Potential public health impacts

The most serious noncarcinogenic health risks from ingesting ground water at this site would result from nitrate. Some degree of methemoglobinemia (the interference of the oxygen-carrying capacity of the blood, could occur with any infant consumption of nitrate in ground water at this site. Severe diarrhea in infants could be expected from sulfate exposure. Manganese levels could cause

mild neurological symptoms such as irritability and speech disturbances. More than 99 percent of the strontium and vanadium exposures fell below any levels where any noncarcinogenic toxic effects have been observed in humans. The entire range of uranium exposures fell below any level where noncarcinogenic toxic effects have been observed in humans.

Since the completion of the risk assessment the carcinogenic toxicity factor for uranium has changed. Based on this change, the increased individual lifetime cancer risk for uranium in the alluvial aquifer is estimated to be 2E-05, or 2 chances in 100,000 of developing cancer. For the maximum concentration of uranium detected in the De Chelly aquifer (0.13 mg/L), the estimated risk level is 1E-04, or 1 chance in 10,000 of developing cancer. These estimated risk levels fall into the acceptable EPA risk range for carcinogens of 1E-04 to 1E-06 (1 chance in 10,000 to 1 chance in 1,000,000 of developing cancer).

It should be noted that the results of the risk assessment are based on the most contaminated portion of the plume characterized to date. Higher contaminant levels could be detected in the ground water because the entire plume has not been characterized. Therefore, the potential public health risk could be underestimated at this site.

3.4 ECOLOGICAL RISK SUMMARY

This section assesses the potential adverse effects of site-related contaminants on the existing biological communities and grazing and other agricultural practices in the site area; incorporates data collected since the preparation of the baseline risk assessment; and reevaluates some analyses in the baseline risk assessment, based on recent hydrologic and geochemical analysis.

Currently, the EPA has no guidance for quantifying potential ecological impacts of the release of hazardous constituents; however, the EPA has developed a qualitative approach for use in ecological risk assessments (EPA, 1989). The ecological risk assessment for the Monument Valley site is consistent with this approach.

3.4.1 Potential ecological receptors and effects

The ecological resources at the site that could be exposed to site-related contaminants are Cane Valley Wash, approximately 1500 ft (460 m) east of the former lower tailings pile, and the Frog Ponds, 1500 to 2000 ft (460 to 610 m) east-northeast of the former lower tailings pile (Figure 3.6). Another potential pathway into the biological communities is plant root uptake of contaminated ground water. The area over the plume is sandy soil, dominated by desert shrub. In general, the plants are widely spaced by bare sandy soil.

The contaminant plume is moving north roughly parallel with Cane Valley Wash and the contaminated ground water is not discharging into the wash or any other location, including the Frog Ponds. The risk assessment evaluated several

ground water plume constituents in near-surface water (sample locations 624 and 627) (Figure 3.6). Geochemical analysis of this water shows that the elevated constituent concentrations are from evaporation and are not site-related. Therefore, it is believed that the contaminated ground water from the Monument Valley site is not discharging into the environment and does not pose ecological risk to the aquatic or terrestrial biological communities.

As indicated in Section 3.3, the contaminated ground water at the site is 30 to 35 ft (9 to 11 m) below land surface. Few if any of the plants growing in the sparse plant community over the contaminant plume send roots this deep into the soil. The rooting depths of some species growing over the plume are salt bush roots, up to 4 ft (1.2 m); black greasewood, up to 4.5 ft (1.3 m); and Russian thistle, up to 6 ft (1.8 m) (Branson et al., 1976; Wiese, n.d.). Species such as black greasewood can root much deeper. Plant roots were noted in 30 ft (9 m) excavations into water-filled paleochannels at the Grand Junction, Colorado, disposal cell; black greasewood was the most common species growing over these paleochannels and these roots may have been from this species. Therefore, the potential risk associated with plants contacting contaminated ground water is considered slight to nonexistent.

3.4.2 Potential livestock and agricultural effects

The contaminated ground water is not being used to water livestock or irrigate crops, or for any other agricultural purpose. However, if the ground water in the contaminated portion of the plume were accessed for domestic use, it could be used to water livestock or irrigate plants. Nitrate and sulfate concentrations in the plume preclude using ground water to water livestock. However, the degree to which various constituents in ground water will accumulate in plant tissue and pose a hazard is not known. The DOE and the University of Arizona are studying this phenomenon.

3.5 ASSESSMENT OF PRELIMINARY DATA NEEDS

Data gaps for the Monument Valley site have been identified in site hydrology, geochemistry, and risk assessment. Additional data will be used to better evaluate the recommended ground water cleanup technologies. Preliminary data needs for each category are summarized below.

3.5.1 Hydrologic data needs

Define alluvial aquifer ground water flow conditions. Additional alluvial aquifer monitor wells are needed north and west of the site to better define the direction and magnitude of ground water flow. Data gaps exist between wells 655 and 660, wells 660 and 650, and west of the site in the vicinity of Cane Valley Wash and the Frog Ponds. Defining the ground water flow direction and gradient will help determine plume extent and velocity and pumping effectiveness. Long-term water-level monitoring (with pressure transducers and data loggers) will be used to evaluate trends in water-level fluctuations; each

aquifer, surface water body, and barometric pressure must be monitored to evaluate the interaction between the different components of the hydrologic system.

Define thickness variations in the alluvial aquifer. Geophysical surveys, such as a shallow seismic geophysical survey, will aid in determining the thickness of the alluvial aquifer. Air photos, bedrock outcrops, and existing borings indicate the alluvial aquifer overlies a bedrock surface of considerable topographic relief. The buried topographic surface is known to include at least one 120-ft (37-m)-deep canyon on the site. Further data are needed to characterize the extent of this and perhaps other canyons buried beneath the alluvial aquifer. Areas where the canyons cut through the confining layer (Moenkopi Formation) into the De Chelly Sandstone may be areas of upward ground water flow and recharge to the alluvial aquifer. Thus, the buried bedrock topography will affect ground water flow, contaminant transport, vertical and horizontal distribution of contaminated ground water, mass distribution of contaminants to any one location, and aquifer response to pumping at any one location.

Determine hydraulic conductivity in the alluvial aquifer. Testing the alluvial aquifer will provide additional information on the hydraulic conductivity of the unit. This information will allow a better evaluation of the effectiveness of ground water pumping. During testing, the lower units' response to pumping should be monitored to determine the amount of water that travels from the lower units to the alluvial aquifer. The tests also will provide preliminary information on aquifer characteristics, including long-term aquifer yield. Testing also will indicate the potential impacts of aquifer pumping the hydrologic system, including surface water bodies such as the Frog Ponds and ponded areas within the wash.

Determine soil infiltration. The capacity of the upper portion of the soils to accept water must be determined to evaluate technologies that rely on returning some or all of the pumped water to the alluvial aquifer.

Modeling of the hydrologic system. Although not specifically a data need, computer modeling of the hydrologic system will be required to predict long-term ground water flow conditions in the site vicinity. After data collected as a result of this version of the SOWP are reviewed, an appropriate model will be selected.

3.5.2 Geochemical data needs

The following hydrogeochemical data are needed to define the geochemical conditions in ground water, surface water, and soils to evaluate the most appropriate cleanup technologies.

Magnitude and extent of ground water contamination in the alluvial aquifer. A geophysical survey of ground conductivity will better define the lateral extent and relative magnitude of contamination. The results, in conjunction with a shallow seismic survey, will be used to determine additional monitor well

locations in the center and periphery of ground water contamination. Well clusters or multiport wells can be used at each of these locations to further define the vertical distribution of contamination and local hydraulic gradients. Current data gaps pertaining to the magnitude and extent of contamination are beneath and downgradient of the site. Both the limits and vertical distribution of contamination are uncertain. Also, shallow well points along Cane Valley Wash will further characterize the near-surface water geochemistry, providing information on ground water discharge from evaporation and transpiration.

Background soil chemistry. More information about the existing soils is needed to evaluate the possible effects of land application of treated ground water. Soil type and chemistry must be analyzed to establish preremediation conditions and to evaluate the most appropriate cleanup technologies. For example, soils and surface water at the site appear to be alkaline, and applying calcium sulfate can benefit alkaline soils. In addition, existing surface water quality data suggest that naturally occurring uranium and other metals may be concentrated in alkaline soils on the site, but background data are required to confirm this.

Background surface water. Further analysis of surface waters in Cane Valley Wash, especially in areas unaffected by vicinity properties (redistributed ore-rock and tailings), are needed to establish the natural levels of uranium and other ore-related metals in saline surface and near surface waters.

Contaminant desorption and dissolution from the aquifer matrix. Water chemistry suggests that on and immediately adjacent to the site, the alluvial aquifer contains gypsum derived from processing solutions. This gypsum may release calcium and sulfate to ground water during remediation, increasing the total volume of contaminated ground water to be treated. Other contaminants, such as uranium, also could be released from the aquifer matrix. Leaching experiments using core from upgradient and beneath the site will provide information on the mass of contaminants available for dissolution and desorption.

3.5.3 Risk assessment data needs

To protect human health and the ecological environment from adverse effects of ground water contamination, the following data gaps need to be addressed so all exposure pathways and ground water contaminants are identified.

The lateral extent and relative magnitude of contamination have not been characterized totally. Therefore, the magnitude of contamination must be better defined (by installing additional well points) to verify that the baseline risk assessment did not underestimate the risk to human health at the Monument Valley site. The plant community growing over the contaminant plume should be assessed in terms of species composition, community structure, and the rooting depth of selected plants. In addition, when the University of Arizona plant study is complete, the results should be used to evaluate the potential contaminant uptake from ground water by irrigated crops.

Although the use of organics during processing activities has not been reported, data are insufficient to verify that they were not used. Therefore, the ground water should be analyzed for organic constituents so the absence or presence of organics at this site can be verified and all potential human health and environmental risks can be identified.

3.6 EVALUATION OF INTERIM REMEDIAL ACTION

The human health and ecological risk evaluations for the site indicate no immediate threats to human health or the environment. Therefore, interim remedial action is not appropriate at this time.

4.0 GROUND WATER COMPLIANCE STRATEGY SELECTION

This section identifies and defines the strategy available for meeting compliance with EPA ground water standards; applies site-specific data to this compliance framework; presents remediation technologies; and analyzes deviations, contingencies, and decisions that affect the selection of a compliance strategy and a remediation technology.

4.1 GROUND WATER COMPLIANCE STRATEGIES

The Ground Water Project PEIS presents a selection framework (Figure 4.1) for determining the appropriate strategy for achieving compliance with the EPA standards. The following three available compliance strategies comprise the framework:

No remediation. Application of the no remediation strategy would mean compliance with the EPA ground water standards would be met without altering or cleaning up the ground water. This strategy could be applied at sites where contamination does not exceed MCLs or background levels, or at sites where contamination is above MCLs or background levels, but these sites qualify for supplemental standards or ACLs (see Section 2.1.1). For example, at the Monument Valley site, ground water contains constituents above background levels that may qualify for the application of ACLs based on acceptable human health and environmental risks.

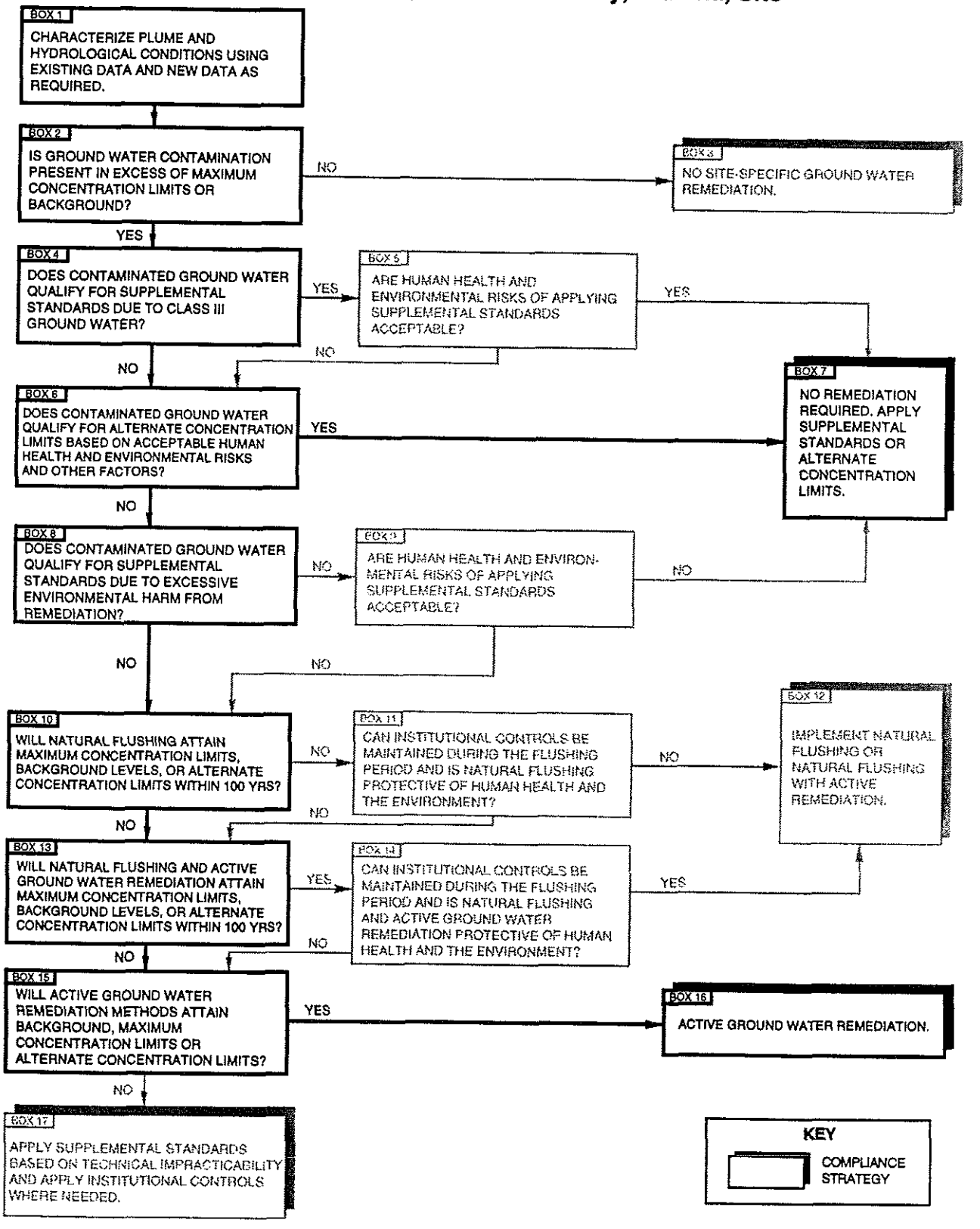
Natural flushing. The system that allows natural ground water movement and geochemical processes to decrease, within a given time period, the contaminant concentrations to levels within regulatory limits is referred to as natural flushing. At the Monument Valley site active remediation, where effective monitoring and institutional controls could be maintained and the ground water is not currently, nor is projected to be used in the future as a source of drinking water, natural flushing would achieve compliance within 100 years.

Active ground water remediation. Active ground water remediation would require the application of engineered ground water remediation technologies such as ground water extraction, treatment, and land application to achieve compliance with EPA ground water standards. This strategy could be applied at the Monument Valley site in combination with natural flushing to reduce contaminant levels in the ground water.

4.2 SITE-SPECIFIC COMPLIANCE STRATEGY SELECTION

Ground water constituents at the Monument Valley site have been screened for potential risks, and for compliance purposes, divided into two groups (based on potential risks). The proposed ground water compliance strategy is no remediation for constituents that do not pose a potential risk and do not exceed EPA ground water standards. For the constituents that pose a potential risk

Figure 4.1
Compliance Selection Framework, Monument Valley, Arizona, Site



MAC: SITE/MON/SOWP/FLWCHT

and/or exceed the EPA ground water standards, the proposed ground water compliance strategy is active remediation. Justification follows for the recommendation of the compliance strategies for the Monument Valley site.

Analysis of ground water quality has revealed that 15 constituents in ground water under and downgradient from the site exceed background levels. These constituents are ammonium, calcium, chloride, iron, magnesium, manganese, nitrate, potassium, sodium, silica, strontium, sulfate, uranium, vanadium, and zinc. The elevated levels of these constituents appear to be a direct result of past uranium milling operations (Figure 4.1, box 2). Two of these constituents, nitrate (in the alluvial aquifer) and uranium (in the De Chelly aquifer), exceed MCLs.

Ground water at the Monument Valley site is not classified as limited use (Figure 4.1, box 4); therefore, it does not qualify for supplemental standards (see Section 2.1.1).

Of the 15 constituents at the Monument Valley site, 10 may be considered for ACLs, due to acceptable human health and environmental risks (Figure 4.1, box 6). These constituents are calcium, chloride, iron, magnesium, potassium, silica, sodium, strontium, vanadium, and zinc. The proposed ground water compliance strategy could be no remediation for these constituents. The constituents that may require remediation in the alluvial ground water are sulfate, manganese, nitrate, and ammonium. Although ammonium is not present in toxic concentrations, ammonium can convert to nitrate, thereby increasing nitrate concentrations in the aquifer. Additionally, uranium may need remediation in the De Chelly aquifer because it exceeds the MCL.

The next box in the framework (Figure 4.1, box 10) requires an evaluation of the effectiveness of natural flushing. The regulatory time limit for natural flushing is 100 years. Based on the length of time the plume has been present and the relatively constant levels of contaminants, natural flushing within the most concentrated portion of the plume does not appear to be a viable option.

Because with natural flushing ground water quality apparently will not reach MCLs (or background levels for constituents without MCLs) within 100 years, the compliance strategy will be active remediation.

The next compliance strategy is active ground water remediation (Figure 4.1, box 15). The conceptual model suggests that because of the characteristics of the aquifer and its ability to supply water, active ground water remediation may reduce contamination to background levels or MCLs.

4.3 REMEDIATION TECHNOLOGIES

Several remediation technologies are considered viable options for achieving compliance with ground water standards at the Monument Valley site. Analytical results show that elevated concentrations of sulfate, nitrate,

ammonia, and uranium have been detected. However, uranium has been detected above the UMTRA MCL in only two wells in the De Chelly aquifer in a specific area of the site, and the uranium concentration in the extracted ground water in the alluvial aquifer is not expected to exceed the UMTRA MCL. Elevated magnesium and calcium ions, while not threatening human health or the environment, often have to be removed from the ground water where aboveground mechanical water treatment processes are used to remove sulfate, nitrate, ammonia, and uranium. Six remediation technologies are under consideration:

- Extraction and evaporation.
- Extraction and land application.
- Extraction, treatment, and land application.
- Extraction, treatment, and infiltration.
- *In situ* bioremediation.

These technologies could also be used in combination.

The advantages and disadvantages of each remedial technology are discussed below.

Extraction and evaporation

The first technology involves the removal and solar/spray evaporation of contaminated ground water. Its advantages are the simple treatment design and low cost of operation. The primary disadvantages are that the treated water is not recovered and the salt residue that is produced will require special handling and disposal when remediation is completed.

Extraction and land application

The advantages to this remediation technology are that no residuals exist after treatment that would require special handling and disposal, land application may prove useful to growing vegetation, and a portion of the treated ground water is returned to the aquifer. The primary disadvantage is that treating the contaminated ground water would require a longer time period, because this technology can be employed only during the growing season. Also, the volume of water to be treated may require a large surface area for proper land application, and there is concern that salt buildup over time may limit irrigation. In addition, some of the treated water would not be returned to the aquifer because of evaporation and plant transpiration. However, the amount of water lost through evaporation and transpiration will vary with site conditions and cannot be determined without additional data. An additional issue at the Monument Valley site is the degree to which the constituents would accumulate in plant tissue, threatening livestock or humans who consume the vegetation. The DOE and the University of Arizona are studying this issue.

Extraction, treatment, and land application

The primary advantage of this remediation technology is that treating contaminated ground water after extraction reduces high concentrations of specific contaminants that would otherwise limit land application, thereby reducing the area required. Further, a portion of the ground water would be returned to the aquifer.

The disadvantage to this remediation technology is the likely residues from the treatment system would require disposal, thereby increasing operation and maintenance requirements. Additionally, as with the preceding option, land application would be limited to the growing season, and a significant portion of the extracted water would be lost to evaporation and plant transportation.

Extraction, treatment, and infiltration

The primary advantage to this technology is that most of the treated water would be returned to the aquifer through shallow infiltration trenches, which also may facilitate the remediation process by naturally flushing contamination from the aquifer. This technology also is viable throughout the year. The disadvantages are that there may be residues to dispose of as a result of the treatment process and operation and maintenance requirements would increase.

***In situ* bioremediation**

The primary advantages of *in situ* bioremediation consist of minimal ground water loss from the aquifer and year-round operation of the system. Moreover, this is the mechanically simplest option of the remediation technologies under consideration.

The primary disadvantage is that *in situ* bioremediation has not been proved to reduce nitrate contamination and high sulfate levels. Another disadvantage is that this technology requires the injection of a food source for the bioremediation process, such as acetic acid, which is foreign to the aquifer. Also, unless the process is controlled carefully, sulfides could be produced in the ground water by using this technology.

Table 4.1 lists the treatment processes that can be used to remove specific contaminants.

Water recovery

Water recovery (i.e., the amount of water that remains after treatment) will be a factor in selecting the optimum remediation technology. Table 4.2 summarizes the approximate anticipated water recovery associated with some of the treatment options listed above.

Table 4.1 Treatment processes

Contaminant	Processes
Nitrate	Denitrification in ponds. Membrane separation.[a] *In situ* denitrification. Plant uptake (land irrigation).
Ammonia	Nitrify in ponds. Membrane separation. Plant uptake (land irrigation).
Uranium	Reverse osmosis. Ion exchange.
Sulfate	Membrane separation.
Magnesium and calcium	Lime softening. Membrane separation.
TDS	Membrane separation. Distillation.

[a]Membrane separation includes reverse osmosis, nanofiltration, and electrodialysis reversal.

Table 4.2 Water recovery

Treatment options	Recovery (%)
Denitrification (in ponds)	99
Lime softening	95
Nanofiltration	75
Land treatment	10-50
Reverse osmosis	65
Ion exchange	95
In situ bioremediation	100

A successful remediation technology may not only reduce the concentration levels of the contaminants of potential concern, but may also have the added advantage of reducing the concentration levels for constituents that fall within dietary ranges but above background levels. Data collection activities described in Section 5.0 will produce site-specific aquifer and soil data that will be used to evaluate the five remedial technologies under consideration. This information will be used initially to determine if any of these technologies are not suitable, or are impractical for this site. After the data obtained from these studies are

reviewed, some remedial technologies may be dropped from consideration in this revision of the SOWP.

4.4 DEVIATIONS, CONTINGENCIES, AND DECISION RULES

Possible deviations from the conceptual site model are the plume is smaller or larger than current information indicates and hydrologic characteristics of the alluvial aquifer are different than current data indicate. The work proposed in Section 5.0 will provide additional information regarding both possible deviations.

The proposed ground water compliance strategy apparently will not be affected by these possible deviations. If the extent of the plume is larger than current understanding, extraction will remain a viable alternative; the area covered by the extraction system must be expanded. Aquifer testing will provide information about pumping rates and extraction well spacing. Ground water extraction has been performed at sites with similar hydrologic conditions; therefore, the most likely compliance strategy would still be valid.

The infiltration tests (Section 5.0) will assist in formulating decisions for land application, extent of water treatment, and infiltration details. For example, if results from the infiltration testing show that application of untreated plume water adversely affects the environment, the decision would be to treat the extracted ground water prior to land application or infiltration.

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5.0 DATA COLLECTION AND ASSESSMENT

In the ground water compliance strategy selection process presented in Section 4.0, active remediation is proposed to restore ground water at the site. Active restoration methods under consideration are extraction and evaporation; extraction, and land application; extraction, treatment, and land application; extraction, treatment, and infiltration; and *in situ* bioremediation. The following sections define the data collection activities, objectives, and quality requirements to select the appropriate technology or combination of technologies for ground water remediation.

5.1 DATA COLLECTION OBJECTIVES

The following objectives were determined for the data collection activities of this investigation:

- Refine ground water flow conditions in the alluvial aquifer by installing additional shallow monitor wells and data loggers.

- Refine aquifer characteristics for the alluvial aquifer through short- and long-term aquifer tests. The deeper aquifers also will be monitored to evaluate the effects of pumping the upper unit. Among other uses, this information will be used to evaluate the effects of pump and evaporation technology on the aquifer.

- Test the infiltration capacity of the shallow soils in areas that most likely will receive treated and/or untreated ground water. The effect on the water table configuration and soil/ground water geochemistry will be monitored during the tests. This information will be used to evaluate treatment and reinfiltration and land application technologies.

- Refine the extent and thickness of the alluvial aquifer through a shallow seismic survey of areas on and downgradient of the site.

- Refine the lateral extent, vertical extent, and relative magnitude of ground water contamination in the alluvial aquifer through a geophysical survey of ground conductivity and the installation of well clusters or multiport wells.

- Determine background soil chemistry. Through analyses of soil type and chemistry, establish preremediation conditions and evaluate the most appropriate cleanup technologies (e.g., the effects of land application of treated ground water on soils).

- Determine background surface water quality. By sampling and analyzing surface water in Cane Valley Wash, distinguish the sources of uranium, molybdenum, and vanadium (natural or vicinity property).

- Measure contaminant desorption and dissolution from the aquifer matrix by sampling and analyzing alluvial aquifer matrix cores. Analyses of leachates form core material collected upgradient, beneath, and downgradient of the site will provide information on the mass of contaminants available for dissolution and desorption. This information will be used to evaluate the five technologies under consideration and to determine the volume of water that must be pumped from or flushed through the aquifer to meet the goals of the remediation strategy.

- Identify and assess any remaining sources of contamination that could pose human health or environmental risks.

5.2 DATA COLLECTION ACTIVITIES

To achieve the DCOs of this investigation, the activities described below must be implemented.

5.2.1 Monitor well installation

The installation of additional monitor wells will help to refine data on the ground water flow conditions in the alluvial aquifer and the extent and magnitude of the plume. Two types of wells will be installed: shallow, hand driven well points in the Cane Valley Wash vicinity and deeper wells installed with a drilling rig near the center of Cane Valley.

It is suggested that up to 16 well points be installed by manually driving them just below the water table along Cane Valley Wash (Figure 5.1). They will be installed upgradient, downgradient, and crossgradient from the known location of the plume. The wells will consist of 2-inch (0.05-m) well casing and well points/well screen. Manual installation was selected because it will minimize disturbance to the surrounding areas and because the depth to ground water is within about 6 ft (2 m) of ground surface. The depth to water and sandy soils allow the method to be feasible along the wash. The most recent version of the work plan to install the well points is in Appendix C.

Water-level elevations and water-quality will be determined from each well. UMTRA Project standard operating procedures (SOP) (JEG, n.d.) will be followed during the installation, sampling, and water-level measurements for the well points. Concrete pads and steel protective casings will be installed at each well point to protect the integrity and increase the longevity of the well points.

Up to six alluvial aquifer well locations are suggested in the area between wells 653 and 650 to further define the extent and magnitude of the plume and ground water flow conditions in the alluvial aquifer. The wells will be installed using a drilling rig and hollow stem augers due to the greater depth to water (about 30 ft [10 m] or greater). Well clusters may be installed at each location to assess plume concentrations with depth where the thickness of the alluvial aquifer exceeds about

50 ft (15 m). UMTRA Project SOPs (JEG, n.d.) will be followed during the installation, sampling, and water-level measurements for the monitor wells.

5.2.2 Water level and barometric pressure monitoring

Electronic data loggers and pressure transducers will be used to collect water level information from monitor wells in the different aquifers, water level information from the Frog Ponds, and barometric pressure readings. After the measurements are collected four times each day for 4 weeks, the data will be evaluated to determine the most appropriate frequency. Data loggers will be installed in at least two well clusters within the plume, one or more well points near the Frog Ponds, and one or more upgradient monitor wells. Barometric pressure readings are needed from one location only. Additionally, at least one stilling well will be needed in one of the Frog Ponds to obtain surface water level measurements.

5.2.3 Aquifer testing

Specific capacity testing of all newly installed well points and monitor wells is suggested for short-term aquifer testing. Additionally, the discharge water in the field will be measured for specific conductance, pH, and temperature. Depending on results from the newly installed wells and well points, additional specific-capacity tests may be performed in the other alluvial aquifer wells. For example, if the results from specific-capacity testing on the newly installed wells vary greatly between locations and/or depths, additional testing for other wells is recommended. UMTRA Project SOPs will be followed during well testing (JEG, n.d.).

Long-term aquifer tests will be performed for 15 days or more to define aquifer characteristics and to evaluate the effects of delayed yield. The tests should be performed at two well clusters within the plume, possibly the 606, 659, 663 well cluster and the 653, 660, 664 well cluster. Water levels will be monitored routinely in all nearby wells, in addition to periodic field analyses of specific conductance, pH, and temperature, and laboratory analyses of plume constituents.

5.2.4 Infiltration testing

Locations upgradient, downgradient, and within the plume will be selected for infiltration testing. UMTRA Project SOPs and/or commonly accepted practices will be employed for the testing methods and evaluation of results (JEG, n.d.).

5.2.5 Geophysical surveys

A shallow (low-energy) refraction seismic survey will be performed on and downgradient of the site to delineate subsurface bedrock topography beneath the alluvial aquifer, following industry standards. The survey should be of sufficient resolution to identify and trace the buried canyon crossing the site.

A ground conductivity survey will be performed on and downgradient of the site to delineate the lateral and relative magnitude of ground water contamination in the alluvial aquifer. Because the electrical conductivity of water is largely determined by the TDS concentration, measurements of terrain conductivity can be used to broadly delineate the outline of ground water contamination in the alluvial aquifer. The survey will use a EM34 terrain conductivity meter (DOE, 1994c). This instrument will be used in the field to quickly outline the approximate downgradient extent of ground water contamination. This information will be used to locate additional monitor wells in strategic locations.

5.2.6 Determination of background surface water and soil chemistry

Background surface and near-surface water chemistry data will be collected from surface water pools in Cane Valley Wash. Near-surface water has been observed in the wash east of monitor well 658. This location is upgradient of the site and identified vicinity properties. Surface or near-surface water will be collected from two or more locations in this area in conjunction with routine monitor well sampling at the site. Both filtered and unfiltered samples will be collected and analyzed for major and trace elements indicative of contamination, to determine the background concentrations of these constituents. Downstream samples also will be collected (from previously sampled locations) for comparison.

Soil samples will be collected from background and downgradient locations to determine the chemical characteristics of the soils prior to ground water remediation. It appears that soils near the site are alkaline. Soils will be tested for pH, soluble salt chemistry, grain size, cation exchange capacity, and carbon content. Soil samples will be collected from Cane Valley Wash and from the windblown sands that characterize the soils downgradient of the site. Soils will be collected along east-west transects upgradient and downgradient of the site. Salt content and chemistry will be characterized as a function of depth. Standard American Society for Testing and Materials (ASTM), 1991, methods will be used.

5.2.7 Desorption and dissolution of contaminants from the aquifer matrix

Core from newly drilled monitor wells will be analyzed to determine the mass of contaminants available to ground water via desorption and dissolution. Of particular importance is the mass of calcium and sulfate available from the dissolution of gypsum. Other coprecipitated or adsorbed constituents, such as uranium, strontium and magnesium, will also be analyzed. Core from the site will analyzed over a range of depths to determine the vertical distribution of the soluble contaminants. Core from downgradient locations will be analyzed to determine the lateral distribution of soluble contaminants. Upgradient core will be used as a control. The mass of available contaminants will be determined by 24-hour leaching experiments using background alluvial ground water as a lixiviant. One column experiment using the core with the greatest amount of

gypsum will be used to determine the rate of release of the soluble contaminants.

5.3 DATA QUALITY OBJECTIVES

All data will be generated, documented, and verified in conformance with the UMTRA Project Quality Assurance Implementation Plan (QAIP) (DOE, 1994e). When equipment such as data loggers and field water quality instruments are used, the manufacturer's specifications and SOPs will be followed. DQOs for the specific field tasks are described below.

5.3.1 Monitor well and well point installation

Additional monitor wells and well points will be installed to further define the extent of ground water contamination and the flow regime of the alluvial aquifer. The monitor wells will be 4-inch (0.1-m)-diameter polyvinyl chloride (PVC) and the well points will be 2-inch (0.05-m)-diameter PVC or steel. Installation, construction, and development of the wells will be in accordance with applicable UMTRA Project SOPs to ensure the wells are adequate for their intended purpose (JEG, n.d.). Lithologic descriptions will be compiled from borehole cuttings from the monitor wells; lithologic descriptions will not be possible for the well points because they will be driven and no cuttings will be produced.

5.3.2 Water level and barometric pressure monitoring

Water levels and barometric pressure are monitored by examining the contrast in barometric efficiency to determine long-term trends in water level fluctuations and if the shallow and deep portions of the aquifer have the same hydraulic conditions (e.g., both unconfined and confined). This study will help determine recharge and discharge events and also will help accurately evaluate long-term aquifer test results. Water level fluctuations not related to the actual tests can be applied to the data gathered during the test.

Ground water levels fluctuate in response to atmospheric pressure (Domenico and Schwartz, 1990). The barometric efficiency describes how closely water levels respond to changes in atmospheric pressure. Barometric efficiency is low to nonexistent in wells tapping alluvial aquifers. Thus, by comparing the barometric efficiency of a shallow well to that of a deep well, the type of flow regime can be determined for the area tapped by each well.

Collecting of these data will determine the proper conceptual model for the site. Sufficient sensitivity, accuracy, and temporal recording resolution will ensure that the collected data can be used for their intended purpose. Standard pressure transducers have a resolution of 0.004 ft (0.001 m) with an accuracy of 0.035 ft (0.011 m). The expected water level fluctuations from barometric pressure changes are on the order of tenths of feet; thus, standard equipment and procedures should be sufficiently accurate to compute barometric efficiency. Barometric pressure and water levels will be recorded every 6 hours for a period of 4 weeks.

5.3.3 Aquifer testing

Short- and long-term aquifer test analyses are suggested to determine the spatial distribution of hydraulic conductivity and to determine how the aquifer responds to conditions similar to those associated with the remediation technologies under review. Standard data loggers and pressure transducers used in accordance with the manufacturers' instructions will produce reliable data for the analysis. Tests will be designed and analyzed according to various standards, such as ASTM Standard D4050-1991 (ASTM, 1991).

The short-term tests will examine how local heterogeneity can influence pumping well performance (a crucial factor in the selected remediation technology) and provide information on the distribution of hydraulic conductivity (such as the existence of internal aquifer barriers or preferential flow paths). The depositional process that created the alluvial aquifer tends to produce hydraulic conductivity that is higher along the bedding plances (anisotropy). This anisotropy will control the efficiency of the selected remediation technology and can be investigated with the long-term test. The test should be run long enough that the effects of delayed yield are evident and drawdown is observed in all observation wells.

A potential problem with analyzing the pumping tests is the possibility of obtaining multiple, equally good solutions (Horne, 1994). To help alleviate this problem, each test will be analyzed during both the drawdown and recovery phases to provide a cross check on the results.

Because of well inefficiency, the actual rate required for testing may be different than that estimated analytically. The estimation of specific capacity (from which transmissivity and hydraulic conductivity can be derived) will assist in determining the appropriate pumping rates for the long-term tests and well efficiency. Knowledge of these parameters will allow fine tuning of the long-term tests in the field to produce optimum results.

5.3.4 Infiltration testing

Infiltration testing is conducted to determine the rate at which the soils will accept water without generating surface runoff, the effect of infiltration on the configuration of the water table, and changes to soil and ground water chemistry as a result of water infiltration. Installation, construction, and testing of the infiltration areas will be in accordance with applicable UMTRA Project SOPs (JEG, n.d.), agricultural guidelines, and other applicable industry standards to ensure the tests are adequate.

5.3.5 Geophysical surveys

Geophysical surveys are conducted to delineate the magnitude and extent of contamination in the alluvial aquifer, and subsurface bedrock topography beneath the alluvial aquifer and the attendant variations in thickness. It must be determined if variations in bedrock topography and thickness of the alluvial aquifer influence contaminant distribution and migration, and where monitor wells should be located to define both lateral and vertical variations in contamination. Information needed to support these decisions are the location of the highest levels of contamination; the lateral extent of the plume; the location of buried bedrock topographic features, especially the buried canyon that crosses the site and extends downgradient; and the locations of the thicker and thinner alluvial aquifer. The areas that must be investigated are the areas comprising the site; areas about 500 ft (150 m) south and east of the site; and the area north of the site bounded by the depositional edge of the alluvial aquifer to the west, monitor wells 650, 651, and 652 to the north and north east, and monitor wells 654 and 605 to the east. These areas encompass an area about 8000 ft (2400 m) long and from 4000 to 6000 ft (1200 to 1800 m) wide. This large area is best investigated with surface geophysical techniques, such as terrain conductivity, used to determine the shape of the contaminant plume and areas of greatest contamination; and shallow refraction seismic surveys, used to determine the buried bedrock topography and thickness of the overlying alluvial aquifer.

The terrain conductivity survey should be of sufficient resolution to detect and delineate areas of maximum contamination of at least 500 by 500 ft (150 by 150 m). The survey should be sensitive enough to detect variations in the salinity of the contaminated ground water of about 400 mg/L (about 10 percent of the maximum observed contamination, and similar to that of background). This will ensure locating major areas with contaminants at levels greater than 10 percent of the observed maximums. The shallow seismic survey should be of sufficient resolution to identify buried topographic features at least 200 ft (61 m) wide and 20 ft (6 m) deep; the methods used and space between measurements should keep uncertainties within these limits.

5.3.6 Background surface water chemistry

The source of uranium, molybdenum, and vanadium concentrations in surface and near-surface water must be determined as natural or related to the use of ore rock as road fill in the area (at vicinity properties). Collecting background surface water samples will provide additional information on the natural concentrations of these site-related contaminants in surface waters effected by evaporation. The area to be investigated is along Cane Valley Wash, from a point immediately east of monitor well 658, downstream to the Frog Ponds. This area is known to have near-surface ground water and is upstream of identified vicinity properties. At least two sampling locations will be identified and sampled for surface or near-surface water; the latter will be collected by digging a 2-ft (0.61-m) hole into saturated alluvium. Samples will be tested for

field parameters (alkalinity, pH, electrical conductivity, temperature, redox potential, and turbidity), for major elements (calcium, chloride, magnesium, potassium, sodium, and sulfate), and for uranium, molybdenum, and vanadium. Other parameters may be added also. Samples will be collected during at least four sampling rounds to determine natural variations in the levels of these constituents.

5.3.7 Background soil chemistry

Soils near the site must be characterized. Preliminary study suggests that naturally sodic, alkaline soils occur in the in the area of the site (Section 5.2.6). One possible remediation method is the land application of treated or untreated ground water. Soil characteristics and the types of vegetation available for nitrate consumption from contaminated ground water will be important in determining the feasibility of land application. Also, sodic, alkaline soils can benefit from the application of calcium-sulfate ground water, depending on the clay content of the soil and its cation exchange capacity. Finally, soils containing a significant amount of soluble salts may, in fact, become a source of ground water contamination as percolating surface water dissolves those salts and then recharges the underlying ground water with saline waters. Thus, the characteristics of natural soils will be important in determining the feasibility of land application of treated ground water. Soil data also will provide information on the natural levels of site-related contaminants (such as uranium, nitrate, sulfate, and manganese) in soils near the site prior to ground water remediation. Parameters that will be measured are soil particle size distribution (using method ASTM D 422-63, reproved 1990) and cation exchange capacity (EPA method 9080 or 9081). Soluble components will be measured by water leaching and x-ray powder diffraction to determine their mineralogy, if they exceed 1 percent of the total soil mass. The following soluble components will be measured: alkalinity, ammonium, calcium, chloride, iron, magnesium, manganese, molybdenum, nitrate, potassium, sodium, strontium, sulfate, uranium, vanadium, and zinc. These components are expected in natural soils and/or may be added to soils (as soluble salts) during ground water remediation.

A preliminary study will answer questions about the types of soils present and will verify field observations. The site ecologist and geochemist will select the sampling locations. Soil survey data, if available, will also be used to identify sampling locations. Three basic types of areas will be sampled. One is in the areas along Cane Valley Wash where evaporative ground water discharge maintains damp soils with salt efflorescence. Another is in low basins within areas covered by windblown sand where surface salts have been observed. Last are topographically higher areas within the areas covered by windblown sands. These higher areas also have been observed to be partially cemented by surface salts. Each of these three soil types will be sampled in at least four areas. At each location, a sample profile will include the top 1 cm of depth, the next 1 to 10 cm of depth, and the lower 10 to 30 cm of depth. Thus, a total of at least 27 samples will be collected. Samples will be collected both upgradient and upwind (south) of the site and downgradient and downwind (north). The

samples to the south will demonstrate background conditions. Samples to the north are expected to be similar (unaffected by site-related contamination).

5.3.8 Contaminant desorption and dissolution from the aquifer matrix

Water chemistry suggests that on and immediately adjacent to the site the alluvial aquifer contains gypsum derived from processing solutions. In addition, it is possible that other contaminants, especially trace metals, could be sorbed onto the aquifer matrix. Previous studies (DOE, 1994d) at other sites have demonstrated that site-related ground water contaminants are often concentrated in the upper few feet of the aquifer, beneath tailings piles and evaporation ponds. Thus, this potential contaminant source may have been removed by surface remediation. Nonetheless, designing a remediation program will require accurate data on the amount of gypsum and adsorbed metals available to the aquifer as a potential source of ground water contamination.

An initial series of batch leach tests on core samples obtained from the former processing site will provide insight into this possible contaminant source. Data will be collected on the leachable concentrations of the contaminants of potential concern to human health (ammonium, manganese, nitrate, sulfate, and uranium) and calcium (to determine the influence of gypsum as a source of sulfate). Note that leachable sources of ammonium and nitrate are not expected but will be investigated. The analyte list will be expanded to include other potential contaminants, if they are identified.

Core samples also will be collected from the old tailings pile/heap leach pad area, the new tailings pile area, and the evaporation pond area. Also, at least one upgradient (background) core will be sampled for comparison. Samples will be taken from four intervals in each core: the land surface to 1 m, the 1-m interval midway between the water table and the surface, the interval from 1 m above the water table to the water table, and the interval 1 m below the water table.

Each sample will be subjected to a 24-hour batch leach test using background ground water as a lixiviant. Results will be used to determine if there is a problem with leachable contaminants that would require more detailed sampling and analysis. If there is no evidence for significant levels of leachable contaminants in the aquifer matrix, further study will not be required.

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6.0 LIST OF CONTRIBUTORS

The following individuals contributed to the preparation of this document.

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APPENDIX A

WELL LOGS (LITHOLOGIC LOGS), WELL COMPLETION LOGS

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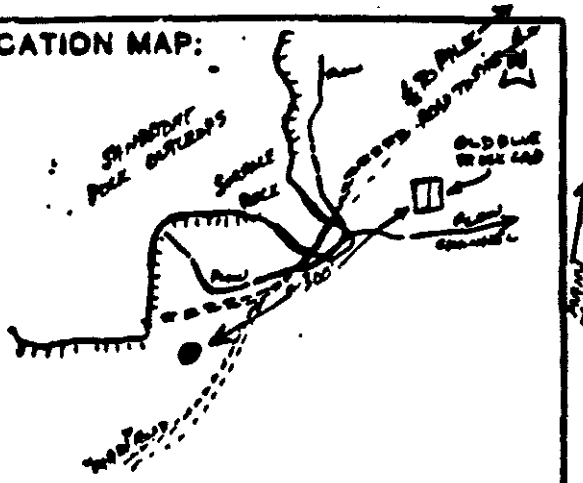
JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

Page __ of __

LOCATION MAP:



SITE ID: MON 01 LOCATION ID: PGAL 1 601
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: 6" HSA w 24" SPT
DRILLER: TLATT SHB
DATE STARTED: 10-24-89
DATE COMPLETED: 10-24
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-24-89		11

NOT SURVEYED
LOCATION DESCRIPTION: APROX 300' SOUTH-SW OF OLD BLUE TRUCK CAB AT FORK IN ROAD
SITE CONDITION: LOW LYING AREA NEAR WASH UP GRADIENT OF SITE

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	/	/	X	S	001	3 2 3 B	6	SP	FINE GRAINED SAND, SILT, LT BROWN TRACE CLS DRY f
	/	/	X	S	2	3 2 36	9		ALL OF SILTY TAN @ 4' COARSE ROUNDED
4	/	/	X	S	3	9, 13, 20, 12			6.5
5.5	/	/	X					SP-M	LAYER OF SAND MED GRAVELLY DRY, LT BROWN ROUNDED DRY
6	/	/	X	S	4	12, 8, 5, 5			7.5
								SP	
8									MOIST 8' REDDISH BROWN SAND
	/	/	X	S	5	11, 7, 12, 21			
	/	/	X		6				MOIST TO WET @ 9'
	/	/	X	S	7	25, 14, 30/6"			SANDY REDDISH BROWN WET BROWN SAND STONE PIECES
13									WET @ 12.5
								SS	SANDSTONE DENSE DRILLING YELLOW-BROWN TO WET @ 13
15				A	8	AUGER DRILL 13-15			SANDSTONE BRK
				S	9				SAMPLES FROM CUTTINGS OF AUGER 15-20'
						30 50/1.5			YELLOW-BROWN
						DRILL 5 ↓ 23			
22.5-23									EASY ZONE OF DRILLING - PUSH HOLE VERY STUDY & WET AGAIN
23.5-TD									→ TD 23.5

COMMENTS: MONITOR WELL SET TO 24'

SAMPLE TYPE
A - Auger cuttings
S - 3" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.87" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (8/84)

14-17-9-02

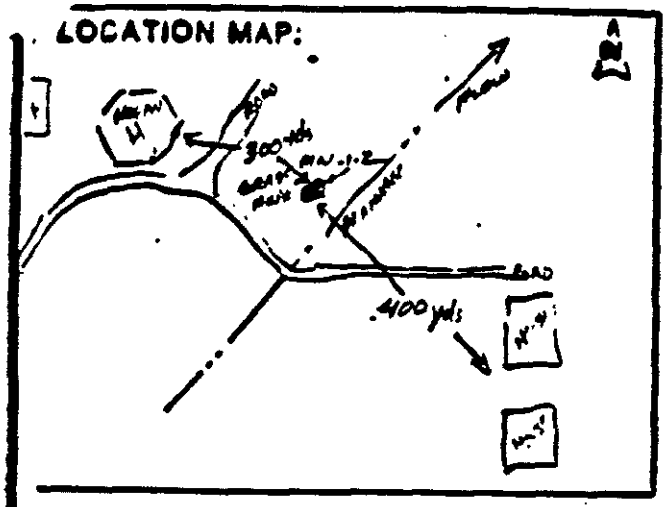
PILE

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL) MONITOR WELL

Page 1 of 3

LOCATION MAP:



SITE ID: MON 01 LOCATION ID: MW-1-2
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 6" HSA
DRILLER: SHE-T CATT
DATE STARTED: 10-24-84
DATE COMPLETED: _____
FIELD REP.: SILVE

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-24-84	BF DRILLING	7'

LOCATION DESCRIPTION: DIRECT LINE BETWEEN HOGAN AND
SITE CONDITION: DRY-MILD-NORTH OF GRASSY AREA ALONG DRIVEWAY TO GEC [illegible]
TWO OLD CARS IN DRAINAGE NEAR SITE

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
				S	1	2,2,4,3	7	SP-SM	SAND FG, SL SILTY RED BROWN LOOSE TO MD DRY TO SL MOIST
2				S	2	5,2,3,4	7		
4				S	3	4,4,5,4	9	SM	SAND AA VERY SILTY
								SP	SAND MFG LESS SILTY RED BROWN TO LT BRN
6				S	4	3,3,4,5	9		MOIST TO WET - WATER TABLE @ 6.5-7'
8						DRILL TO 10' 8-10'			
				S	5	1,1,1,2	3		WET
12				S	6	1,1,2,2	4		
14						ADVANCE AUGER 14-35 TO HARD DRILLING			
5									
NOT BELTONE OS									
31.5								SP-GP	SAND AND GRAVEL LAYER
									SANDSTONE WEATHERED @ 32
									DENSE DRILLING @ 34-35
5									TD=35'

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D 1.38" I.D. Split spoon
U - 3" O.D 2.87" I.D. Tube sampler
T - 3" O.D Thin-walled Shelby tube

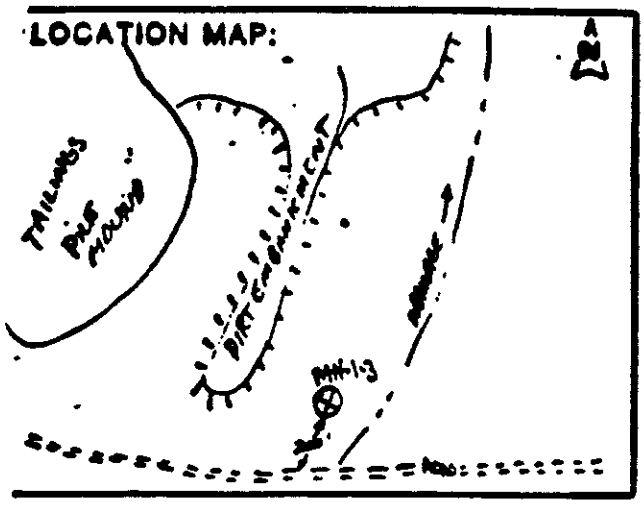
JEG-AL-ENG-28 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

603

LOCATION MAP:



SITE ID: MDN 01 LOCATION ID: ~~MAN-1-3~~
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 6" HSA CMESS
DRILLER: SHB T CATT
DATE STARTED: 10-24-84
DATE COMPLETED: "
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-24	OF DRILLING 9:00	11.5

LOCATION DESCRIPTION: BETWEEN DIRT EMBANKMENT AND ARROYO S. & E OF PILE
SITE CONDITION: 200' NORTH OF DIRT ROAD

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	/	X	X	S	1	1,1,3,4	7	SM	FINE GRAINED SAND SILTY RED BROWN
2	/	X		S	2	7,11,12,13	25	SP-SM	LESS SILTY PREV.
4	/	X		S	3	7,8,8,9	17		
6	/	X		S	4	8,7,6,7	13	SP	
8						DRILL 8-10		CH	12' LAYER CLAY NPI GREY-BROWN STIFF
10	/	/		S	5	7,6,6,6	12	SP-SM	WET ~~MOIST~~ SAND AS ABOVE
12	/	/		S	6	5,5,6,8.	14		WATER TABLE @ 11.5' WET SAND SILTY RED BROWN
14						25			
16						HOLE HOLDING TO 55' NO WATER THAT TO POSSIBLE		SP @25'	SAND FG - SL SILTY TO CLEAN WET RED BROWN 23' TRACE GRAVEL NON PLASTIC
						35 S_2?			
									NO SAMPLES FROM 14'-55'
						45			TD=55'
									SANDSTONE BEDROCK NOT ENCOUNTERED

COMMENTS: 55

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

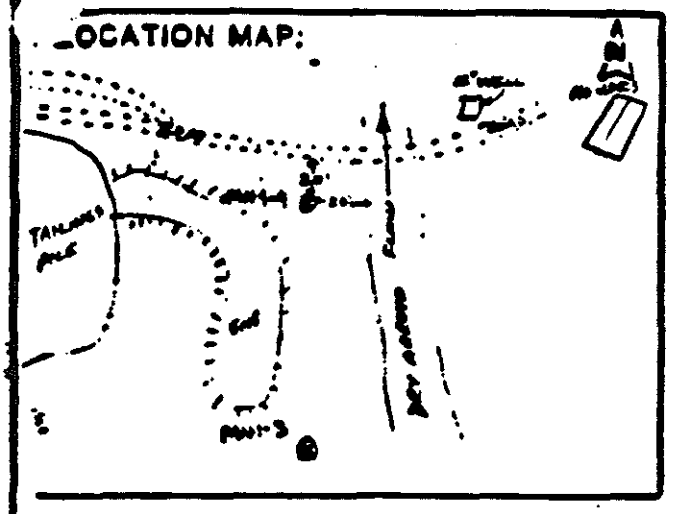
JEG-AL-ENG-28 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

604

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: MW-1-4
APPROX. SITE COORDINATES (ft.):
N NOT SURVEYED E
GROUND ELEVATION (ft. MSL): SAME AS WELL
DRILLING METHOD: 6" HSA
DRILLER: TCATT SHB
DATE STARTED: 10-25-84
DATE COMPLETED: "
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-25	12:20	11.5

LOCATION DESCRIPTION NORTHEAST OF PILE NEXT TO ROAD & ARROYO
SITE CONDITION NEXT TO DRY ARROYO BED
NOTE THAT PRIOR TO PUMPING WELL ON EAST SIDE OF ARROYO WAS FULL – WATER USED FOR RIG FLUSHING

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERED	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	/	/	/	S	1	1,1,2,3	6	SP	SAND FG BROWN UNCONSOLID ROUNDED SUBANG DRY
1	/	/	X	S	2	3 4 6 6	12		
4	/	/	X	S	3	5,5,5 7	12		AVG CLEAN TRACE SS ROCKS-WHITE (2/18/94) 5.7 Avg 6.3 June 4, 1996 6.5
6	/	/	X	S	4	3,4,5 7	12		
8	/	X	X						
	/	X	X	S	5	2 2, 3 3	6		HE WATER TABLE @ 11.5 WETTED MOIST SAND 10-4 5.5 2/13/85
10	/	X	X	S	6	2,1,2,4	6		
14	/	X	X						
	X					PILE REMOVED 14-30'		SP	20' CHANGED CLEAN LT BROWN SAND SP
	/	X	X	R	7	CLEANED RINGSAMPLER			
	X	X	X	B	8	FROM BACK PILING 27-30'		SC	27' SANDY CLAY SOFT WET GREY SOFT MW-4/1
									TD= 30'

COMMENTS: PRODUCTION WELL DEPTH 100' – MEASURED TO 90' WELL EAST OF MW-4

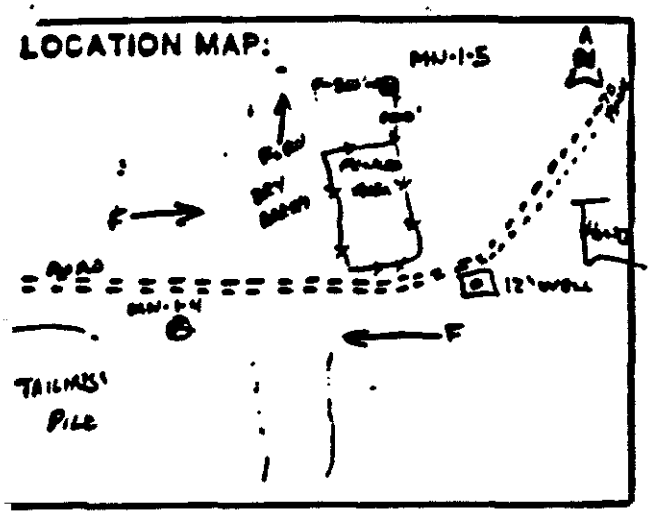
SAMPLE TYPE
A - Auger cuttings
B - 2" O.D. 1.38" I.D. ring sampler
C - 3" O.D. 2.42" I.D. tube sampler
T - 3" O.D. thin-walled shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: ~~MW-1-5~~ 605
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: HSA 6"
DRILLER: TCATT & HB
DATE STARTED: 10-25-84
DATE COMPLETED: –
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-25-84	13'	13'

LOCATION DESCRIPTION: NORTH EAST OF TAILINGS PILE N.E. OF FENCED AREA EAST OF WASH
SITE CONDITION: DRY SUNNY - LOW FLOOD PLAIN AREA NEAR ARROYO ACROSS DRAINAGE FROM TAILINGS PILE

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERED	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	/	/	X	S	1	1,1,3,4	7	SP	SAND FG DRY BLOWSAND LOOSE -NP RD BROWN
	/	/	X	S	2	4,8,13,9	22		MFG - MOLL COARSE
4	/	/	X	S	3	10,6,7,7	14		
6	/	/		S	4	7,7,7,8	15		~~SAND MFG POORLY GRADED CLEAN LT BROWN~~
8	/	X	X						~~WET - WATER TABLE 13'~~
	/			S	5	9,8,13,10	26		
	/	X	NR	S	6	5,5,7,7	14	WATER TABLE	13' SAND MFG POORLY GRADED LT BROWN LOOSE WET
						ROLE MOVED 14-30'			
	/					7,8,13			GREY SAND & GRAVEL @ 31'

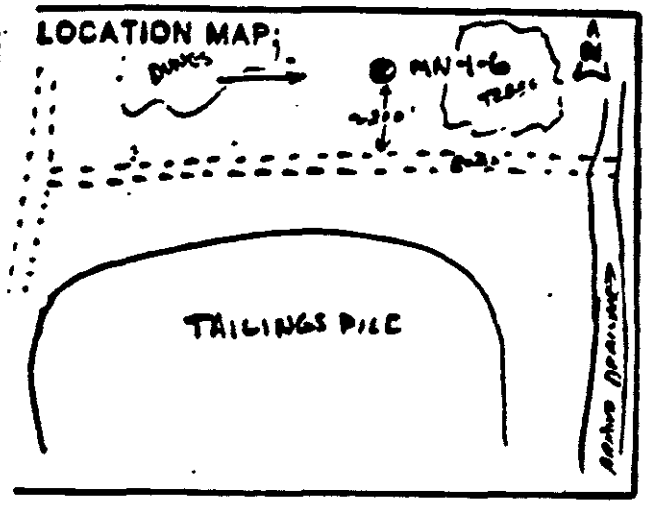
COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 3" O.D 1.38" I.D. drive sampler
U - 3" O.D 2.42" I.D. tube sampler
T - 3" O.D thin-walled Shelby tube

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MON01 LOCATION ID: MW-1-6
APPROX. SITE COORDINATES (ft.):
N NOT SURVEYED E
GROUND ELEVATION (ft. MSL):
DRILLING METHOD: 6" HSA
DRILLER: TCATT SHO
DATE STARTED: 10-25-84
DATE COMPLETED: 10-26-84
FIELD REP.: SILVA
TD=47'

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-26-84	OF DRILLING	36'

LOCATION DESCRIPTION NORTH OF TAILINGS PILE 200' NORTH OF ROAD WEST OF TREES
SITE CONDITION DRY - OVERLAND FLOW TO EAST [illegible]

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERED	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
1	/	/	/	C	1	1,1,22	11	SM	SAND FG SILTY SL MOIST TO DRY UNIFORM BROWN "BLOWSAND"
2	/	/	/	C	2	3,4,5,6	11	SP	SL SILTY TO CLEAN FG MEDIUM DENSE DRY SL MOIST
4	/	/	/	S	3	4,3,2,2	4		
6	/	/	/	C	4	5,6,6,8	14		
8									
	/	/	/	S	5	4,4,6,9	13		
12	/	/	/	S	6	7,10,10,11	27		
14									
						DRILL 14-20			
	/	/	/	S	7	4,7,8,11	19	SP	SAND FG SL MOIST TO DRY MODERATE SILTY TRACE CLAYEY BROWN
	/	/	/	S	8	4 9 9 11	20		

COMMENTS: CAVED @ 31' AFTER AUGER PULLED OUT

SAMPLE TYPE
A = Auger cuttings
B = 3" O.D. 1.38" I.D. Drive sampler
U = 3" O.D. 2.42" I.D. Tube sampler
T = 3" O.D. Thin-walled Shelby tube

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See Pg 1

SITE ID: MDNO1 LOCATION ID: MN-1-6
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 6" HSA
DRILLER: _____
DATE STARTED: 10-25-84
DATE COMPLETED: 10-26-84
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERED	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	X			S	9	4,7,8,10	18	SM	MOIST
	X	X	X	S	10	5,6,6,9			
						HOLE ADVANCED 37-45'		SM	WET WATER TABLE @ 36' STOP - FINISH HOLE ON 10/26/84
	/			S		50/5" NR 47'			WEATHERED SANDSTONE 45-47
								S	SANDSTONE TD=47' DENSE DRILLING

COMMENTS: _____

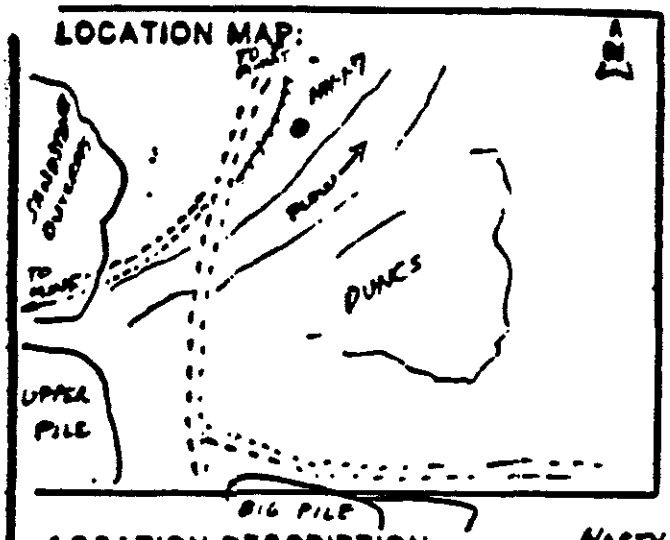
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D 1.38" I.D drive sampler
U - 3" O.D 2.42" I.D tube sampler
T - 3" O.D thin-walled Shelby tube

JEG-AL-ENG-28 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MON 01 LOCATION ID: MW-17
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 6" HSA
DRILLER: SWB · TCATT
DATE STARTED: 10-26-84
DATE COMPLETED: 10-26-84
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
DRY	OF DRILLING	TD 30' ft. SC

LOCATION DESCRIPTION: NORTH OF UPPER PILE IN DRAINAGE
SITE CONDITION: DRY

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
	/	X	X	S	1	1,1,2,5	7	SM	SAND FG SLSILTY BLOWSAND MOIST REDBROWN
2	/			S	2	6,10,13,14	27	SP	MFG
4	/	/		S	3	10,8,6,7	13		
6	/	X	X	S	4	8,9,13,50/3			
8								S_s	SANDSTONE LT BROWN & YELLOW
					5	AUGER SAMPLES			
	/	/	/	A	5				LT YELLOW GREY
12	/	/	/	A	6			S_s	
						HOLE ADVANCED 10-30' WITH AUGER			
18									YELLOW BROWN
									TD=30'
23	/	/	/	A	7				
	/	/	/		8				

COMMENTS: NO WATER ENCOUNTERED TO 30'

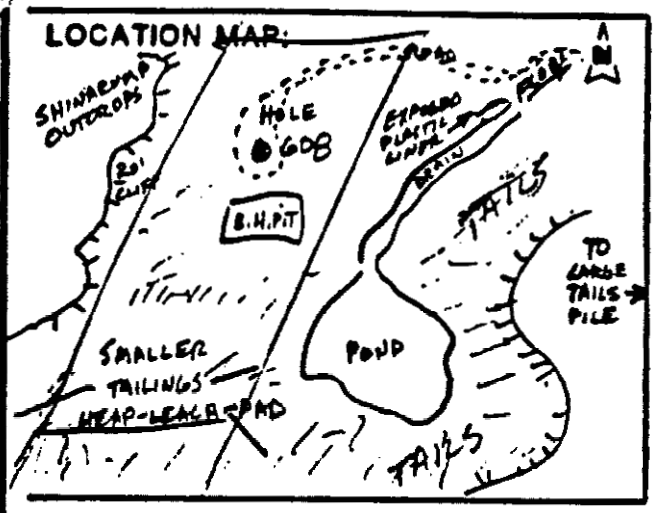
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D 1.38" I.D drive sampler
M - 3" O.D 2.42" I.D drive sampler
T - 3" O.D thin-walled Shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MON 01 LOCATION ID: 60B
APPROX. SITE COORDINATES (ft.):
N 58685.713 E 87189.364
GROUND ELEVATION (ft. MSL): 4901.08
DRILLING METHOD: 12" HSA / 10" PVC CASING
DRILLER: JIM LARTER / FASTEDDIE ADAMS CME75
DATE STARTED: 1-5-84
DATE COMPLETED: 1-4-84 GROUTED
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
SHOWERY AT	TIME OF CASING	INSTALLATION

LOCATION DESCRIPTION 10' NORTH OF BACKHOE PIT ON SMALLER HEAPLEACH PAD
SITE CONDITION FLAT TAILING MATERIAL POND TO S.E.
SEE LOG OF BACKHOE TEST PIT ADJACENT TO THIS LOCATION

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
									NO SAMPLES
0						N/A	N/A	TAILS SP/ML	TAILINGS MATERIAL COARSE TO FINE GRAINED SL GRAVELLY FINE SAND - GREY SL MOIST LOOSE MILLED OR CRUSHED TAILINGS MAT'L
10						TAILS			
15									
20									
								SP	BLACK PLASTIC LINER ENCOUNTERED AT INTERFACE BLOWSAND ALLUVIUM FI GRAINED S.P. SAND MOIST RED ORANGE BROWN - NATURAL SAND
								CASING	SEE ROCK CORE LOG THIS HOLE TOTAL DEPTH 30' HOLE CAVED TO 28'

RECEIVED
JAN 11 1985
DOCUMENT CONTROL

COMMENTS: 12" HOLE CASED WITH 10" SCH 40 PVC TO 28' PUSHED IN AND HOLE GROUTED ON 1-4-85 PRIOR TO CORING WORK TO BE DONE AT FUTURE DATE

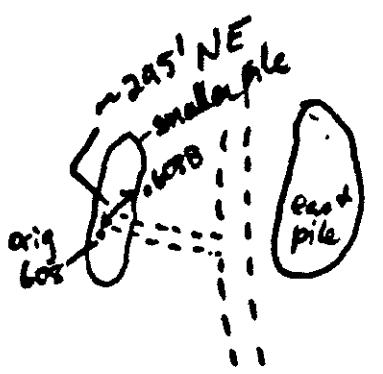
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (3/84) HOLE ENDED IN BLOWSAND ALLUVIUM AND NOT INTO ROCK INTERFACE

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON-01 LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SHB / CARTER + PEREA / CME
DATE STARTED: 3/15/85 TODAY 3/16/85
DATE COMPLETED: 3/18/85
FIELD REP.: MILLER/MCENERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION Approx. 295' NE of original 608 location
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	60°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
																	Augered to 9.5'
0.5	NQ	100	50	100			X					X		SMO		CL	Light gray (N7) claystone interbedded w/ med. 9.5-
1st run			100			X										SS	light gray (N6) clays
			20					X									10.3 — SS
			100			X											yellowish gray (5Y 7/2) med. to coarse grained,
14.5			100			X											mod. sorting, common
						X											iron staining esp. from 18'-24', predominately
2nd run																	quartz s.s., clay matrix from 10'-18' then predom. quartz, some cross bedding, non-calcareous cement
25																	

COMMENTS: new location of 608 approx 294' NE of original location of 608 and 125' SW of mill prod. well

GSA COLOR CHART USED

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
BX - BX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

LOCATION MAP:

see pg. 1

SITE ID: MON 01 LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SHB / CARTER + BEREA
DATE STARTED: 3/15/85 TODAY 3/16/85
DATE COMPLETED: 3/18/85
FIELD REP.: MILLER / MCENERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
27.5	NQ	100	100	100		X					X					SmO		Ss	same as above w/large increase in iron staining beginning at 27.5' thru 29',
		100	100																
		100	100																
		100	100																
		0	0	0												Rough			@ 29' conglomerate, lost 2' core of conglomerate dark yellowish orange to med. yellowish brown
		0	0	0			X									Rough		Cg	
		0	0	0			X									SmO		Cg	appr. top of Moenkopi
		100	50	0		X												Cl	grayish orange (10YR 7/4) sandy clay w/conglomerate
		100	50	0		X												St	32.5 - 34
		100	50	0		X												St	grayish orange (10YR 7/4) sandy siltstone grading into light gray (N7) at 34', some calcareous inclusions very hard, Top of Moenkopi at 32.5
37.5	NQ	100	50	90		X					X					SmO			
			75			X													
			75			X													
			10					X											34' - 39' light gray (N7) sandy siltstone w/interbedded grayish orange siltstone
44.5			10					X											

COMMENTS: lost circ. & drilling fluids at 29'

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RX - RX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-2L-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

see pg. 1

SITE ID: MON 01 LOCATION ID: 608 B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SHB CARTER + PEREA
DATE STARTED: 3/15/95 stop AM 3/17/95
DATE COMPLETED: 3/18/95
FIELD REP.: ~~MILLER~~/MCNERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
34.5																			
39.5	NQ	WD	100	90		X					X					Smo		St	change in color @ 39' to moderate reddish brown (10R 4/6) siltstone grad to dark reddish brown siltstone (10R 3/4) at 41' well sorted, apparent bedding planes are hor
2nd run		100	30	90			X				X							St	
		100	20	90				X			X								
		100	30	90			X				X								
		100	50	90			X				X								
44.5	NQ	100	75	90		X					Y					Smo		St	rock becomes less competent from 45.5'-54' @ 54' increase in mois clay, rock crumbles to touch of finger, some infilling of bedding plan w/quartz + pyrite
5th run			100				X												
			90				X												
			90				X												
			100				X												
49.5			100				X												
			100				X												
			35				X												
			35				X												
			35				X												
54.5																			

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BLAK BIT
RR - RR ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

see pg. 1

SITE ID: MON 01 LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SHB CARTER + PEREA
DATE STARTED: 3/15/85 TODAY 3/17/85
DATE COMPLETED: 3/17/85
FIELD REP.: MCENERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
15	NQ	100	30	90			X				X						Sm0	St	increase of interbedded sandstone beginning @ 55' yellowish gray (5Y 7/2) Sm and infilling of bedding planes with calcareous material
			40			X													
			60				X												
			30			X													
		X	30			X													
54.5			0				X												lithology consistent w/ previous description down to 68' where there is an increase in the very light gray sand content mixed and interbedded w/ the dark reddish brown siltstone
			100			X													
			80			X													
			50				X												
			100			X													
45	NQ	100	100	90		X					X						Sm1	St	
5																		Ss/St	

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
HR - HQ ROCK CORING
NR - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JEG ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

see pg. 1

SITE ID: MON 01 LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SH+B Carter + Ferrer
DATE STARTED: 3/15/85 TODAY 3/18/85
DATE COMPLETED: 3/18/85
FIELD REP.: MCENERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	50°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
69.5	NQ	100	100	90		X					X			Sno		Ss/St	lithology consistent w/previous description increase @ 72' in the grain size to predominate med-coarse grain S.S., very light gray (N8) to pale red (10R 6/2) w/small beds of siltstone, bedding is horiz.
			50				X										
			100				X										
			100			X										Ss	
74.5			100			X										Ss	
	NQ	100	100	80		X					X			Sno		Ss	74.5-78 dark reddish brown sandstone, coarse grained 78'-80' very light gray coarse S.S., massive beds then 78 80-84.5 alternating beds of very light gray and pale red coarse grained sandstone
84.5																	

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
BX - BX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON 01 LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: AIR WIRELINE
DRILLER: SH+B Cook + Perea
DATE STARTED: 3/15/85 TODAY 3/18/85
DATE COMPLETED: 3/18/85
FIELD REP.: McENERY

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
8:15	NQ	100	100	80		X					X					Sm O		Ss	lost drilling fluid circulation at 91'
																		Ss	pale red to moderate reddish brown coarse grained sandstone, massive bedded
9																			
10:00			100																
8:5			75																
1			100	0									X					Ss	Moenkopi ↑ 91' Dechelly ↓ light brown (5YR 6/6) to moderate reddish brown (10R 4/6) coarse to med-grained sandstone, obvious dune sand bedding and cross bedding
				0															
				0															
11:5				0															
	NQ	100	100	0															one solid 7ft. section of core from 99.5-104.5

COMMENTS: lost drilling fluid circ. @ 91' due to porosity of Dechelly, saturated zone begun at 91'

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
RX - RX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MONOI LOCATION ID: 608B
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: NQ WIRELINE
DRILLER: SH+B Carter + Reese
DATE STARTED: 3/15/85 TODAY 3/15/85
DATE COMPLETED: 3/15/85
FIELD REP.: McEnery

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

94.5 ↑ 10th run

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		50°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
94.5	NQ	100	100	0		X							X			Smo		SS	lithology continuous from previous description
				0															
				0															
				0															
104.5																			
	NQ	100	100	0		X							X					SS	
																			color change @ 114' from moderate brown (5YR 4/4) to light brown (5YR 6/4) to grayish orange (10YR 7/4) back to moderate brown @ 145'
119.5																			
129.5																			end of core

COMMENTS: _____

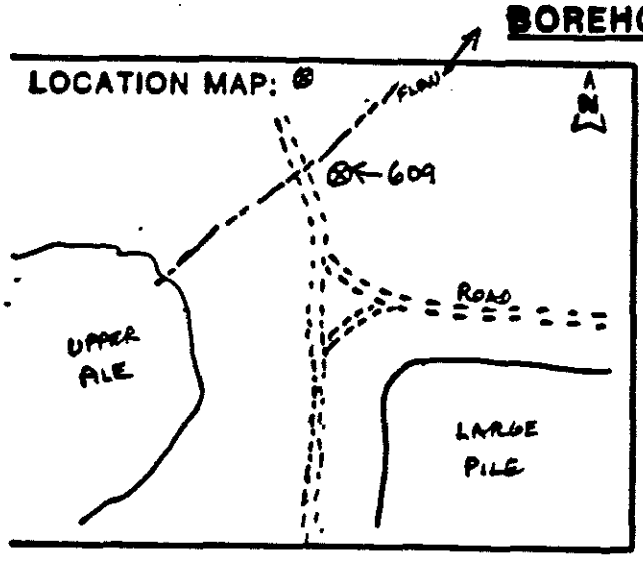
BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 6 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RC - RC ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MON01 LOCATION ID: 609
APPROX. SITE COORDINATES (ft.):
N 59052.132 E 87652.915
GROUND ELEVATION (ft. MSL): 4878.30
DRILLING METHOD: 6" HSA
DRILLER: SHB BEAR MOBILE B-80
DATE STARTED: 1-3-85
DATE COMPLETED: "
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
1-3-85	OF DRILL	DRY

LOCATION DESCRIPTION N.W OF LARGE PILE 200' NORTH OF A N ON S. SIDE OF ARROYO NEXT RD.
SITE CONDITION NEXT TO PILE OF ROCKS - BEARS BOTTLE/IN DRAINAGE COMING OUTOFF OF SMALLER PILE - DRY SANDY SHALLOW ALLUVIUM WELL N.OF PILES

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
						NOT SAMPLED		SP	SAND, FINE GRAINED UNIFORM RED BROWN SLMDIST - BLOWSAND, MED DENSE
11'								SS	SANDSTONE (SHINARUMP) COARSE GRAINED YELLOW OLIVE GREEN DRY
TD: 15'									CAVED TO 14' 2" PVC CASING INSTALLED.

RECEIVED
JAN 11 1985
DOCUMENT CONTROL

COMMENTS: CAVED AT 14' - WELL INSTALLED TO MONITOR DRY ALLUVIUM / BEDROCK

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

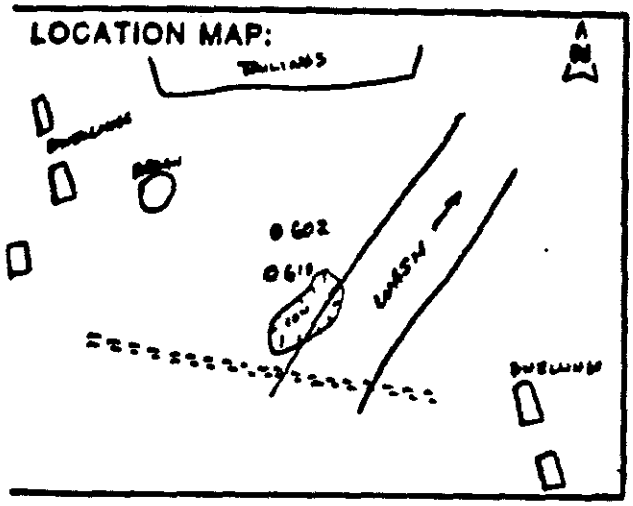
JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

Page 1 of ___

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N ___ E ___
GROUND ELEVATION (ft. MSL): ___
DRILLING METHOD: 6" HSA - NQ WIRELINE
DRILLER: SH B BEAR
DATE STARTED: 12-3-84
DATE COMPLETED: 12-4
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
12-3-84	11:00 am	8'

LOCATION DESCRIPTION 25' SOUTH OF "602" SOUTH OF TAILINGS PILE
SITE CONDITION DOWNGRADIENT IN DIRECTION OF FLOW WHICH DRAINS VALLEY IN EXTRELLA TAILINGS

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
								SM	FINE SAND F.G. DRY REDBROWN "BLOWSAND" SIR S/2 S/4 MUNSELL
5									
									V MOIST
								8' WT	WATER TABLE WET
10									
15									OPENED HOLE TO 29' TO START LORING FIRST CORE RUN 29.5-30.5 - NO RECOVERY THEN BULLER TO 35 TO START LORING AT 35 - NQ WIRELINE ON ROCK CORE LOG (PG.) 3 DENSE DRILLING AT 32.5'
20									
25									
30									

COMMENTS: ___

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

SITE ID: MON01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: 6" HSA
DRILLER: SHB-BEAR
DATE STARTED: 12-3-84
DATE COMPLETED: ____
FIELD REP.: SLVI

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION: SOUTH OF 602
SITE CONDITION: ____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
32.5									DENSE DRILLING @ 32.5' IN SHINARUMP SANDSTONE
									SWITCH TO ROCK CORING LOG PG 3 - 34'
34									

COMMENTS: ____

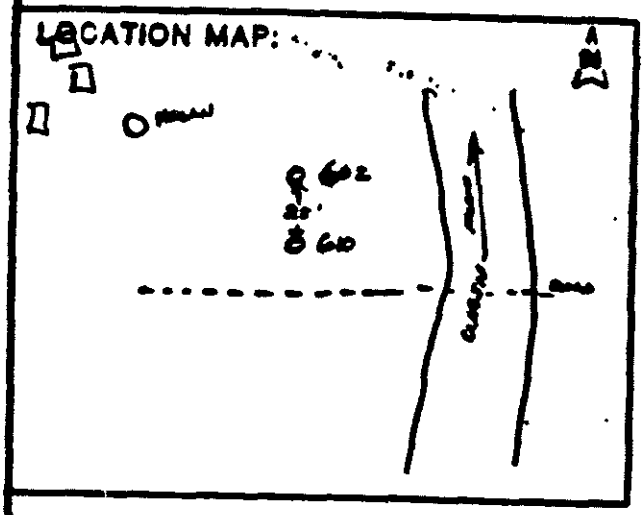
SAMPLE TYPE
A - Auger cuttings
S - 3" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: 61D
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: RG WIRELINE
DRILLER: [illegible]
DATE STARTED: 12-3-84
DATE COMPLETED: ____
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
12-3-84	11:00	8'

LOCATION DESCRIPTION ____
SITE CONDITION ____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1 2 3 4 5	DISCONTINUITIES: ORIENTATION (HORIZ. — VERT.) H 60° V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
29.5-30.5	NQ	0	0	Rock AIR				NR	RS	Sa	NO RECOVERY-SOIL
30	34	H	NA	NA	—						HSA TO 34'
34-	40.5	NQ	[illegible]	96	Rock Air		H 20°	Rh	MW	Sa	[illegible]
											[illegible]
40.5-	50.5	NQ	100	95	F/A			Rh			[illegible]
											[illegible]
50.5-	60.5	NQ	100	93	F/A		H	Rh	MW	Sa	[illegible]
											[illegible]
60.5-	70.5	NQ	100	95	F/A		H 30	Smo	MW	Sa	[illegible]
70.5-	72'	NQ	100	50%	F/A		H 30	Smo	MW		[illegible]
											[illegible]
72-	72.5	NQ	60	50		VVN		Smo		Sh	[illegible]
72.5-	73.5	NQ	100	0				S			[illegible]

COMMENTS: ____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 6 1/2 CONTINUOUS FLIGHT AUGER
GO - GEAR OUT
RC - RC ROCK BORING
RW - RC WIRELINE ROCK BORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1 of 3

SITE ID: MON 01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: ____
DRILLER: GEAL
DATE STARTED: 12-1-84
DATE COMPLETED: ____
FIELD REP.: ____

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION NEXT TO MN-1-2
SITE CONDITION ____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES SPACING WIDE — CLOSE 1	2	3	4	5	ORIENTATION HORIZ. — VERT. H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
																			REENTERED HOLE AFTER INSTALLING 6" CASING TO 34' USED REVERT 6 40' STARTED COR HOLE @ 73.5 IN SHALE
															Ell				
73.5	75	NQ	100	95	REVERT 100		X					15				Smo	F	Sh	73.5 GREY SHALE THIN BLACK STRINGERS - SEA. HARD, SANDY PLUGGED OFF AT 75 - PULLED INNER BARRELL
75	76	NQ	100	40	REVERT 100		X									Smo	F	Sh	PLUGGED OFF BORING 76' IN SOFT SHALE - LAMINATED ALTERNATING HARD & SOFT LAYERS OF GREY SHALE
76	77	NQ	100	50	100 REVERT			X											FISSURE @ 77 INTERMIXED SANDSTONE 76-77.5
77	80.5	NQ	100	100	REVERT			X				Sm X				Smo	W1	Ss	77.5 TRANSITION SHALE-SANDSTONE INTERMIXED LAYERS LAMINAT OF CLAY SANDSTONE HARD - MOD HAR GREY TO WHITE ROSTSTAINED FIGR. Ss THIN SL DIPPING HIL STRINGS VERTICAL FAULTING 78.6 - 80.5

COMMENTS: ____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
RX - RX ROCK CORING
RQ - RQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP: See Pg 3

SITE ID: MON01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: ____
DRILLER: BEAR-SHB
DATE STARTED: 12-11-84
DATE COMPLETED: ____
FIELD REP.: ____

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION: NEXT TO MN-1-2
SITE CONDITION: ____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	30°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
82.5–87.6	NQ	100	95	REPORT		X					X			RA	Ws	Ss	SANDSTONE WATER FRACTURES THIN HZ BANDS OF W TO GY F GR LAYERS RUST STAINED @ 85.5-86.5 GREY BANDS @ 84.6-84.8 TRACE CLAYEY IN F SS 84.6 TRANSITION 86-86.7 TO COARSE GRAINED CRYSTALLINE IN F GR SANDSTONE HAS ROUNDED ½" GRAVEL LOOKS LIKE CALCIC PEBBLY CONGLOMERATE & PRIMITE 87.6 RED NODULE
~~87.6~~																	
87.6	NQ	100	95	REPORT 100											St	Ls	GREY CLAYSTONE II-HARD LOST CIRCULATION BIT OFF AT 87.7 IN SOFT CLAY
																St	V. FIRM SAMPLE PIECE
																	88.5 SOFT CLAYSTONE
																	89.5 LIMESTONE BLUE GREY
90.5	NQ	100	95	100										Smo	Ws	Ct	90.8 MUDSTONE · CLAYSTONE POSSIBLE MODERATE CROSSBEDDED HARD
92.5	NQ	100	97	100													92.5 DARKER BROWN SANDSTONE-MUDSTONE
																	94.5 STRATIFIED BROWN SANDSTONE IN MUDST. MUDSTONE BECOMING SOFT FROM 96.5-97.5
100.5	NQ	100	95	100													

COMMENTS: 97.5 PORE SPACES POSSIBLE WT
98 SANDSTONE LAYER DARK RD-BR. TO GREY
100.5 SILTSTONE CLAYSTONE · WHITE

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 6 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
RC - RC ROCK CORING
NC - NQ WIRELINE ROCK CORING

GEOLOGIC SEQUENCE FROM MAP

YOUNGER

TRCO — CLAY SILT MINOR SANDSTONE

TRPM — PETRIFIED FOREST & TRCM — SILTSTONE SANDSTONE LIME PEBBLE CONG — MONITOR BUTTE MEMBER — CLAYSTONE MINORS

TRCM — CHINLE FOR MATION - WHOLE FORM

TRCS — LT GREY - YELLOW GREY Ss & CONGLOMERATE (SHINARUMP

~~[illegible]~~

TRm — RED BROWN MUDSTONE, SILTSTONE & SILTY SANDSTONE (MOENKOPI)

Pcdc — MED RED ORANGE PALE ORANGE SANDSTONE (DE CHELLY)

Pcor — DEEP RED BROWN SILTY SANDSTONE
SANDY SILTSTONE
SILTSTONE
SOME IMPURE LIMESTONE

ORGAN ROCK TONGUE OF CUTLER

Pccm — LT COLORED SANDSTONE SILTSTONE LIMESTONE
CEDAR MESA SANDSTONE

Pcha — LT BLUE-GREY TO GREY LIMESTONE & L.S. CONG (HALGAITO S.S.)

PIPr — ~~[illegible]~~ RED OR RED BROWN SILTSTONE
PALE RED TO LT GREY SANDSTONE
MED GREY LIMESTONE (RICO FORMATION)

IPh — ALTERNATING DARK TO LT GREY LIMESTONE
GREY TO BLACK LIMEY SHALE (HERMOSA FORMATION)
GREY OR LT BROWN SANDSTONE

OLDER

MONO1 610 HOLE SEQUENCE

73.5 – 75' FOLIATED SANDSTONE W/ SM MICA PIECES

F.Gr GREY – BLACK FOLIATED FRESH

75-76 1" TAN SANDSTONE
1' GREY SANDSTONE

75.5 CLAY

75.8 SANDSTONE

76 CLAY

76.5 SANDSTONE F.Gr DIPPED [illegible]

77 CLAY

77.2 F.Gr SANDSTONE WHITE

77 [illegible] WS [illegible]

85.5 BLACK BAND [illegible]
SANDSTONE CONGLOMERATE

86.5 BLACK BANDS – [illegible] MUDSTONES COAL LOOKING [illegible]
C.G. SANDSTONE FELDSPATHIC? QUARTZ [illegible]

87 CLAYSTONE SILTSTONE GREY SOFTER W/ MICA

87.5 S. [illegible] CLAYSTONE CLAYSTONE [illegible]

88.5 SOFT [illegible]

89.5 LIMESTONE ?

90.2 MUDSTONE SOFT
RED BROWN STRONG [illegible] V. THIN LAYERED [illegible]
CROSSBEDDED HARD

92.5 DARK RED BROWN
ENTRIBUTED SANDBANDS
SEEP.

94.5 LAMINATED – STRATIFIED SANDSTONE & MUDSTONE [illegible]

MUDSTONE [illegible]

97.5 – PORE SPACE SOFTER CLAY MUDSTONE LAYERS W/ SANDSTONE

98.5 2½" HARD SANDSTONE LAYER @98.' [illegible] RED BROWN TO GREY

100.5 SILTSTONE/CLAYSTONE [illegible]

MON01 HOLE 610 NOTES

SP FG SAND

82

SH. JARUMP

71

SHALE

77.5

SHALE & SANDSTONE

78.5

FG SANDSTONE RUSTSTAINED
VERTICAL FRACTURES

80.5

RUSTSTAINED

84.6-84.8

GREY BANDS CLAYEY

86

GREY TO BLACK - COARSE S.S. ROUND GRAVEL HARD

87.5

LIMESTONE - HARD

87.7

SILTY CLAY

89

SILT-CLAY TRANSITION

RED BROWN CLAYSTONE

STRATIFIED CLAYSTONE

MON 610 19.19.4.2

core started

34.5-49.5 Sandstone, fine grained, moderately cemented, locally discolored with reddish brown, light yellowish brown.

49.5-59.0 Sandstone, medium grained with some coarse grained, occasional silt clast, yellowish brown.

59.0-72.5 Sandstone, fine grained, occasional silt clast, light brown with local reddish brown discoloration.

72.5-73.5 Shale, yellowish brown to gray

73.5-75.0 Sandstone, very fine grained, gray.

75.0-75.5 Shale, gray

75.5-76.0 Sandstone, very fine grained, grayish white

76.0-76.5 Shale, gray

76.5-77.0 Sandstone, very fine grained, grayish white

77.0-77.5 Shale

77.5-86.5 Sandstone, very fine grained, grayish white

SHINAPUMP

86.5-87.0 Sandstone, coarse sand and fine and coarse gravel, well cemented

87.0-90.5 Shale, light gray

MOENKOPI

90.5-114.0 Shale, ~~reddish~~ brown

114.0-120.5 Sandstone very fine grained,

well cemented, reddish brown

120.5 - 122.0 Sandstone, fine grained, moderately cemented, light brown

122.0 - 122.5 Shale, reddish brown

122.5 - 126.0 Sandstone, fine grained, well cemented, reddish brown

126.0 - 130.5 Sandstone, fine grained, moderately cemented, reddish brown

To: Bill Mason

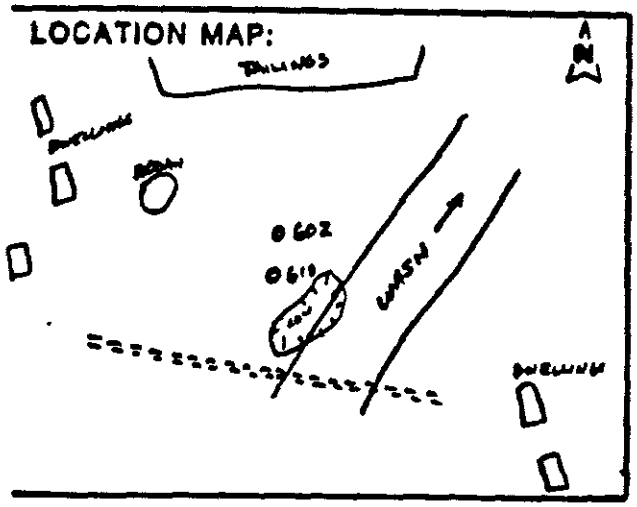
This is the description of the MOV 610 core as logged by P Darr @ the SHB office. Please transmit to Gary Miller ASAP so he can decide if the De Chelly, mt to go well needs to be cored above 130 feet.

Thanks, D Betsill
3/1/85

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MON01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD: 6" HSA - NQ WIRELINE
DRILLER: SH & BEAR
DATE STARTED: 12-3-84
DATE COMPLETED: 12-4
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
12-3-84	11:00 am	8'

LOCATION DESCRIPTION 25' SOUTH OF "602" SOUTH OF TAILINGS PILE
SITE CONDITION UPGRADIENT IN DIRECTION OF FLOW WHICH DRAINS VALLEY IN ADJACENT WASH

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
								SM	FINE SAND F.G.F DRY REDBROWN "BLOWSAND" STR 5/3 5/4 MUNSELL
5									V MOIST
								8' WT	WATER TABLE WET
10									
15									OPENED HOLE TO 29' TO START CORING FIRST CORE RUN 29.5-30.5 - NO RECOVERY THEN AUGER TO 35 TO START CORING AT 35 - NQ WIRELINE ON ROCK CORE LOG (PG) 3 DENSE DRILLING AT 32.5'
20									
25									

RECEIVED
DOCUMENT CONTROL

COMMENTS:

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

SITE ID: MON01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD: 6" HSA
DRILLER: SHB-BEAR
DATE STARTED: 12-3-84
DATE COMPLETED:
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION SOUTH OF 602
SITE CONDITION

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
30									
32.5									DENSE DRILLING @ 32.5' IN SHINARUMP SANDSTONE
34									SWITCH TO ROCK CORING LOG @ 34'

COMMENTS:

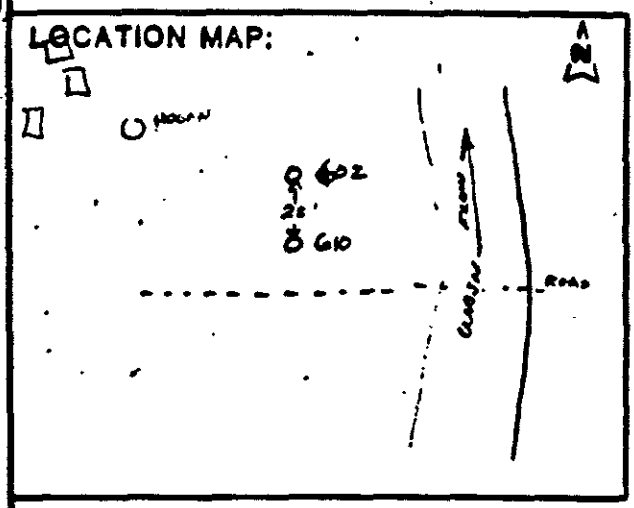
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 08649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD: NQ WIRELINE
DRILLER: SHB BEAR
DATE STARTED: 12-3-84
DATE COMPLETED:
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
12-3-84	11:00	8'

LOCATION DESCRIPTION
SITE CONDITION

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1 2 3 4 5	DISCONTINUITIES: ORIENTATION (HORIZ. — VERT.) H 60° V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS (OPEN HOLE TO 29' SEE SON BORING LOG)
30.5	NQ	0	0	FOAM AIR				NR	RS	Ss	NO RECOVERY-SOIL
30.5	34	H	NA	NA	—						HSA TO 34'
34	40.5	NQ	98%	96	FOAM AIR		2:1	Rh	MW	Ss	SHINARUMP SANDSTONE CC 32 MAW - RED SAND - CAMMITTED THIN BEDDING - RUST STAINED TO GREY CLAY LENSE 39.5' 39 MONSALL 10YR 6/1 BROWNISH GREY TO 1 YR 6/4 VERY FINE GR TO 53'
40.5	50.5	NQ	100	95	F/A			Rh			53' DAK GREY CLAY LENSE COARSE & CRYSTALINE 49 CLAR CRA TO 7.5YR 5/8
50.5	60.5	NQ	100	93	F/A			Rh	MW	Ss	CLIFF HOUSE / [illegible] COARSE LENSE 55-59 [illegible] VF: 0.59-0.5 AUTISEN (1.5 mm/ft) SHRATIFIED
60.5	70.5	NQ	100	95	F/A		2	Smn	MW	Ss	61' FINE GRAINED GREY CLAY AND LENSE 62.5, 65
70.5	72	NQ	100	50%	F/A*		20	Smn	WH		71' BLACKISH GREY CLAY LENSE #72' PLUGGED OFF & LOST CIRCULATION IN CLAY 72.2 FG SANDSTONE - TAN CLAY TAN CLAY LAYERS
72	72.5	NR	60	50			VH	Smo		Sh	SHALE BROWN MW - WH BROKEN & RUST STAINED
72	72.5	NR	100	0							

COMMENTS:

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RR - RR ROCK BORING
NQ - NQ WIRELINE ROCK BORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1 of 3

SITE ID: MON 01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD:
DRILLER: BEAL
DATE STARTED: 12-11-84
DATE COMPLETED:
FIELD REP.:

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION NEXT TO MN-1-2
SITE CONDITION

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	50°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
																	REENTERED HOLE AFTER INSTALLING 6" CASING TO 34' USED REVERT @ 40' STARTED CORING @ 73.5 IN SHALE
																	78.5
73.5 – 75	NQ	100	95	REVERT 100			X					15		Smo	F	Sh	GREY SHALE THIN BLACK STRINGERS-SEE HARD, SANDY PLUGGED OFF AT 75-PULLED INNER BARREL
75 – 76	NQ	100	40	REVERT 100			X							Smo	F	Sh	PLUGGED OFF BLAINE 76' IN SOFT SHALE-LAMINATED ALTERNATING HARD & SOFT LAYERS OF GREY SHALE FISSURE @ 77
76	77	NQ	100	50	100 REVERT			X									INTERMIXED SANDSTONE 76-77
77 – 78.5	NQ	100	100	REVERT				X				50° X		Smo	Ws	Ss	77.5 TRANSITION SHALE-SANDSTONE INTERMIXED LAYERS W/ MODL OF CLAY SANDSTONE HARD - MED HA GREY TO WHITE RUSTSTAINED FIGR. Ss THIN SL DIPPING - HE STRINGS VERTICAL FRACTURE 78.6 - 80.5

COMMENTS:

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
RX - RX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP: See Pg 3

SITE ID: MON01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD:
DRILLER: BEAR-SNB
DATE STARTED: 12-11-84
DATE COMPLETED:
FIELD REP.:

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION: NEXT TO MN-1-2
SITE CONDITION:

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
87.6	NQ	100	95	REJECT		X					X					Rh	Ws	Ss	SANDSTONE VERTICAL FRACTURES THIN HE BANDS OF W TO G. F. GR LAYERS RUST STAINED @ 81.5-81.5 GREY BANDS @ 84.6-84.8 TRACE CLAYEY IN F. SA 84.6-8 TRANSITION 86-86.7 TO COARSE GRAINED CRYSTALL IN F. GR SANDSTONE WAS ROUNDED ½" GRAVEL LOOKS LIKE COAL IN PELLET CONGLOMERATE & PYRITE 87.6 RED NODULE ON
~~88.6~~																			
87.6	NQ	100	95	REJECT 100													Sr	Ls	GREY CLAYSTONE II - HARD LOST CIRCULATION OFF AT 87.7 IN SOFT CLAY V. FRIA SAMPLE PIECE
																		Sc	88.5 SOFT CLAYSTONE
																			89.5 LIMESTONE BLUE GRE
90.5	NQ	100	95	100												Smo	Ws	Ct	90.3 MUDSTONE · CLAYSTO POSSIBLE MODULAT CROSSBEDDED HARD
92.5	NQ	100	97	100															92.5 DARKER BROWN SANDSTONE - MUDSTONE
																			94.5 STRATIFIED GREYISH SANDSTONE IN MUDST MUDSTONE BECOMING SAND FROM 96.5-97.5
100.5	NQ	100	95	100															

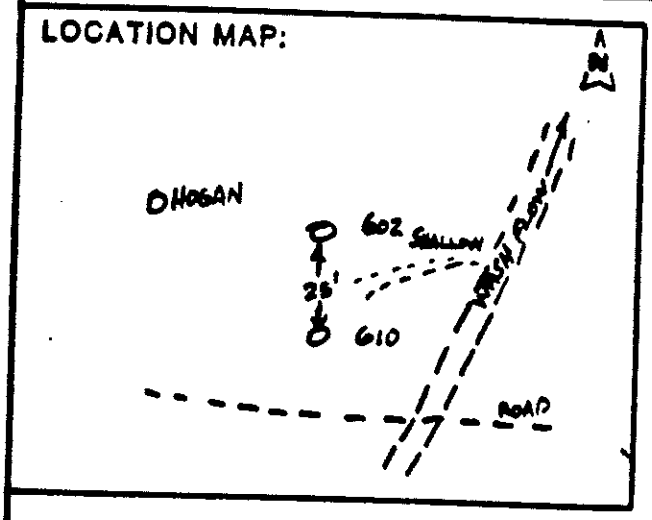
COMMENTS: 97.5 PORE SPACES POSSIBLE WT
98 SANDSTONE LAYER DARK RD-BR. TO GREY
100.5 SILTSTONE CLAYSTONE · WHITE

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MONO1 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD:
DRILLER: SHB BEAR-SHB
DATE STARTED: 12-11-84 TODAY 1-4-85
DATE COMPLETED:
FIELD REP.: SILVA

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
1-3-85	10 AM	ARTESIAN @ 56 PM
1-9-85	9:30 AM	ARTESIAN @ 10 PM
1-5-85	9:30	ARTESIAN 26 AM

LOCATION DESCRIPTION: NEXT TO MON 602
SITE CONDITION: COOL - CLEAR GRASSED AREA WITH SAGEBRUSH

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		50°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS (NEW DIAMONDS ON 1-7-85)
100.5	NQ	100	100	80%		X										Rh	Sc	Ss	SLOW DRILLING 30% FLUID LOSS
102						X													SANDSTONE - MUDSTONE REDDISH BROWN/GREY STREAKS
103									X									Ss	TRANSITION INTO BROWN M-CG SANDSTONE WITH MUDSTONE NODULES V HARD II
104									X										
105						X													SS W ANGULAR PIECES OF MUDSTONE LAYERED
106						X						X							MUDSTONE 104-106 MIXED SANDSTONE & MUDSTONE SINCE 106
107								X				X							
108									X	X		X							
109									X	X		X							108.5 LT BROWN CG SANDSTONE WITH LAMINATED MUDS INTERMIXED LAYERS OF CG/FG. MATL -
110										X		X							
110.5		100	50	100						X		X					WM	Ss	LOSING HOLE, INTERMITTENT FLOW
111			100					X				X							Dusky red fine gr. Ss with greyish white bands. Gradational to reddish orange siltstone.
112								/	X		X								
113								X				X						St	
	NQ							X				X							

COMMENTS:

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RX - RX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP: see p 6

SITE ID: MON 01 LOCATION ID: 610
APPROX. SITE COORDINATES (ft.):
N 56360.765 E 88649.506
GROUND ELEVATION (ft. MSL): 4861.65
DRILLING METHOD:
DRILLER: SHB BEAR
DATE STARTED: 12-11-84
DATE COMPLETED:
FIELD REP.: J. Hoopes

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
1-5-85	1PM	Artesian @ 2GPM.

LOCATION DESCRIPTION NEXT to MON 602.
SITE CONDITION 2% slope, sagebrush, sandy soil.

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	50°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
115.5	NQ	100	100	100			X					X			WM	Ss	Pale reddish brown and light grey banded siltstone and sandstone - believed to be Rico Formation.
116																	
117						X						X					
118						X					X						
119								X				X				St	
120							X				X						
120.5	NQ	100	100				X				X				WM	Ss	Dusky red, reddish orange and light grey Ss. Massive. Slightly friable
121																	
122																	
123								X				X					
124																	
125																	
126							X				X				WM	Ss	Reddish orange Sandstone, medium gr. massive. Some thin light grey bands of Ss.
127																	
128							X				X						
129																	
129.5	NQ	100	100	100									X				

COMMENTS: All but two fractures in core caused by hammer blows.

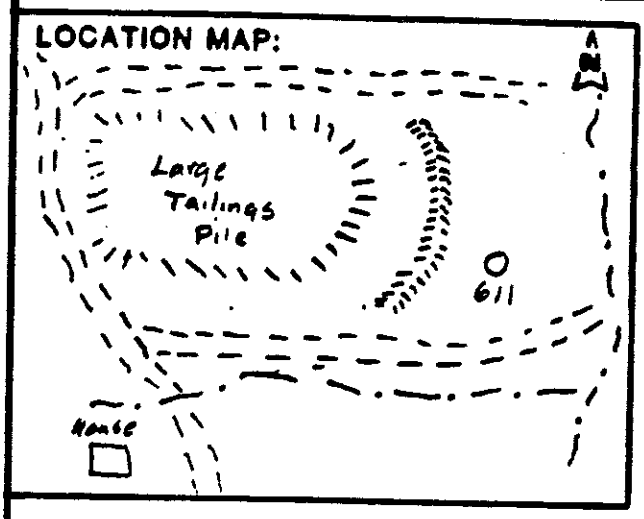
BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
RX - RX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON-01 LOCATION ID: 611
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary to 65 ft core to TD
DRILLER: SH&B (J. Carter)
DATE STARTED: 3/5/85
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
3/5/85	1:30 pm	6

LOCATION DESCRIPTION East of Large Tailings pile. Near Dike.
SITE CONDITION Sandy with Four wing salt brush

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	30°	60°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
65	NQ	100	0	50%					X		—				R	W	4" cong	Note: Hole previously rotary drilled and casing set to 63 ft.
67			60						X		—					W		
68			40						X		—							
69			100					X			—							SS to conglomerate, lt gray to yellow to orange, v. slightly calc. Hemitite and limonite common. Concent. along some fract.
70			100					X			—	30						
71			100						X		—							
72			80					X			—							Core is oxidized soft, easly broke
73			100					X			—							
74			60					X			—							
75			50						X		—				↓	↓	↓	
76	NQ	100	50						X		—				R	W	4" cong	as above to 76.3 @ 76.8 SS, lt gray yellow to orange brown @ Fract., fine to med. gr. less altered than above. Limonite and Hem. dec sharply. more indurated than above. Concen
77			80						X		—				R sm	sm	SS	
78			100						X		—				sm		SS	
79			50						X		—				sm		SS	
80			80						X		—				sm	↓	SS	

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 6 1/2 CONTINUOUS FLIGHT AUGER
BB - BAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 611
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: ____
DRILLER: ____
DATE STARTED: 3/6/85
DATE COMPLETED: ____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ____
SITE CONDITION ____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
80	NQ	100	65	60%					X		—	20				SM	WM	SS	
81			95				X				—					SM	WM		
82			100				X									SM	WM		
83			100				X									SM	WM		
84			0						X		—					SM	WM		
85	NQ	100	100	60%				X			—	20				SM	WM	SS	Sandstone as above. Grain size becoming mod. well uniform @ fine to med. Sericite mica noted along fracture planes. Limonite and hematite staining inc. @ 91.4' Core is hard orientation of fracture is horiz. to 20° some carbon-aceous material noted.
86		1	50						X										
87			40						X										
88			100					X											
89			100					X											
90			100					X											
91			100						X										
92			100					X											
93			90					X											
94			100						X										
95																			

75-85' Run 2

85-95' Run 3

COMMENTS: ____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BLAK BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JE ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 611
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	50°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
95	NQ	83%	100	80%					X					SM	WS	SS	Same as above To 102'
			100				X										
97			100				X										a 102.0 SS, lt greenish gray, very large qtz., quartzose, poorly consolidated, with pyrite and coal. Core is soft
98			0						X								
99			90				X										
100			100				X										
101			100				X										Fract. Horiz to 20°
102			35						X					R			
103			35						X								from 103.2 to 105.0 Lost
104		Lost	?						?		?			?	?	?	
105	NQ	97%	100	30%				X						SMR	WS	SS-Conq	SS as ab with some conglomerate, lt to greenish gray, pyrite common, some calc. a 108 Conq. pebbly, basal portion of Shin. SS. Pebbles are mostly chert, sub to well rounded.
106			70					X							WS	SS	
107			100					X							WS	SS	
108			70						X					R	WS	Conq	
109			35						X					R Sm	WS	Conq SS	109.6 Mocatapi
110																	

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
RC - NX ROCK CORING
WC - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 611 -
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	30°	60°	90°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
110	NQ	30%	80					X			—					R	WM	st	@ 109.6 siltstone, greenish gray, v. argillaceous, slightly calc., soft, easily broken. @ 112.0 to 112.4 yellow gray. @ 111.4 claystone, dark red brown. @ 114.6 ss, vfg, pinkish red.
1																			
112			0						X		—					R	WM	st	
113			65						X		—					sm	F	clst	
114			40						X		—					sm	F	clst	
115			0							X	—					sm	F	clst ss	
116	NQ		75	50%					X		—					sm	WM	Cl-st	claystone, dark reddish brown, silty, with interbeds of siltstone, & pinkish brown, cross laminated, harder than claystone. calcareous. core is highly fractured. Horizontal dom. claystone cuts with knife. Artesian flow
117			0						X		—					sm-R			
118			0						X		—								
119			35						X		—								
120			35						X		—								
121			95					X			—					sm			
122			45						X		—					sm-R			
123			90						X		—								
124			0						X		—								
125			40						X		—								

Run 6 118-125

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 6 1/2 CONTINUOUS FLIGHT AUGER
DB - DEAR BIT
RR - RR ROCK CORING
WR - WR WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 6111
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
105	NQ	100	100	50					X		—					SMR	F	st	Very clayey siltst, red brown, with minor siltstone interbeds to 106.
			70					X			—					↓	↓	↓	
107																			@ 108.6 sandstone, lt gray, vfg to silty, with interbeds of silty red brown claystone. all above calc. Core mod. broken to 131.0 Soft to hard Note: @ 129' penetration rate: 8.5 min/ft @ 131.0 siltstone, red brown, very argillaceous, one unbroken piece to 134.8. @ 134.65, mottled red brown/lt gr, fine gr. very hard @ 135 to 145 sandstone, pinkish brown to greenish gray, f to med gr, argillaceous, calc. to very calc. Some red brown silt clayst. @ 137. Broken 139.5-141
			0						X		—							st	
			60						X		—							st	
			60						X		—							st	
			100						X		—							st	
131			100				X												
			100				X												
133			60				X												
			80					X			—					↓	↓	st	
135			35						X							SMR SR	F	st	
			60						X							↓	↓	st st	
137			90					X										st	
			100					X											
139			80					X			—					↓	↓	↓	

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RX - RX ROCK CORING
RQ - RQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MW-01 LOCATION ID: 611
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	60°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
140	NQ	100	100				X				↑			SM	F	Ss	@ 143 mottled Ss hard
141			100				X										
142			100				X				No Frac						
143			100				X										
144			100				X				↓						
145	NQ	100	100	50				X						SM	F	Ss	Sandstone, red brown to pinkish brown some mottling greenish gray, Sandgrains coarsen downward, calc. Hard to v. Hard. Fractic from 151 to 156 @ 151 sandgrains are well rounded and frosted. chert Quartzose Sandstone.
146			80						X								
147			100					X									
148			100				X				No Frac						
149			100				X										
150			80					X									
151			100					X						SM	WS		
152			90					X									
153			90						X								
154			70					X									
155																	

Run 8 — Run 9 — 148'–155' Run 9

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BLAR BIT
RX - RX ROCK CORING
RC - RC WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 611
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1 2 3 4 5	DISCONTINUITIES: ORIENTATION (HORIZ. — VERT.) H 30° V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
55											
156	NQ	100	100	60		No Fractures	No Fractures	sm	G	SS	Morrison/Petrolly contact @ 156.2
157											
158											@ 156.2 SS, reddish brown to lt reddish brown, fine grained, well rounded, frosted quartz grains, friable on broken surface.
159											
160											
161											
162											well developed cross bedding. Cross beds are 20° from horiz. Cross laminae denoted by thing (?) concentrations.
163											
164											
165											
166	NQ	100	100	60		No Fracture	No Fracture	sm	G	SS	SS as at Cross bedding denoted by slight grain size change
167											
168											
169											
170				0							Lost circ. @ 170'

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - REAR BIT
RX - RX ROCK CORING
RO - RO WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 6.11
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
170			100	0		No Frack					No Frack					Sm			
171																			
172																			
173																			
174																			
175																			
176	NQ	100	100	10-15												Sm	F	SS	
177																			
178						No Frack					No Frack								
179																			
180																			
181				0															
182				55															
183																			
184																			
185																			TD 185'

run 1 185-125

run 2 185-175

COMMENTS: _____

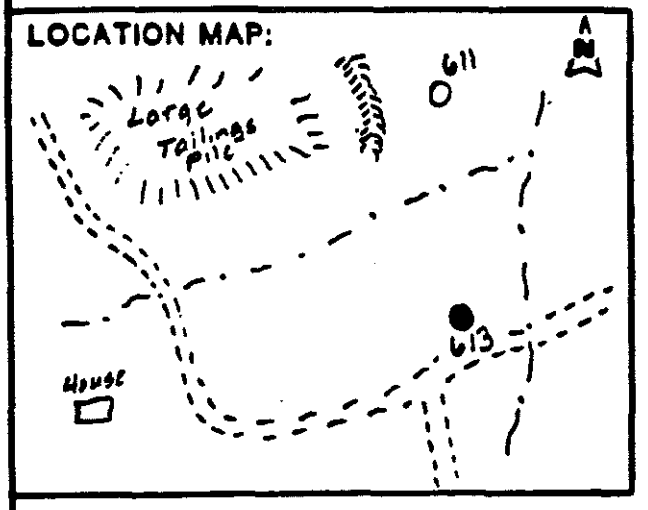
BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
RB - ROAR BIT
NX - NX ROCK CORING
BQ - BQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: Mon-01 LOCATION ID: 613
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Plug to 77.7' then core to 70
DRILLER: SHJB (J. Carter)
DATE STARTED: 3/3/85
DATE COMPLETED: Packer set 3/5/85
FIELD REP.: Roger Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION South East of Large Tailings Pile
SITE CONDITION Sandy with salt grass and Four wing saltbrush

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		60°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
																			Note: Hole prev. drilled and cased to 34.0' on 3/3/85 rotary drilled from 34 to 77.7'
78	NQ	100	100	100				X								Sm	F	Ss	Began coring @ 77.7' Ss, very lt. gray to yellow brown, f. to med. gr., non calc., x bedded and laminae bedding hematite and limonite common
79			70						X							Sm	F	Ss	
80			100					X								Sm	F	Ss	
81			100					X								Sm	F	Ss	
82			70					X								6m	F	Ss	
83			100					X								6m	F	Ss	
84			70					X								Sm	F	Ss	
85	NQ	100	85	100				X								Sm	F	Ss	84.7-86.7 Ss as ab 86.7'
86			0							X						Sm-R	F	St	@ 86.7' Mancos Black chert peb. @ base of Sm. Ss @ 86.7' Claystone, greenish gray, reduc. env., finely disem. pyrite throughout fractured, H2O worn. slightly calc.
87			0							X						R-Sm	F	St	
88			70						X							R-6m	F	St	
89			50						X							R-6m	F	St	
90			0							X						R-6m	F	St	
91																			

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RC - RC ROCK CORING
WC - WC WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 613
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	50°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
[redacted]	[redacted]		[redacted]	[redacted]						[redacted]	[redacted]				[redacted]	[redacted]	@ 90.6' claystone becoming red brown, highly fract. slightly to non calc.
91																	
92																	
93		98%	0	50%						X	—			Sm	F	Cl	@ 93.7. Claystone, dark brown, micaceous, non calc., highly frac. with minor frac qz. calc. & orange micaceous ss.
94	NR		0	50%						X	—			Sm	F	Cl	
95		100%	0	50%						X	—			Sm	F	Cl	@ 95.0 Siltstone and claystone interbedded, H gray to dk brown, calc., highly fract.
96			0							X	—			Sm	F	Cl	
97			0							X	—			Sm	F	Cl	@ 96.7' claystone, dk. brown, with minor interbeds of siltstone, and qtz(?) inclusions. highly fractured.
98			50						X	X	—			Sm	F	Cl	
99			40						X	X	—			Sm	F	Cl	@ 103-8 claystone as above with interbeds of H gray
100			47						X	X	—			Sm	F	Cl	
101			0							X	—			Sm-R	F	Cl	above 100-101 (5.6 min/ft.) med to coarse gr. calc sandstone.
102			0							X	—			Sm-R	F	Cl	
103			0							X	—			Sm-R	F	Cl	

COMMENTS: _____

BORING OPERATION
H = 8 1/2 HOLLOW STEM AUGER
C = 4 1/2 CONTINUOUS FLIGHT AUGER
RB = RAB BIT
RC = RC ROCK CORING
WC = WC WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 613
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: SH&B (H. Carter)
DATE STARTED: 3/2/85
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

Depth (ft)	Boring Operation	% Core Recovery	% Rock Quality Designation (RQD)	% Drilling Fluid Recovery	Packer Test Interval	Discontinuities: Spacing (Wide — Close) 1	2	3	4	5	Orientation (Horiz. — Vert.) H	30°	V	Condition	Weathering	Lithology	Rock Type & Remarks
103	NQ	100	0	50%						X				Sm-R	F	Ss	
103.3			0	100%													
104	NQ		90						X					Sm-R	F	Cl-Ss	
105		99%	100					X						Sm	F	Cl	Claystone and ss, dark brown cl, H gray ss., ss is fg, calc. Clay fract. dominates from 105' to 109. @ 109 claystone + ss give mott. affect. Some claystone frags appear reworked. Note: 110-111 (5.5mm/ft) from 110 ft to 112.5 core highly fractured. Hole making artesian flow. 1.6 gpm
106			80					X						Sm	F	Cl	
107			95					X						Sm	F	Cl	
108			35						X					Sm	F	Cl-Ss	
109			95						X					Sm	F	Ss-Cl	
110			50						X					R	F	Ss-Cl	
111			40						X					R	F	Cl-Ss	
112			35						X					R-Sm	F	Cl-Ss	
113			75						X					Sm	F	Cl-Ss	
114			80					X						Sm	F	Cl-Ss	
114.7																	
115	NQ	99%	95					X						Sm	F	Ss	Sandstone, dark brown to pinkish white, fine to med to coarse gr., varying amt. of clay, calcareous.
116			95					X						Sm	F	Ss	
117			60					X						Sm	F	Ss	
118																	

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
RX - RX ROCK CORING
WG - WG WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 613
APPROX. SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: _____
DRILLER: _____
DATE STARTED: _____
DATE COMPLETED: _____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H		50°		V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
118	NR	99	35						X		—					Sm	F	SS	
119			80					X			—					Sm	F	SS	
120			100				X									Sm	F	SS	@120 SS becoming pale yellow
121			100				X				—					Sm	F	SS	@121.5 SS, dark brown with varying amt of clay.
122			100				X									Sm	F	SS	
123			100				X									Sm	F	SS	
124			100				X									Sm	F	SS	
125		100.5	100					X								Sm	F	SS	
126			100					X								Sm-R	F	SS	SS, reddish brown, med gr, clean, sub to well rounded gr., Frame calcareous.
127			70					X			—					Sm-R	F	SS	
128			90						X		—					Sm-R	F	SS	
129			100					X								Sm-R	F	SS	
130			95						X		—					Sm-R	F	SS	
131			100				X									Sm	F	SS	@130 SS, yellowish brown, Fine to vf gr. cross bedded. x laminae distinguished by slight change in grain size and Fe2O3 cementation.
132			100				X									Sm	F	SS	
133			100				X									Sm	F	SS	

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
RC - RC ROCK CORING
WC - WC WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON-01 LOCATION ID: 613
APPROX. SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: ____
DRILLER: ____
DATE STARTED: ____
DATE COMPLETED: ____
FIELD REP.: R. Holland

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ____
SITE CONDITION ____

DEPTH (FT)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	DISCONTINUITIES: SPACING (WIDE — CLOSE) 1	2	3	4	5	ORIENTATION (HORIZ. — VERT.) H	60°	V	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
133																	
134			100						X					sm	F	ss	
			50						X					sm	F	ss	
135			0														
136		40%	0							NA	NA				F	sand	@ 134.8 sand, tan, med. gr. clean, saturated with H_2O. Driller got 4" of a 10" run - excellent recovery for such soft material.
137			0							NA							
138			0							NA							
139			0							NA							
140			0							NA							
141			0							NA							
142			0							NA							
143			0							NA							
144			0							NA							No flow measured @ 5 gpm. 4:00 pm 3/4/85
145																	TD 144.7'
146																	No flow 2 gpm 9:40 am 3/5/85
147																	Note: Packer set @ 130.3' flow through packer: 8 min/gal.
148																	

COMMENTS: ____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
CB - CEAR BIT
RR - RR ROCK CORING
WC - WC WIRELINE ROCK CORING

JEG-AL-ENG-2A (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

SITE ID: Mon -01 LOCATION ID: 650
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co.
DATE STARTED: 9/30/85
DATE COMPLETED: 9/30/85
FIELD REP.: R. Tuttle

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ≈ 800' E x 1500' N of north end of Airstrip.
SITE CONDITION Flat, desert type vegetation

DEPTH 0.0	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
								SP	Sand, Some Silt, Med Fine - Med, N.P., Red-Brn
									Cont'd
20.0									

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: See Pg 1

SITE ID: Mex-01 LOCATION ID: 650
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co
DATE STARTED: 9/30/85
DATE COMPLETED: 9/30/85
FIELD REP.: R. Cuchol

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
30.0								SP	Sand, Some Silt, Pred Fine - Med, N.P., Red - Brn
60.0									Cont'd

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See Pg 1

SITE ID: Mar-07 LOCATION ID: 650
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co
DATE STARTED: 9/30/85
DATE COMPLETED: 9/30/85
FIELD REP.: R. Corbett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
66.5								SP	Sand, Some Silt, Red Fine-grained, N.P., Red Brown
									Cont'd
80.5									

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: See Pg 1

SITE ID: MW-01 LOCATION ID: 650
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Cooper Drilling Co
DATE STARTED: 9/24/85
DATE COMPLETED: 9/26/85
FIELD REP.: R. Cordell

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
90.0								SP	Sand, some silt, Red Fine - Med, N.P., Red-Brn
99.0								SS	Sandstone, soft, Red
104.0									Stopped Drilling @ 104'

COMMENTS: _____

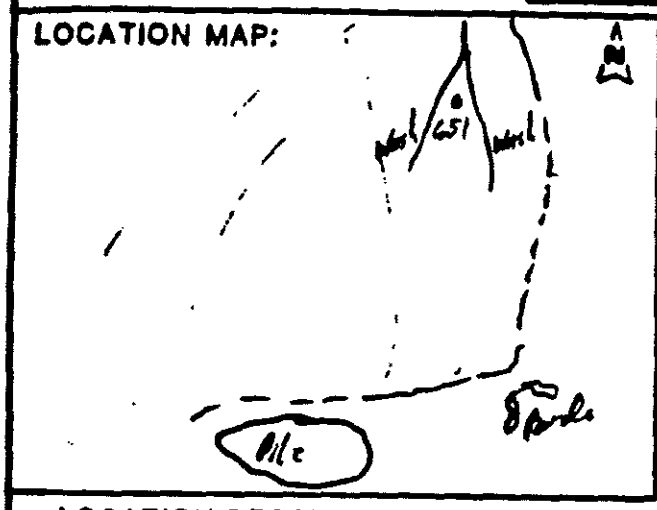
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: Mw-01 LOCATION ID: 651
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co.
DATE STARTED: 9/27/85
DATE COMPLETED: 9/27/85
FIELD REP.: R. Crockett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION Intersection of 2 washes, sand above

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
0.0								SP	Sand, Some Silt, Med Fine - Med, N.P., Red-Brn
30.0									Cont'd

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See fig. 1

SITE ID: Kow-01 LOCATION ID: 651
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co.
DATE STARTED: 9/29/86
DATE COMPLETED: 9/29/86
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
30.0								SP	Sand, Some Silt, Med Fine-Med, N.P., Red Brn.
49.0								CL	Sandy Clay, L.P., Tan
49.0								SP	Sand, Some Silt., Med Fine-Med N.P., Red-Brn
60.0									Cont'd

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 3" O.D. 1.88" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See Pg 1

SITE ID: Mw-07 LOCATION ID: 657
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Accord Drilling Co.
DATE STARTED: 6/29/85
DATE COMPLETED: 6/29/85
FIELD REP.: R. Cockett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
60.0								SP	Sandy Sand Silty, Red Fine - Med, N.P., Red-Brn
70.0								CL	Sandy Clay, L.P., Tan - Brn.
820									Stopped Drilling @ 820'

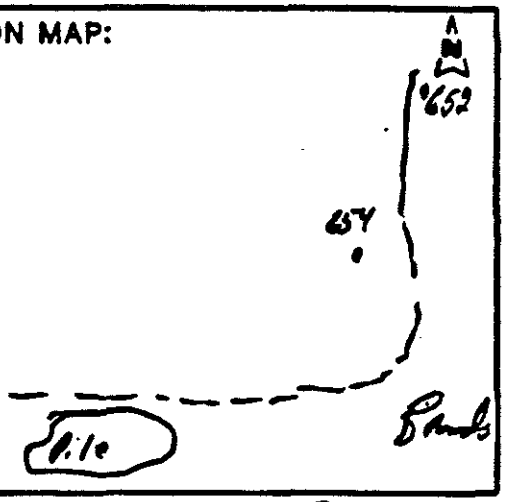
COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: Mar-01 LOCATION ID: 652
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co
DATE STARTED: 7/22/85
DATE COMPLETED: 7/22/85
FIELD REP.: R. Crockett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ≈ 3500 Ft. S of Bands
SITE CONDITION Flat, Open Type Vegetation

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
0.0								SP	Sand, Some Silt, Red Fine - Med, N.P., Red, Dry.
									Cont'd
20.0									

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See Pg. 1.

SITE ID: MW-01 LOCATION ID: 652
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beacon Drilling Co.
DATE STARTED: 9/22/85
DATE COMPLETED: 9/25/85
FIELD REP.: Ralph Crockett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
26.0								SP	Sand, Some Silt, Red Fine - Med, N.P., Red - Brn.
56.0								SS	Sandstone, Silt, Red
									Stopped Drilling @ 58'

COMMENTS: _____

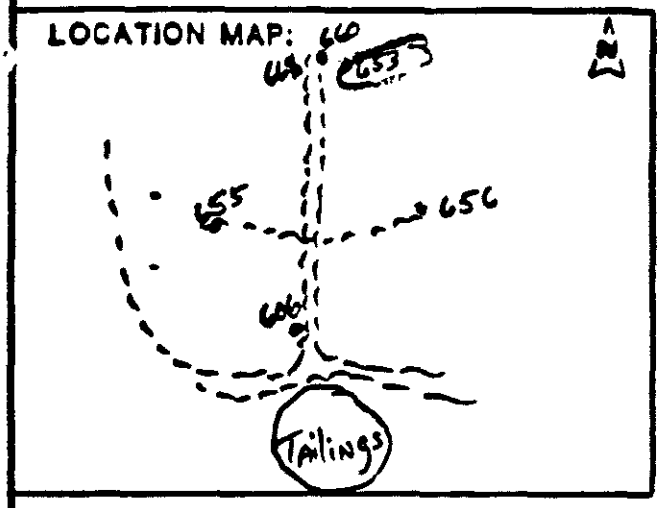
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MoN LOCATION ID: 653
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (MUD)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 25, 85
DATE COMPLETED: Sept. 25, 85.
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION Approx .7 miles North of tailings pile
SITE CONDITION Soft / Qd SAND

DEPTH (ft.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'–78' REDDISH brown, UNCONSOLIDATED QUATERNARY DUNE SAND — SEE log for WELL #657 — CAN NOT get good DESCRIPTIONS DUE to CAVING.

COMMENTS: _____

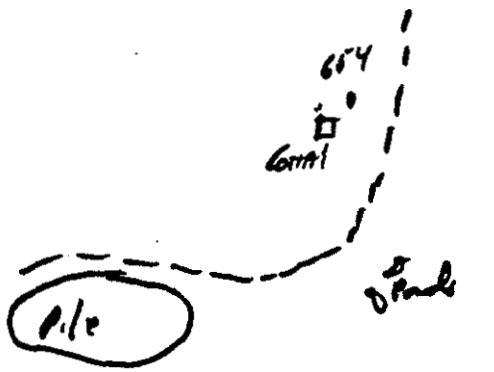
BORING DEFINITIONS
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
CB - BEAR BIT
HX - HX ROCK CORING
HO - HO WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:



SITE ID: MW-01 LOCATION ID: 654
SITE COORDINATES (ft.):
N E
GROUND ELEVATION (ft. MSL):
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co.
DATE STARTED: 9/27/86
DATE COMPLETED: 9/27/86
FIELD REP.: R. Cornett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ≈ 1570' NE of Gate
SITE CONDITION Flat, mesa type vegetation

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
0.0					SP			SP	Sand, some silt, trace fine-medium N.P., red-brown
20.0									Cont'd

COMMENTS:

SAMPLE TYPE
A - Auger cuttings
* - 3" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP:

See Pg 1

SITE ID: Mw-01 LOCATION ID: 654
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beacon Drilling Co.
DATE STARTED: 9/27/86
DATE COMPLETED: 9/27/86
FIELD REP.: R. Cockrell

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
20'0								SP	Sand, Some Silt, Med Fine - Med, N.P., Red-Brn
50'0									

Cont'd

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: See Pg 1

SITE ID: Rev-01 LOCATION ID: 654
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beaver Drilling Co
DATE STARTED: 9/27/86
DATE COMPLETED: 9/27/86
FIELD REP.: R. Garlek

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
Surf								SP	Sand, Some Silt, Red Fine - Med, N.P., Red-Brn
79.0									Stopped Drilling @ 79.0'

COMMENTS: _____

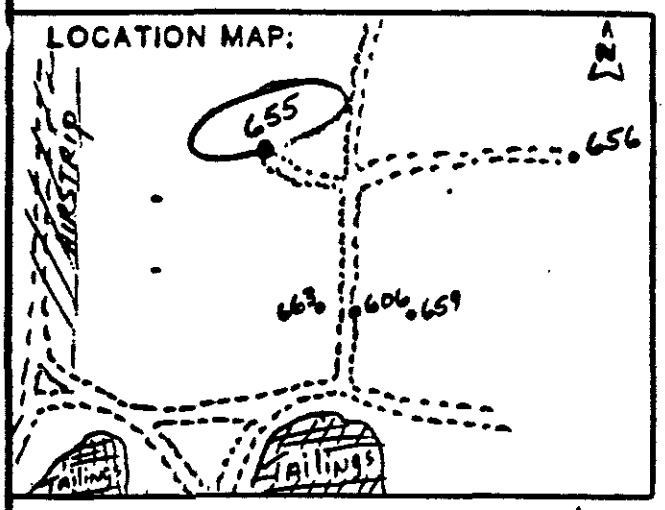
SAMPLE TYPE
A - Auger cuttings
S - 3" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 655
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 12, 1985
DATE COMPLETED: Sept. 12, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of main tailings pile ≈ .4 mile
SITE CONDITION Soft dune sand in Cane Valley

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'–60' Quaternary dune sand Reddish brown, same lithology as described in #657
											Not described as caving is severe which ruins stratigraphic control

COMMENTS: _____

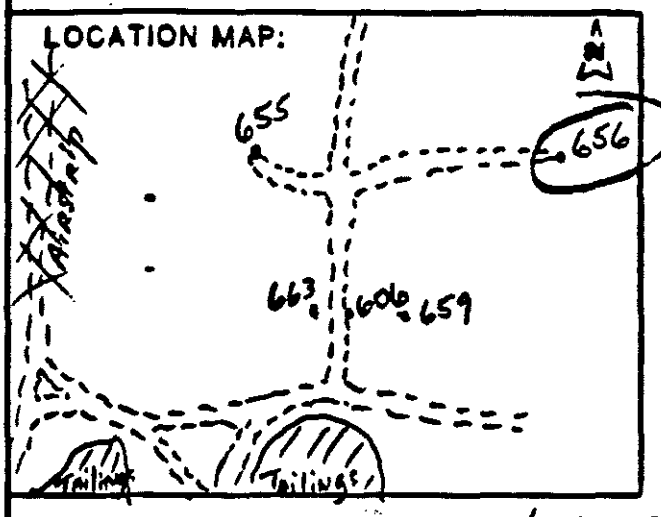
BORING OPERATION:
H = 8 1/2 HOLLOW STEM AUGER
C = 4 1/2 CONTINUOUS FLIGHT AUGER
GB = GEAR BIT
NX = NX ROCK CORING
NQ = NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MOAI LOCATION ID: 656
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 12, 1985
DATE COMPLETED: Sept. 12, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of Main tailings pile ≈ .4 mile
SITE CONDITION soft dune sand in Cane Valley

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'-60' Quaternary dune sand Reddish brown, same lithology as #657
											Not described as severe caving destroys stratigraphic control.

COMMENTS: _____

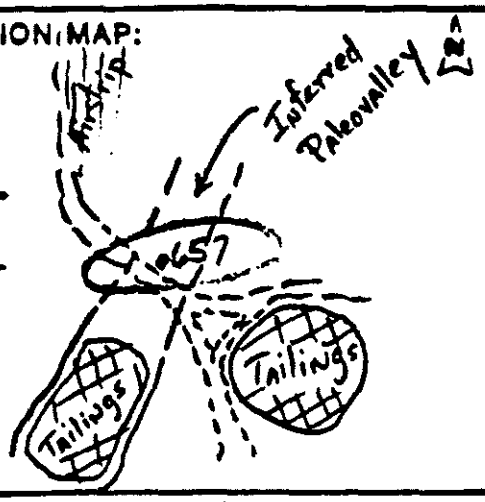
BORING OPERATION:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
CB - CEAR BIT
NX - NX ROCK CORING
ND - ND WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 657
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 4, 1985
DATE COMPLETED: Sept. 5, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of Heap Leach (old Tailings) pile
SITE CONDITION Soft Qd SAND

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'-5' Reddish brown dune sand (unconsolidated)
											5'-10' medium to coarse sand w/ granule size sand and small pebbles (alluvium?) same color as above
											10'-15' as above
											15'-20' as above
											20'-25' pebbles increasing (alluvium?)
											25'-30' slight increase in % of pebbles
											30'-35' decrease in % of pebbles
											40'-60' gravelly sand (increased sand after changing mud at 40' because sand not settling out.)

COMMENTS: Sand fraction not settling out in mud so samples skewed toward coarse fraction

BORING OPERATION:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
NX - NX ROCK CORING
NO - NO WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON LOCATION ID: 657
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 4, 1985
DATE COMPLETED: Sept. 5, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of old tailings pile
SITE CONDITION Soft Qd SAND

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											60'-65' coarse sand w/ pebbles
											65'-70' sand
											70'-75' coarse gravel and pebbles w/ sand
											75'-80' granular sand w/ minor pebbles (Moenkopi - pebbles? or cuttings?
											80'-100' very sandy, fine to medium, w/ minor fine gravel
											*fluid loss ≈ 25%
											100'-105' coarse sandy gravel
											105'-110' fine to medium sand
											110'-115' fine to medium gravel (granule to pebbles) (Moenkopi Rock frags)
											115'-120' Moenkopi Rock frags

COMMENTS:

BORING OPERATIONS
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NO - NO WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON LOCATION ID: 657
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary mud
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 4, 1985
DATE COMPLETED: Sept. 5, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of old tailings pile
SITE CONDITION Soft sand Rd

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											120'-135' Intercept probable De Chelly at 120' — Ss frags.
											135'-140' primarily sandstone fragments (cuttings) from DeChelly sandstone
											140' = TD

COMMENTS:

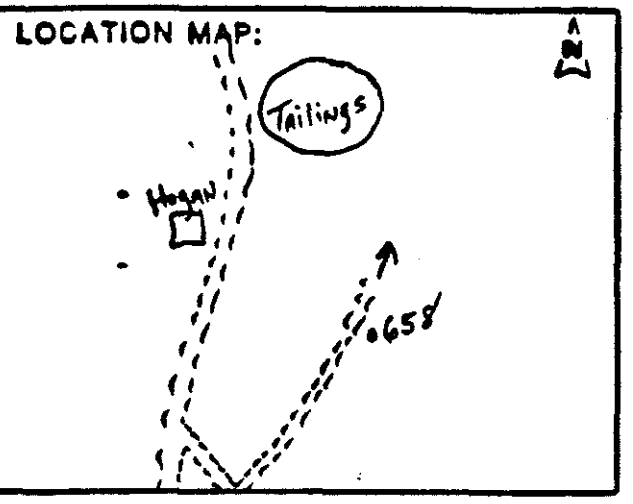
BORING OPERATIONS:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
ND - ND WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 658
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (MUD)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 25, 1985
DATE COMPLETED: Sept. 26, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION South of tailings pile
SITE CONDITION Soft sand and mud

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'-90' Quaternary Dune sand, medium to fine grained, reddish brown, unconsolidated (see #657)
											90' Top of Shinarump Member of Chinle Fm.
											90'-157' Shinarump ss. - tan to white, medium to coarse sandstone, coaly from 145'-155'
											157' Top of Moenkopi Fm - Bluish-gray altered siltstone
											159'-165' Moenkopi Fm - Reddish brown siltstone
											165' = T.D.

COMMENTS: _____

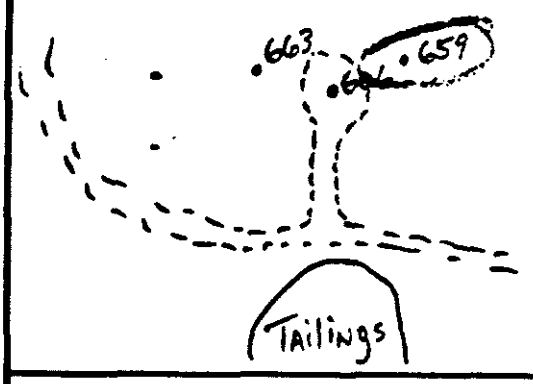
BORING OPERATION:
H = 8 1/2 HOLLOW STEM AUGER
C = 4 1/2 CONTINUOUS FLIGHT AUGER
GB = GEAR BIT
NX = NX ROCK CORING
NO = NO WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 659
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (MUD)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 10, 1985
DATE COMPLETED: Sept. 11, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of tailings <.1 mile
SITE CONDITION Soft SAND Gd

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'–48' Quaternary Dune Sand – medium to fine grained, reddish brown, unconsolidated (see #657)
											*48' Top of Shinarump Member of Chinle Fm
											48'–110' Shinarump Ss. – same description as #663
											110' = TD

COMMENTS:

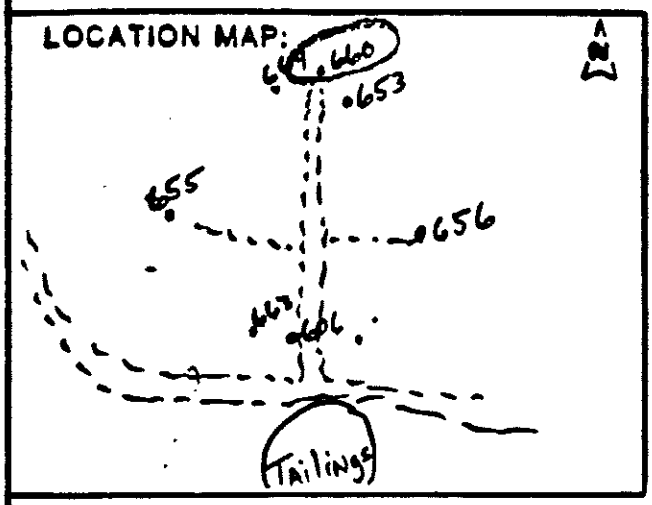
BORING OPERATION:
H = 6 1/2 HOLLOW STEM AUGER
C = 4 1/2 CONTINUOUS FLIGHT AUGER
RB = BEAR BIT
NX = NX ROCK CORING
ND = ND WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 660
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 24, 1985
DATE COMPLETED: Sept. 24, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION: North of tailings pile ~ .7 mile
SITE CONDITION: Soft SAND (QD)

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'–90' Quaternary Dune sand— medium to fine, reddish brown unconsolidated (see #657)
											90'–155' Shinarump Member of Chinle Fm, tan to white medium to coarse sandstone coaly near bottom (possible channel fill)
											155' = TD

COMMENTS: _____

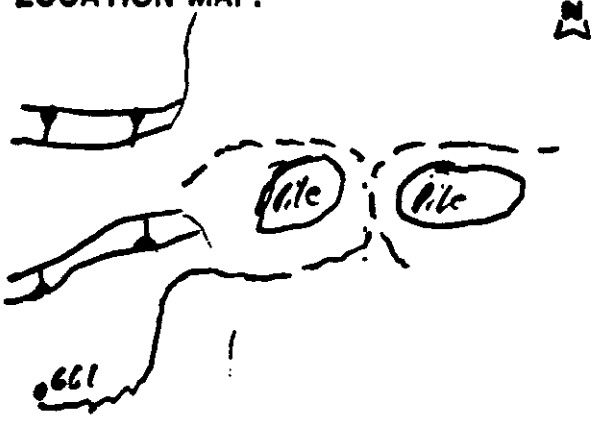
BORING OPERATION:
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
ND - ND WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: Mor-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co.
DATE STARTED: 10/1/85
DATE COMPLETED: 10/2/85
FIELD REP.: R. Cockell

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION Sandstone Ridge ≈ 1/2 mile SW of Piles
SITE CONDITION Sandstone dipping to the west @ ≈ 10°

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
										SS	Sliv Arkosic Sandstone, fine grained, very Pale Tan

Cont'd

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See fig 1

SITE ID: Mon-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Brown Drilling Co
DATE STARTED: 10/1/85
DATE COMPLETED: 10/2/85
FIELD REP.: R. Crockett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
										Ss	Shinarump Sandstone
170										Ss	Moenkopi Sandstone, Soft, Dark Reddish-Brn
370										Ss	Dechelly Sandstone, hard, Grayish-Brn
											Cont'd

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BS - BEAR SIT
NX - NX ROCK CORING
ND - ND WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1.

SITE ID: Mon-01 LOCATION ID: 611
SITE COORDINATES (ft.):
N ______ E ______
GROUND ELEVATION (ft. MSL): ______
DRILLING METHOD: Rotary
DRILLING CONTR.: [illegible]
DATE STARTED: 10/11/85
DATE COMPLETED: 10/13/85
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ______
SITE CONDITION ______

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
50.0										Ss	DeChelley Sandstone
100											Cont'd

COMMENTS: ______

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1

SITE ID: MW-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeman Drilling Co
DATE STARTED: 2/11/86
DATE COMPLETED: 2/12/86
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
25.0											Dechelley Sandstone
40.0											Cont'd

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1

SITE ID: Pen-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Bearon Drilling Co
DATE STARTED: 10/1/85
DATE COMPLETED: 10/2/85
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											Rechelley Sandstone
											Cont'd

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1

SITE ID: Rs-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Beeson Drilling Co
DATE STARTED: 10/11/85
DATE COMPLETED: 10/12/85
FIELD REP.: R. Cooley

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
105											
										SS	Pecheley Sandstone
115											

Cont'd

COMMENTS: _____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1

SITE ID: Nav-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N ____ E ____
GROUND ELEVATION (ft. MSL): ____
DRILLING METHOD: Rotary
DRILLING CONTR.: [illegible] Drilling Co
DATE STARTED: 10/1/86
DATE COMPLETED: 10/3/86
FIELD REP.: [illegible]

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION ____
SITE CONDITION ____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
50										Ss	Ochelley Sandstone
											Cont'd
75											

COMMENTS: ____

BORING OPERATION
H - 6 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP: See fig 1

SITE ID: Mex-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Bender Drilling Co
DATE STARTED: 10/1/85
DATE COMPLETED: 10/2/85
FIELD REP.: R. Lucke

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
190										SS	Cochelley Sandstone
											▽ Water @ 190'
											Cont'd
200											

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

See Pg 1

SITE ID: MW-01 LOCATION ID: 661
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary
DRILLING CONTR.: Boyce Drilling Co
DATE STARTED: 10/1/85
DATE COMPLETED: 10/18/85
FIELD REP.: R. Corbett

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
200											
											Dolomite Sandstone
400											Stopped Drilling @ 999'

COMMENTS: _____

BORING OPERATION
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE LOG OF HOLE 661. HOLE 661R ≈ 21' EAST OF 661

SITE ID: MON. 01 LOCATION ID: HOLE 661R
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: ROTARY AIR 8 3/4" & 7 7/8"
DRILLING CONTR.: BEEMAN DRILLING CO
DATE STARTED: 10-5-85
DATE COMPLETED: 10-6-85
FIELD REP.: K. DONNELSON/SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-9-85	9:25 AM	161.2 (GROUND SURF.
WELL DEVELOPED, 11AM - 4PM, 10-8-85,		
<1 GPM.		

LOCATION DESCRIPTION SOUTHWEST SIDE OF CANE WASH BASIN ON ROCK.
SITE CONDITION EAST DIPPING SHINARUMP OUTCROP.

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE ~~BLOWS PER 6 in.~~ MIN/5 FT	N VALUE	GEOL ~~USCS~~	VISUAL CLASSIFICATION
0					8 3/4"	22MIN/3'		TRCS Ss	0 - 18' SHINARUMP FORMATION, SANDSTONE: fine to medium grained, strongly cemented, beige to tan
						6MIN/2'			
						10			
5	SAMPLES				7 7/8"	15			
						22			18-23' SHINARUMP FORMATION, SANDSTONE: coarse grained, subrounded, light limonitic stained, medium yellow brown.
20						3MIN/8'		TRCS	
								TRm MDST	23-28' MOENKOPI FORMATION, MUDSTONE: friable, thinbedded, medium yellow brown.
30	TAKEN IN HOLE					6MIN/10'		TRm MDST	28-39' MOENKOPI FORMATION, MUDSTONE: thinbedded, medium to dark reddish brown.
40						6		Pd SLST	39-60' De CHELLY (CUTLER?) FORMATION, SILTSTONE: very thin bedded, medium red brown to chocolat brown.
						5			
50						15			
	661					20			
60									

COMMENTS: WATER QUALITY, 10-8-85, 4PM, EC 330 μMHOS, SALINITY 0.2%, pH 8.28, SO_4 360 mg/L. HOLE 661R REPLACES HOLE 661. HOLE 661 WAS ABANDONED & GROUTED TO SURFACE DUE TO FINDING GROUT IN PVC AT DEPTH OF 92'.

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE 1

SITE ID: MON. 01 LOCATION ID: HOLE 661R
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: ROTARY AIR, ~~8 3/4~~ 7 7/8"
DRILLING CONTR.: BEEMAN DRILLING CO.
DATE STARTED: 10-5-85
DATE COMPLETED: 10-6-85
FIELD REP.: K. DONNELSON / SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE ~~BLOWS PER 6 in~~ MIN/5FT	N VALUE	GEOL. ~~USCS~~	VISUAL CLASSIFICATION
60					~~8 3/4~~"	10		Pd SLST	60-73' De CHELLY (CUTLER?) FORMATION, SANDY SILTSTONE: Some white, carmel & light orange brown interbedded sandstone increasing with depth, chocolat brown siltstone.
					7 7/8"	11			
	S								
	A					8			
	M								
	P								
	L					7			
	E								
	S								
80						4		Pd Ss	73-83' De CHELLY FORMATION, SANDSTONE: siltstone decreasing with depth, light to medium orange brown, fine grained quartzose sandstone.
	T								
	A					5			
	K								
	E								
90	N					6		Pd Ss	83-118' De CHELLY FORMATION, SANDSTONE: fine grained, quartzose, light brown
	1					7			
5-85	N								
6-85									
100									
	H								
	O								
	L								
	E								
110									
	6								
	6								
	1								

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE 1

SITE ID: MON-01 LOCATION ID: HOLE 661R
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: ROTARY AIR, 8 3/4"
DRILLING CONTR.: BEEMAN DRILLING CO.
DATE STARTED: 10-5-85
DATE COMPLETED: 10-6-85
FIELD REP.: K. DONNELSON / SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE BLOWS PER 6 in. MIN/5FT	N VALUE	GEOL UNIT	VISUAL CLASSIFICATION
120					8 3/4"			Pd Ss	118 - 148' De CHELLY FORMATION, SANDSTONE: fine grained, quartzose, light to medium orange brown
	SAMPLES TAKEN IN HOLE 661				7 7/8"				
140									
150								Pd Ss	148 - 218' De CHELLY FORMATION, SANDSTONE: fine grained, weakly to moderately cemented, ~~tig~~ medium orange brown. NOTE: MOISTURE INCREASING WITH DEPTH BELOW 158'
160						161.2' ▼ 10-9-85			
170									NOTE: USED WATER INJECTION WITH AIR TO RETREIVE CUTTINGS BELOW 178'.
180									

COMMENTS: _____

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.88" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE 1

SITE ID: MON-01 LOCATION ID: 661R
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: ROTARY AIR W/H2O INJECTION BELOW 178'
DRILLING CONTR.: BEEMAN DRILLING CO
DATE STARTED: 10-5-85
DATE COMPLETED: 10-6-85
FIELD REP.: K. DONNELSON / SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE ~~BLOWS PER 6 in.~~ MIN/5FT	N VALUE	GEOL ~~USCS~~	VISUAL CLASSIFICATION
10					~~8 3/4~~"	9			
					7 7/8"				
						3			
	SAMPLES	POOR							
						4			
						4			
1 0						3			
	TAKEN					3			
210						6			
						8			
218	IN								
	HOLE								T.D. = 218', 10:10 AM, 10-6-85
	661								

COMMENTS: PLACED 4" PVC SCHED 80 SCREEN FROM 190-210' & SAND PACK FROM 185-218'

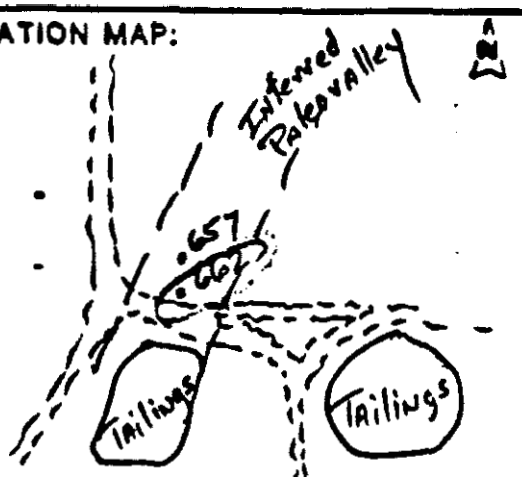
SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 662
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Berman
DATE STARTED: Sept 5, 85
DATE COMPLETED: Sept 5, 85
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of old tailings pile
SITE CONDITION Soft SAND Qd.

PTN (ft.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIEN ATION	CON ION	WEAT RING	LITH OGY	ROCK TYPE & REMARKS
											0'-70' SAME lithology as #657 Qd, reddish brown UNCONSOLIDATED SAND

COMMENTS: _____

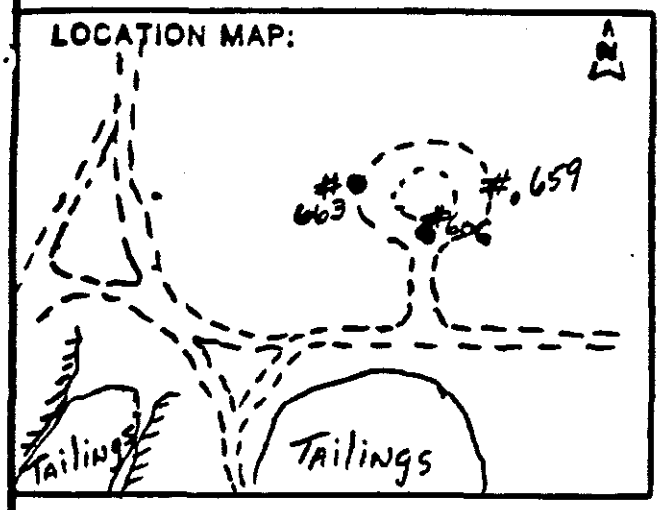
BORING OPERATIONS
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
BB - BEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: #663
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (Mud)
DRILLING CONTR.: Bob Beeman, Moab, Ut.
DATE STARTED: 9.6.85
DATE COMPLETED: 9.10.85
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'-50' Quaternary Dune sand and possible Alluvium; reddish brown, fine to medium grained quartz sand with minor fine gravel (mostly composed of weathered out Shinarump pebbles and minor Moenkopi rock fragments)
											*50' Approximate top of Shinarump sandstone, whitish tan to iron stained sandstone cuttings, some coarse sand and broken pebbles, borehole begins making H_2O at a steady rate of 5 gpm (estimate) from about 50' down for 5'-7'; then conversely started using H_2O from about 55'-57' to an unknown greater depth
											50'-~~128~~ 115' Shinarump sandstone, tan, white, iron stained, etc., * 107'-110' becomes very coarse to conglomeratic with

COMMENTS: _____

BORING OPERATION:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
CB - CEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON LOCATION ID: #663
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 6, 1985
DATE COMPLETED: Sept. 16, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (ft.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											Shinarump (con't) 107'-110' (con't) with abundant coaly material in the cuttings and on the mud pit. Borehole has intercepted probable major channel fill in Shinarump.
											* 115'-120' Reddish brown siltstone w/ blueish gray altered (bleached) siltstone cuttings. Top of Moenkopi Fm @ 120' Approx. top!
											~120'-167' Moenkopi Fm - reddish brown sltstn. w/ minor sandstone
											* 167'-217' De Chelly Ss. @ 167' - reddish to orangish, medium to fine grained sandstone
											217' = TD

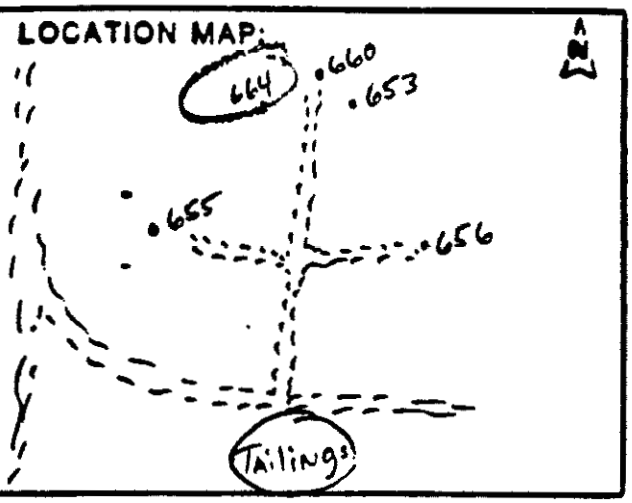
COMMENTS: _____

BORING DESIGNATION:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:



SITE ID: MON LOCATION ID: 664
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL):
DRILLING METHOD: Rotary (MUD)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 17, 1985
DATE COMPLETED: Sept. 19, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION North of tailings ~.7 mile
SITE CONDITION Soft sand Rd

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											0'–85' Quaternary dune sand, reddish brown, medium to fine grained unconsolidated sand (see #657)
											85'– Top of Shinarump Member of Chinle Fm.
											85'–145' Shinarump – tan to white and iron stained medium to coarse sandstone, occasional conglomeratic lenses, firmly cemented, predominently quartz and chert
											145'–175' Shinarump – becomes coarser grained and contains abundant coaly material (channel fill)
											175' Top of Moenkopi Fm. – Reddish brown siltstone w/ blue-gray bleached zone at top.

COMMENTS:

BORING OPERATIONS
H = 8 1/2 HOLLOW STEM AUGER
C = 4 1/2 CONTINUOUS FLIGHT AUGER
BB = BEAR BIT
NX = NX ROCK CORING
NO = NO WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (ROCK)

LOCATION MAP:

SITE ID: MON LOCATION ID: 664
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: Rotary (Mud)
DRILLING CONTR.: Bob Beeman
DATE STARTED: Sept. 17, 1985
DATE COMPLETED: Sept. 19, 1985
FIELD REP.: G. Miller

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION _____
SITE CONDITION _____

DEPTH (FT.)	BORING OPERATION	% CORE RECOVERY	% ROCK QUALITY DESIGNATION (RQD)	% DRILLING FLUID RECOVERY	PACKER TEST INTERVAL	SPACING	ORIENTATION	CONDITION	WEATHERING	LITHOLOGY	ROCK TYPE & REMARKS
											175'-195' Moenkopi Fm. - Reddish brown fine grained sandstone and siltstone
											195' Top of De Chelly Ss.
											195'-233' De Chelly Ss. - Medium to fine grained sandstone, reddish to orangish
											*233' = T.D.

COMMENTS: _____

BORING DESIGNATION:
H - 8 1/2 HOLLOW STEM AUGER
C - 4 1/2 CONTINUOUS FLIGHT AUGER
GB - GEAR BIT
NX - NX ROCK CORING
NQ - NQ WIRELINE ROCK CORING

JEG-AL-ENG-2A (4/85)

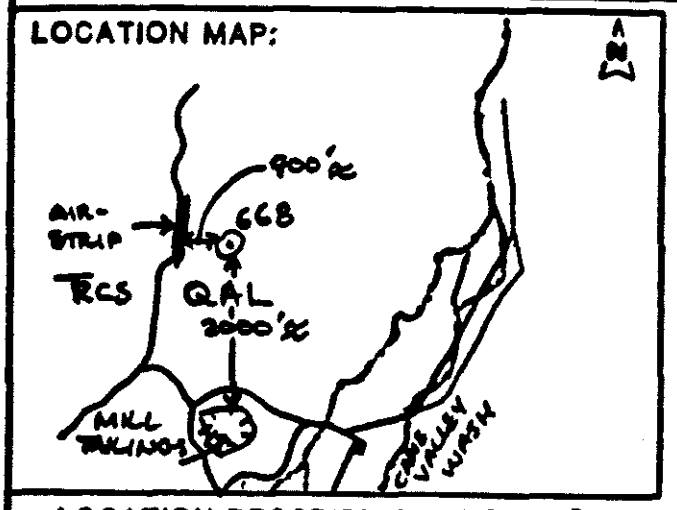
JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

HOLE # 668

BOREHOLE LOG (SOIL)

MON-01

LOCATION MAP:



SITE ID: 346703 LOCATION ID: 05-01-19
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL):
DRILLING METHOD: ROTARY 5 5/8" & 10 5/8" 0-60', 7 7/8" 60-218'
DRILLING CONTR.: BEEMAN MUDGEL
DATE STARTED: 10-3-85
DATE COMPLETED: 10-4-85
FIELD REP.: K. D. DONNELSON / SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-9-85	9:52AM	39.8 (GROUND SURF)
WELL DEVELOPED 2PM - 6:30PM 10-6-85 &		
6:45AM - 3:30PM, 10-7-85, 2 - 2.5GPM, CLOUDY		

LOCATION DESCRIPTION 26 MILES SOUTH OF MEX. HAT.
SITE CONDITION ROLLING SAND DUNES, ORANGE, FINE (SP) SAND, SPARSE VEG.

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	GEOL & USCS	VISUAL CLASSIFICATION
0	X			A				SP QAL	0-56' SAND, poorly graded, fine, uncemented, non plastic, moist, orange. NOTE: 0-15' MAY BE PARTLY AEOLIAN. NOTE: trace - rare amounts of reworked Moenkopi red brown mudstone. NOTE: DRILLING TIMES, WITH 5 5/8" TRICONE: 0-20' 8 MIN; 20-25' 4 MIN; 25-30' 2 MIN; 30-35' 3 MIN; 35-40' 3 MIN; 40-45' 3 MIN; 45-50' 2 MIN; 50-55' 1 MIN; 55-60' 8 MIN
10									
20									
30						39.8' ▽ 10-9-85			
40									
50									56-75' SHINARUMP FORMATION, SANDSTONE, fine, sugary texture, strongly cemented, lt. gry, light yellow & Lt pinkish brown.
								Ss TRCS	

COMMENTS: DRILLED 0-60' w/ 5 5/8" TRICONE & REAMED 0-60' w/ 10 5/8" TRICONE. INSTALLED 8 5/8" CASING FROM 0-60'. DRILLED w/ 7 7/8" TRICONE BELOW 60' to 218'. WELL LOG SHOWS 4% POROSITY FROM 180-200', 12% POROSITY 45-57'.

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE #1

SITE ID: MON.-01 LOCATION ID: HOLE 668
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 7 1/4" ROTARY, MUDGEL
DRILLING CONTR.: [illegible]EMAN
DATE STARTED: 10-3-85
DATE COMPLETED: 10-4-85
FIELD REP.: K.D. DONNELSON / SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION 26 MILES SOUTH OF MEXICAN HAT
SITE CONDITION ROLLING SAND DUNES, ORANGE, FINE (SP) SAND, SPARSE VEG.

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE ~~BLOWS PER 6 in.~~ MIN/5 FT	N VALUE	GEOL & USCS	VISUAL CLASSIFICATION
60	X					4 MIN/5 FT			
	X					6			
	X					6			
	X					7	E	CH TRCS	75-85' SHINARUMP FORMATION, CLAYSTONE & MUDSTONE, trace sandstone increasing with depth, highly plastic, Light olive gray grading to blue gray.
80	X					4			
	X					6		SS TRCS	85-105' SHINARUMP FORMATION, SANDSTONE, Strongly cemented, fine grained, lt olive gray grading to light yellow, grading to light orange brown. Some light blue gray shale interbeds increasing w/depth
90	X					6			
	X					10			
100	X					11			
	X					9		SH TRCS	105-112' SHINARUMP FORMATION, SHALE trace interbedded sandstone, thin bedded, light gray, trace coal
110	X					7			
	X					13		Rm MDST (CL) (ML)	112-150' MOENKOPI FORMATION, MUDSTONE & SILTSTONE, thinbedded, red brown-chocolat brown.
	X					8			

COMMENTS: RADIOACTIVE ZONE FROM 92-100' ON GAMMA LOG.

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE #1

SITE ID: MON-01 LOCATION ID: HOLE 668
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 7 7/8" ROTARY, MUDGEL
DRILLING CONTR.: BOB BEEMAN
DATE STARTED: 10-3-85
DATE COMPLETED: 10-4-85
FIELD REP.: K. DONNELSON/SH&B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION 26 MILES SOUTH OF MEXICAN HAT
SITE CONDITION ROLLING SAND DUNES, ORANGE, FINE (SP) SAND, SPARSE VEG.

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	DRILL RATE ~~BLOWS PER 6 in.~~ MIN/5 FT.	N VALUE	GEOL & USCS	VISUAL CLASSIFICATION
10				ROTARY WASH	7 7/8"			Rm	NOTE: Some very fine sand below 126'. Hard drilling below 126'. NOTE: Gas bubbles noted in mud tub below 136'.
						35			
						20			
10-3-85 10-4-85						33			
150								Pd SSE Sh	150 - 180' De Chelly Formation SANDSTONE with interbedded brown shale, fine grained, medium reddish orange brown.
178									

COMMENTS: WATER QUALITY 10-7-85, 1PM, CLOUDY, EC 370 μMHOs, SALINITY 0%, pH 9.3, SO_4 36 mg/L. 3:30 PM (FILTERED) EC 400 μMHOs, SALINITY 0.2%, pH 8.8, SO_4 32 mg/L.

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-2S (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: SEE PAGE #1

SITE ID: MON-01 LOCATION ID: HOLE 668
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 7 7/8" ROTARY, MUDGEL
DRILLING CONTR.: BOB BEEMAN
DATE STARTED: 10-3-85
DATE COMPLETED: 10-4-85
FIELD REP.: K. DONNELSON / SH & B GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)

LOCATION DESCRIPTION 26 MILES SOUTH OF MEXICAN HAT
SITE CONDITION ROLLING SAND DUNES, ORANGE FINE (SP) SAND, SPARSE VEG.

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	GEOL & USCS	VISUAL CLASSIFICATION
180				ROTARY WASH	7 7/8"			Pd Ss	180-218' De CHELLY FORMATION, SANDSTONE, fine grained, medium red orange brown.
200									
210									
218									
218									TOTAL DEPTH: 218', 10-4-85, 11:58AM

COMMENTS: INSTALLED 4" PVC SLOTTED SCREEN (0.051" SLOT) FROM 180-200', WITH SAND PACK FROM 170-218'.

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE LOG (SOIL)

LOCATION MAP: See Location Map of Hole 668. ≈ 15' SOUTH of 668

SITE ID: MON. 01 LOCATION ID: HOLE 669
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): _____
DRILLING METHOD: 10 5/8" to 18', 7 7/8" to 56' ROTARY
DRILLING CONTR.: BOB BERMAN DRILLING MUD
DATE STARTED: 10-5-85
DATE COMPLETED: 10-5-85
FIELD REP.: K. DONNELSON / SHB GEOLOGIST

GROUNDWATER LEVELS		
DATE	TIME	DEPTH (ft.)
10-9-85	10:00 AM	46.3 (GROUND SURF)
WELL DEVELOPED 2:45 PM - 6:15 PM, 10-7-85 &		
6 AM - 8:30 AM	10-8-85, <1 GPM.	

LOCATION DESCRIPTION 26 MILES SOUTH OF MEXICAN HAT
SITE CONDITION ROLLING SAND DUNES, ORANGE FINE (SP) SAND, SPARSE VEG

DEPTH	SAMPLE INTERVAL	SAMPLE RECOVERY	SAMPLE RETAINED	TYPE	ID	BLOWS PER 6 in.	N VALUE	USCS	VISUAL CLASSIFICATION
0								SP	0-20' SAND, poorly graded, fine uncemented, non plastic, moist orange
20								SP-SW	20-56' SAND, fine, some coarse uncemented, non plastic, orange. NOTE: Trace of reworked Moenkopi shale.
30									
40						46.3' ▽ 10-9-85			
50									
56									T.D. = 56', 11AM

COMMENTS: T.D. 56' AT TO OF SHINARUMP SS. INSTALLED 4" PVC SLOTTED SCREEN (0.05" SLOT FROM 34-54' WITH SAND PACK FROM 29-56', WATER QUALITY EC = 1080 μMHO, SALINITY 0.5%, pH 8.28, SO4 360 mg/L, 10-8-85, 8:30AM

SAMPLE TYPE
A - Auger cuttings
S - 2" O.D. 1.38" I.D. drive sample
U - 3" O.D. 2.42" I.D. tube sample
T - 3" O.D. thin-walled Shelby tube

JEG-AL-ENG-28 (4/85)

JACOBS ENGINEERING
ALBUQUERQUE OPERATIONS

DATE _____ SUBJECT _____ SHEET NO. _____

BY _____ CHKD. _____ JOB NO. _____

WELL CONSTRUCTION LOGS

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

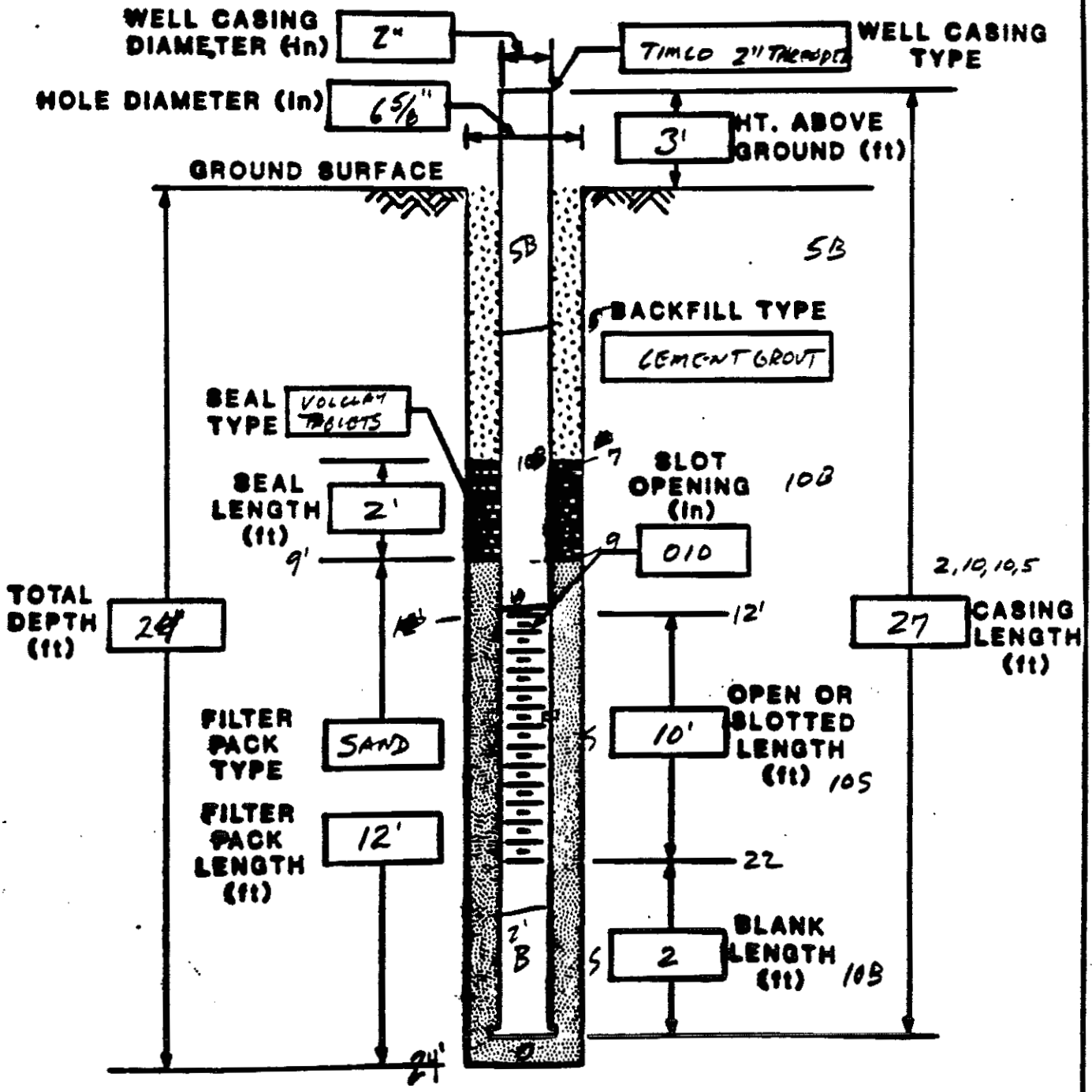
SITE ID: PLN01 LOCATION ID: MN-1 DATE INSTALLED: 10-24-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: YELLOW SANDSTONE & ALLUVIUM AQUIFER ABOVE

FIELD REP.: SILVA DRILLER: SHBTLATT



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

19.19.2.2.3

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MONO1 LOCATION ID: MN-1-1 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10-24-84

BOREHOLE SUMMARY

DRILLER: SUB- TED CATT/SILVA

RIG TYPE: CMES 5

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
6" HSA	6 5/8	24'	DRY

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
4' P	STEEL LOCKING CAP, LOCK	6"	+3 in
5' B	BLANK	2	2'
10' B	BLANK	2	12
10' S	010 SLOTTED	2	22
2' B	BLANK 2'	2	24'

P-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	1½ BAGS CEMENT GROUT BACKFILL	12'-0
S	25 lbs VOLCLAY PELLETS SEAL	10-12'
F	SAND FILTER PACK	12-24

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-24-84	10:00	10:20
CASING		10:20	10:35
FILTER PACK		10:35	10:37
SEAL		10:40	10:42
CEMENT BACKFILL		10:45	11:00
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

6" STEEL LOCKING CAP
NOT DEVELOPEDED
HOLE STAYED OPEN TO 24'

COMMENTS: 25.5# VOLCLAY TABLETS
1½ SACKS CEMENT
5 BUCKETS OF SAND
5 LB POWDERED BENTONITE WITH

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

2/3

WELL COMPLETION RECORD

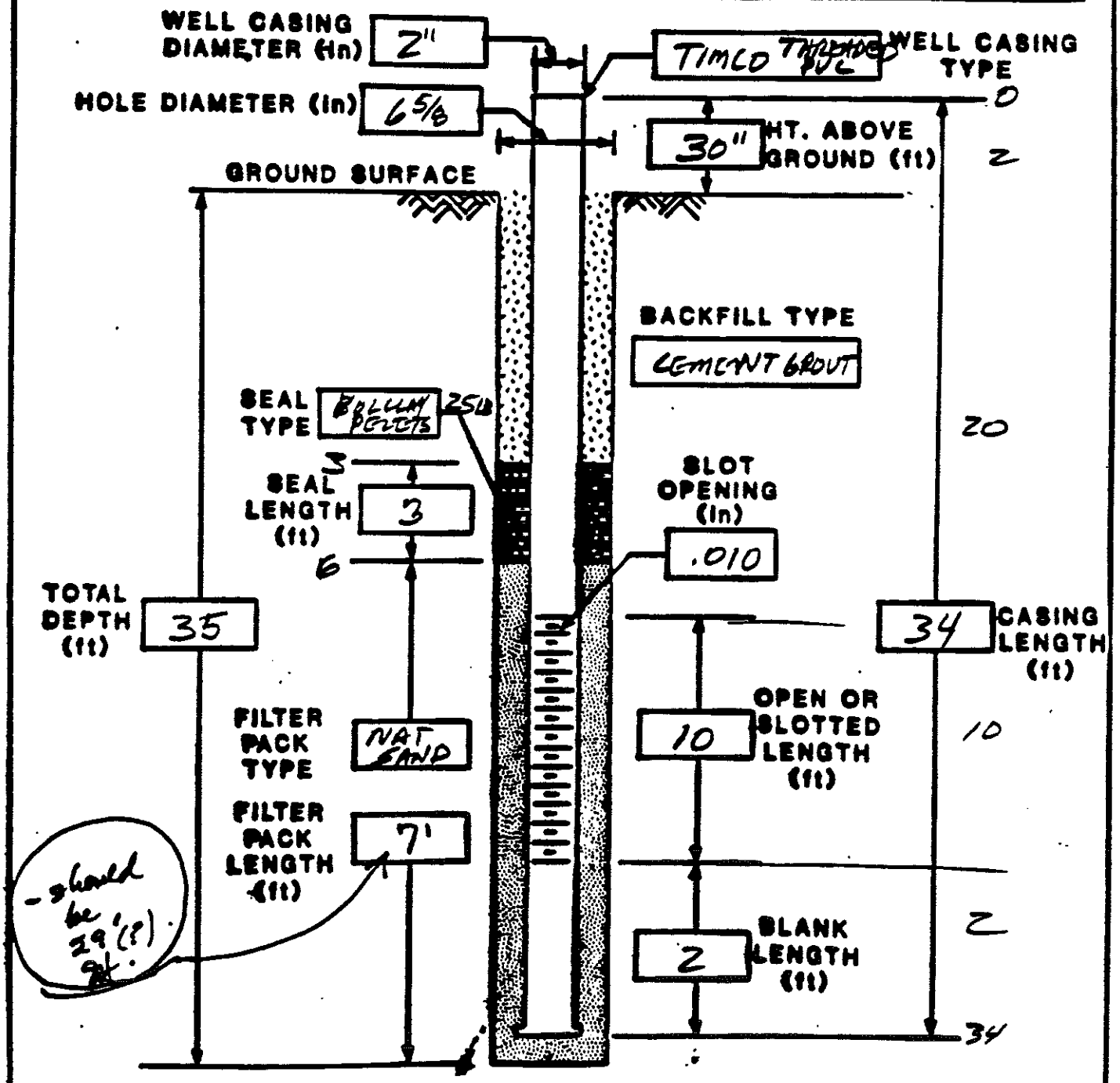
SITE ID: MONO1 LOCATION ID: MN-1-2 602 DATE INSTALLED: 10-24-84

APPROX. SITE COORDINATES: (FT.) N NOT SURVEYED E

OPEN AREA PER LINEAL FT. ($IN^2/FT.$)

FORMATION OF COMPLETION: ALUVIUM ABOVE SANDSTONE

FIELD REP.: SILVA DRILLER: TCATT



COMMENTS: HOLE WAS CAVING - PVC PLACED INSIDE AUGER THEN REMOVED

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MONO1 LOCATION ID: MN-1-2 602 FIELD REP: SILVA
APPROX. SITE COORDINATES (FT.): N NOT SURVEYED E
GROUND ELEVATION (FT. MSL): COMPLETION DATE: 10-24-84

BOREHOLE SUMMARY

DRILLER: SHB-TEDCATT
RIG TYPE: CME 55

BIT TYPE	HOLE DIA. (in.)	END DEPTH ● (ft.)	FLUID TYPE
HSA	6 5/8"	35	NAT H_2O

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END ● DEPTH (ft.)
P	4' STEEL LOCKING CAP	6"	0-4
B	2' BLANK	2"	2-0
B	20' BLANK	2"	22-02
S	10' SCREENED	2"	32-22
B	2' BLANK	2"	34-32

● P-Protective B-Screen B-Blank O-Open N-None
● Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END ● DEPTH (ft.)
B	2 sacks CEMENT GROUT W/ 4% BENTONITE (w/ 10# Pennco Bentonite)	3-0
S	VOLCLAY PELLETS 25 LBS	6-3
F	NATURAL RED BROWN SAND SP	35'-6

● B - Backfill S - Seal F - Filter Pack
● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-24-84	12:00	3:00
CASING		3:00	3:15
FILTER PACK		3:20	3:21
SEAL		3:25	3:30
BACKFILL		3:30	3:40
DEVELOPMENT FLUSHING		3:15	3:20
OTHER CLEANUP		3:40	4:00 pm

WELL DEVELOPMENT

PIPE FLUSHED WITH RIG WATER FROM SAN JUAN RIVER

NATURAL SAND USED FOR FILTER PACK BECAUSE OF HOLE CAVING

COMMENTS: HOLE WAS CAVING
CASING WAS PLACED INSIDE AUGER
THEN - AUGER WAS PULLED OUT
AFTER AUGER WAS OUT HOLE HAD
CAVED @ 6' BELOW SURFACE

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

3/3

WELL COMPLETION RECORD

603

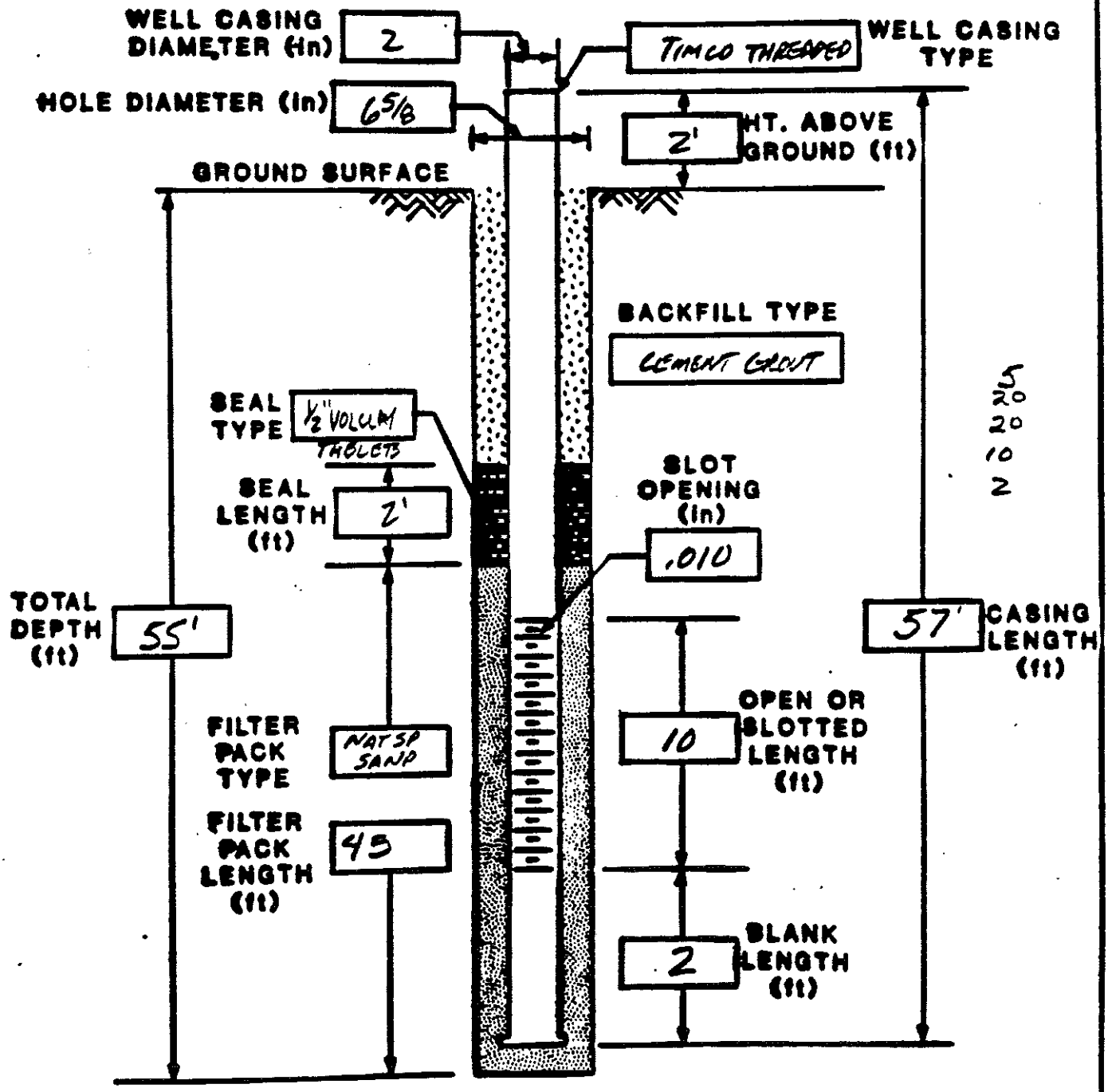
SITE ID: MON 01 LOCATION ID: MN-1-3 DATE INSTALLED: 10-24-84

APPROX. SITE COORDINATES: (FT.) N NOT SURVEYED E

OPEN AREA PER LINEAL FT. (IN^2/FT.)

FORMATION OF COMPLETION: ALLUVIUM

FIELD REP.: SILVA DRILLER: T CATT SHB



COMMENTS: NOTE THAT NO SANDSTONE OR BEDROCK ENCOUNTERED ON THIS HOLE
∴ FILTER PACK IS NATURAL SP SAND – HOLE CAVING

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

2/3

SITE ID: MONO1 LOCATION ID: MW-1-3 603 FIELD REP: SIWA

APPROX. SITE COORDINATES (FT.): N NOT SURVEYED E

GROUND ELEVATION (FT. MSL): COMPLETION DATE: 10-25-84

BOREHOLE SUMMARY

DRILLER: TUTT SHB

RIG TYPE: CME 55

BIT TYPE	HOLE DIA. (in.)	END DEPTH ● (ft.)	FLUID TYPE
HSA FLIGHT	6 5/8	55'	NAT H_2O

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END DEPTH ● (ft.)
P 4'	STEEL LOCKING CAP	6"	0-2
B 5'	BLANK	2"	-3
B 20'	BLANK	2"	23
B 20'	BLANK	2"	43
S 10'	.010 SLOTTED SCREEN	2"	53
B 2'	2' BLANK	2"	55'

● P-Protective B-Screen B-Blank O-Open N-None

● Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END DEPTH ● (ft.)
B	CEMENT GROUT	8-0'
S	VOLCLAY 1/2" TABLETS -S	10-8
F	NATURAL SAND FILTER	10'-55'

● B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-24-84	4:00	5:30
	10-25-84	9:00	10:00
CASING	10-25-84	10:00	10:15
FILTER PACK		10:15	10:17
SEAL		10:17	10:20
BACKFILL		10:20	10:40
DEVELOPMENT JET FLUSH PLUG FROM AUGER		9:50	10:00
OTHER			

WELL DEVELOPMENT

12' OF AUGER PLUGS WAS JET FLUSHED OUT WITH HIGH PRESSURE H_2O

NATURAL SAND USED AS FILTER PACK - HOLE CAVING / CASING SET INSIDE OF AUGER THEN AUGER PULLED OUT - CASING STAYED IN PLACE HOLE CAVED @ 10'

COMMENTS: 25 # VOLCLAY

2 SACKS CEMENT

10 # OF POWDERED BENTONITE

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

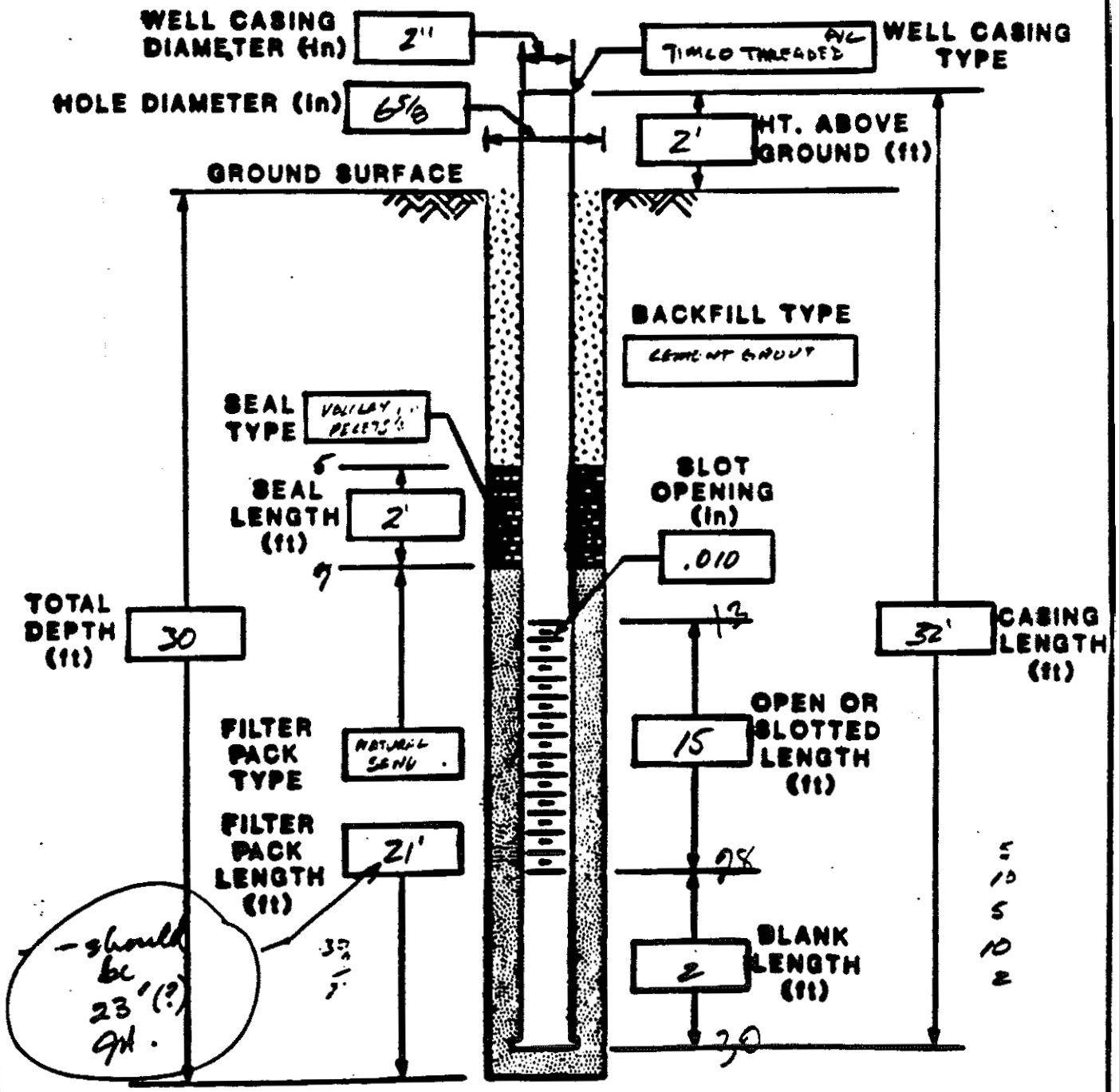
SITE ID: MO1J01 LOCATION ID: ~~MW-1~~ 604 DATE INSTALLED: 10-25-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: ALLUVIUM

FIELD REP.: SILVA DRILLER: SHB-TCCT



COMMENTS: HOLE CAVED NATURAL FILTER SAND USED. FE LT BROWN MED-SAND GREY CLAYEY SAND @ 27'

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MONO1 LOCATION ID: MN-1-4 604 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N NOT SURVEYED E

GROUND ELEVATION (FT. MSL): COMPLETION DATE:

BOREHOLE SUMMARY

DRILLER: SHB / CATT, WILLIAMS

RIG TYPE: CME 55

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
6" HSA	6 5/8	30'	NAT H_2O

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
4P	PROTECTIVE LOCK CAP	6"	0-4'
5B	5 BLANK	2"	0-5
10B	10' BLANK		5-15
5S	5' SLOTTED @ .010		15-20
10S	10' SLOTTED @ .010		20-30
2'B	2' BLANK		30-32

P-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	CEMENT GROUT SEAL	0-5
S	1/2" B VOLCLAY PELLETS	5-7'
F	NAT SAND FILTER	7-30'

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-25-84	12 N	1:20
CASING		1:20	1:22
FILTER PACK		1:22	1:24
SEAL		1:24	1:30
BACKFILL		1:30	1:50
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

CASING PLACED INSIDE AUGER - AUGER THEN REMOVED -

SAND LAYED - TO 9'

#6 31 SAND

(NOT SETTLED)

COMMENTS: HOLE CAVING PVC SET IN AUGER THEN AUGER REMOVED

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

605

3/3

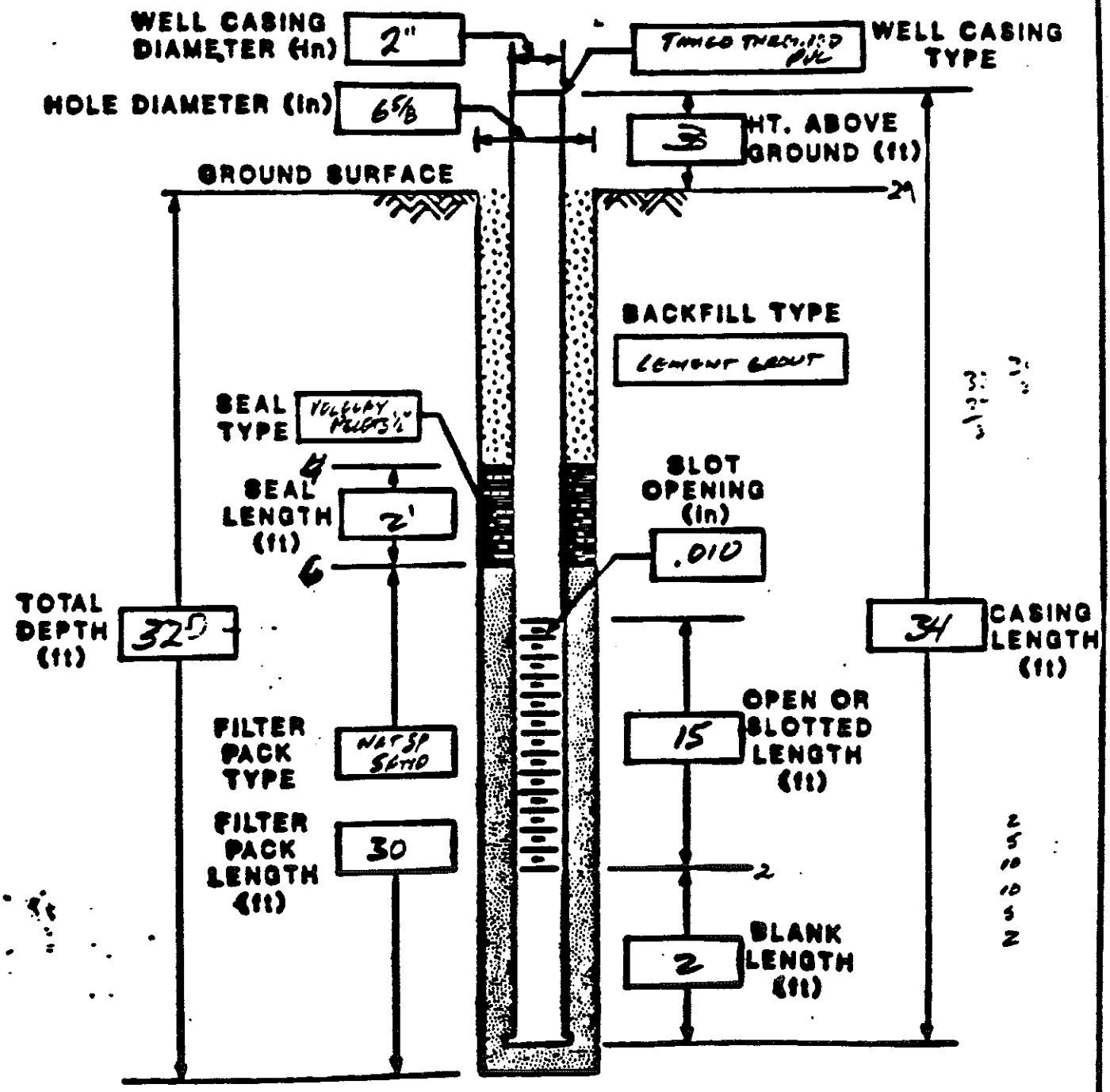
SITE ID: MONO1 LOCATION ID: MN-1-5 DATE INSTALLED: 10-25-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: _____

FIELD REP.: MIKE SILVA DRILLER: TCATT-SHB



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

2/3

SITE ID: MONO1 LOCATION ID: MW-1-S 605 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10-25-84

BOREHOLE SUMMARY

DRILLER: TCATT SUD

RIG TYPE: CME-55

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.) ●	FLUID TYPE
6" HSA	6 1/2		

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END DEPTH (ft.) ◆
4P	STEEL LOCKING CAP	6"	0-4
2B	2' BLANK	2"	0 3
5B	5' BLANK		3-7
10B	10' BLANK		7-17
5S	5' SLOTTED		17-22
10S	10' SLOTTED		22-32
2B	2' BLANK		32-34

● P-Protective B-Screen B-Blank O-Open N-None

◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END DEPTH (ft.) ●
B	CEMENT GROUT 20%	0-4
S	VOLCLAYSEAL	4-6
F	NATURAL SP SAND FILTER	6-32

● B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-25-84	2:00	3:00
CASING		3:10	3:15
FILTER PACK		3:15	3:25
SEAL		3:25	3:30
BACKFILL		3:30	3:50
DEVELOPMENT			
OTHER CLEANUP			

WELL DEVELOPMENT

NONE TD=32'

NOT JETTED

COMMENTS: HOLE CAVING PVC SET INSIDE AUGER THEN AUGER REMOVED CAVED 6'

MRA-AI-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

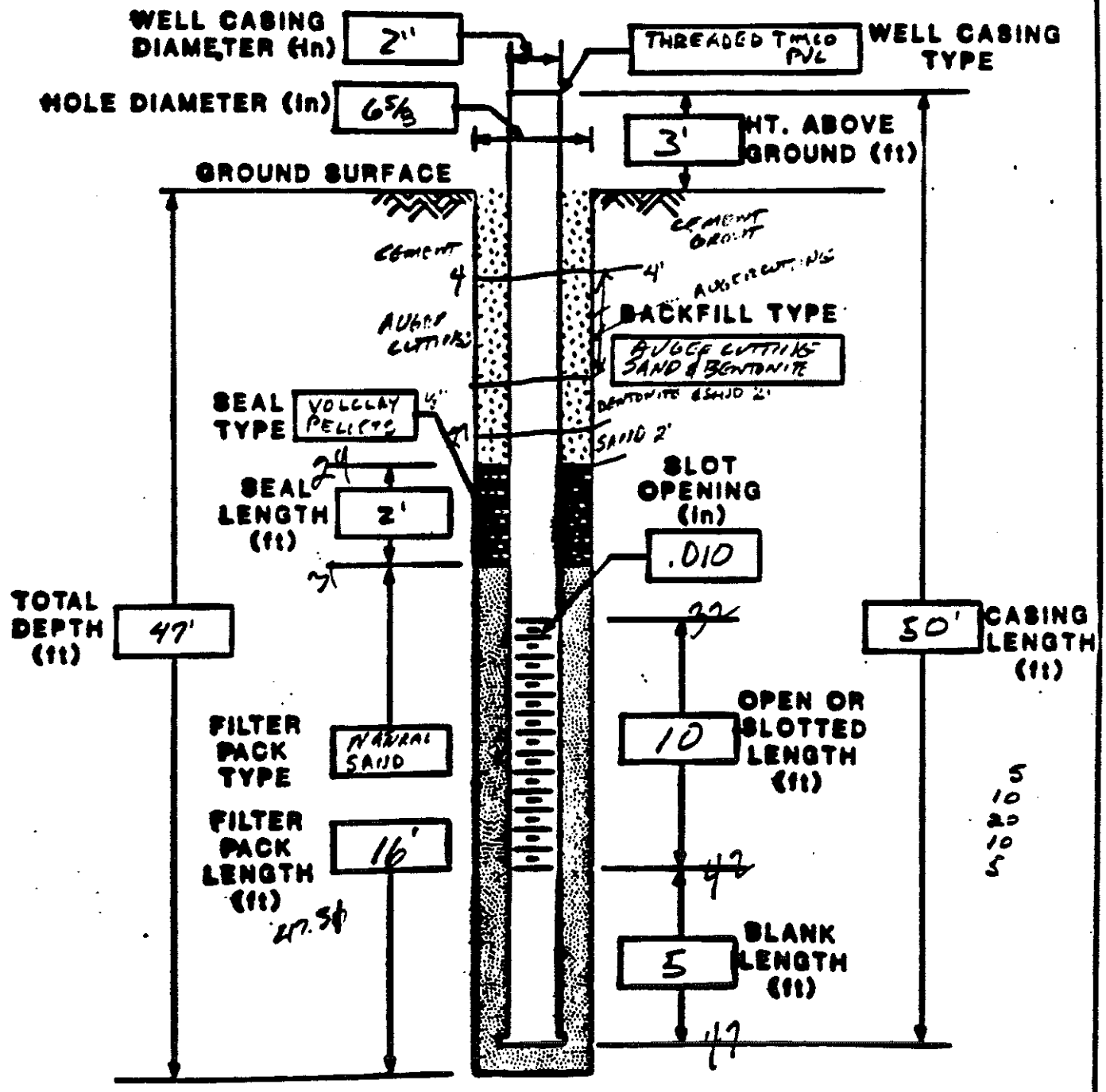
SITE ID: MON01 LOCATION ID: ~~MW-1-6~~ 6d DATE INSTALLED: 10-26-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. (IN^2/FT.) _____

FORMATION OF COMPLETION: ALLUVIUM

FIELD REP.: SILVA DRILLER: SHB - TCLTT



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

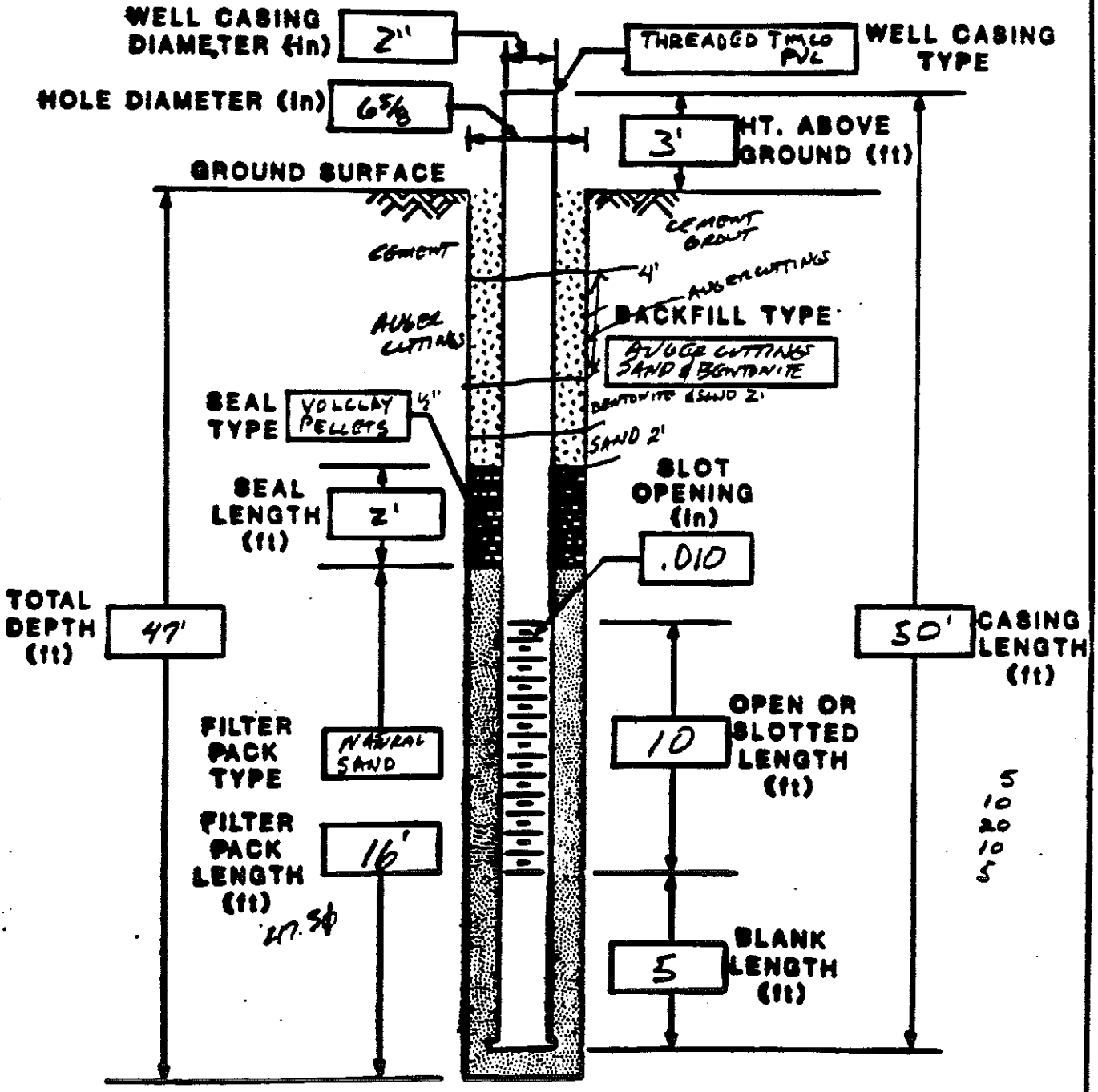
SITE ID: MON01 LOCATION ID: MW-1-6 (606) DATE INSTALLED: 10-26-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: ALLUVIUM

FIELD REP.: SILVA DRILLER: SHB - TCATT



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

214

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON 01 LOCATION ID: MN-1-6 606 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10-26-84

BOREHOLE SUMMARY

DRILLER: SHB - TCATT

RIG TYPE: CME 55 MOBILE

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
6" HSA	6 5/8	47'	DRY

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
P	4' STEEL LOCKING CAP	6"	0-1
B	5' BLANK	2"	0-5
B	10' BLANK		5-15
B	20' BLANK		15-35
S	10' SLOTTED @ .010		35-45
B	5' BLANK		45-50

P-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	CEMENT GROUT 2 BAGS	0-4
B	AUGER CUTTINGS SPSAND	4-25
B	SAND & BENTONITE	25-29
S	VOLCLAY PELLET SEAL	29-31
F	NAT SAND IN WATER TABLE	47-31

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10-25-84	4:00	5:15
	10-26-84	9:00 AM	9:50
CASING		9:45	9:50
FILTER PACK		9:50	10:00
SEAL		10:00	10:15
BACKFILL		10:15	10:20
DEVELOPMENT		—	
OTHER			

WELL DEVELOPMENT

WELL NOT DEVELOPED

HOLE WAS CAVING - CASING SET INSIDE AUGER AND AUGER WAS REMOVED

COMMENTS: _____

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

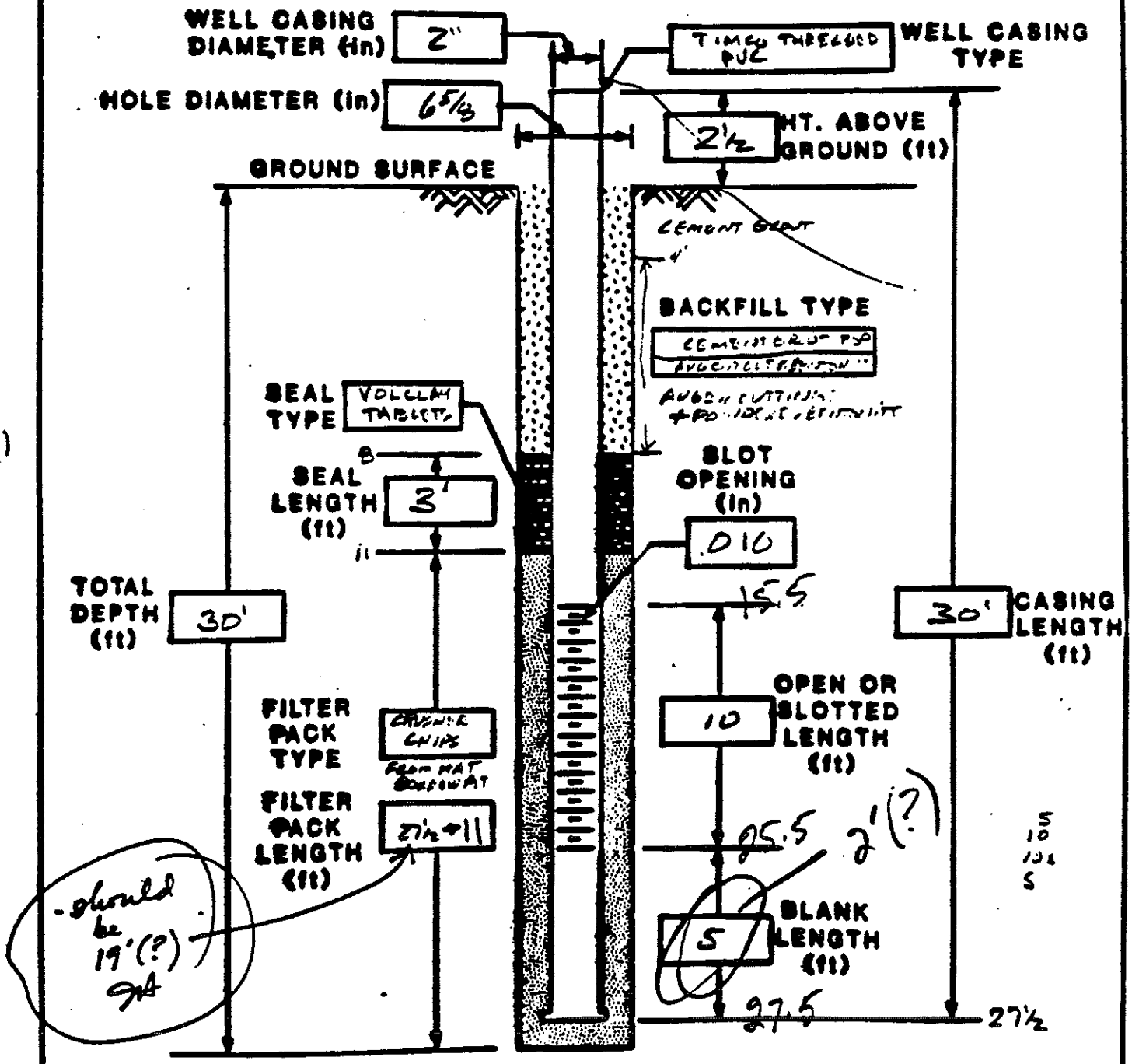
SITE ID: MONO1 LOCATION ID: MW-17667 DATE INSTALLED: 10-26-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: SANDSTONE - YELLOW BROWN

FIELD REP.: SILVA DRILLER: SHB TCATT



COMMENTS: DRY HOLE AT TIME OF DRILLING

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

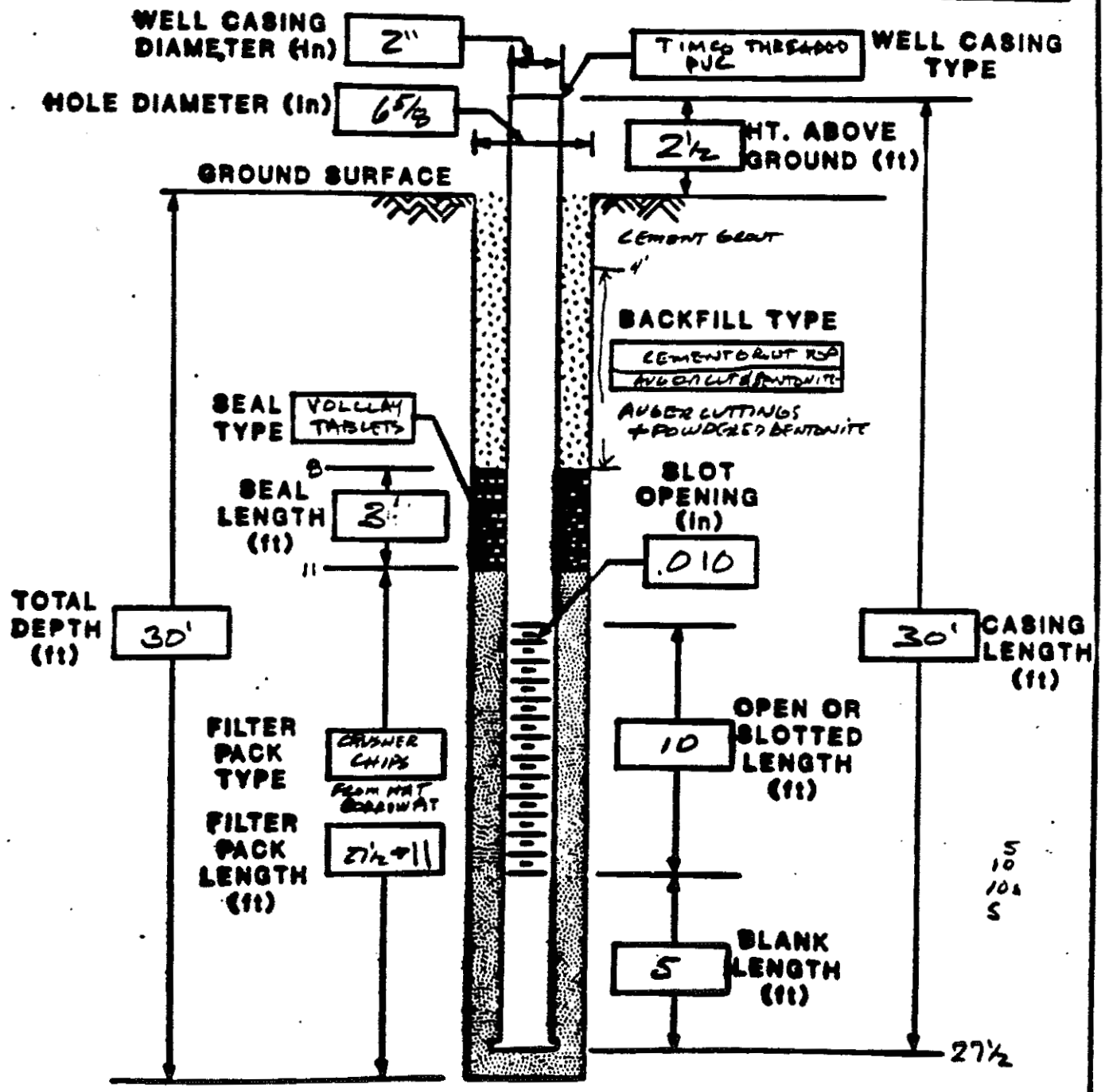
SITE ID: MONO1 LOCATION ID: MN-17 DATE INSTALLED: 10-26-84

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. (IN^2/FT.) _____

FORMATION OF COMPLETION: SANDSTONE - YELLOW BROWN

FIELD REP.: SILVA DRILLER: SHB TCAFT



COMMENTS: DRY HOLE AT TIME OF DRILLING

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

607

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MDN01 LOCATION ID: MW-1-7 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10-26-84

BOREHOLE SUMMARY

DRILLER: SHB TCATT

RIG TYPE: CME 55

BIT TYPE	HOLE DIA.* (in.)	END ● DEPTH (ft.)	FLUID TYPE
6 5/8 HSA	6 5/8	30'	DRY

CASING SUMMARY

CASING TYPE●	DESCRIPTION	DIA. (in.)	END● DEPTH (ft.)
4'P	PROTECTOR - LOCKCAP	6	0-
5'B	5' BLANK	2"	0-2.5
10'B	10 "		2.5-12.5
10'S	10' SLOTTED		12.5-22.5
5'B	5' BLANK	↓	22.5-27.5

● P-Protective S-Screen B-Blank O-Open N-None

* Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE●	DESCRIPTION	END● DEPTH (ft.)
B	CEMENT GROUT 2 BAGS	0-4
B	AUGER CUTTING MIXED W/ POWDERED BENTONITE	4-8
S	VOLCLAY PELLETS 25 LBS	8-11
F	CRUSHER CHIPS - FILTER	11-30

● B - Backfill S - Seal F - Filter Pack

* Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10/26/84	~~11:10~~ 10:30	11:15
CASING		11:10	11:20
FILTER PACK		11:20	11:30
SEAL		11:30	11:32
BACKFILL	CUTTINGS & BENTONITE	11:32	11:35
	CEMENT	11:35	11:45
DEVELOPMENT	NOT		
OTHER			

WELL DEVELOPMENT

COMMENTS: DRY HOLE IN ARROYO!

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

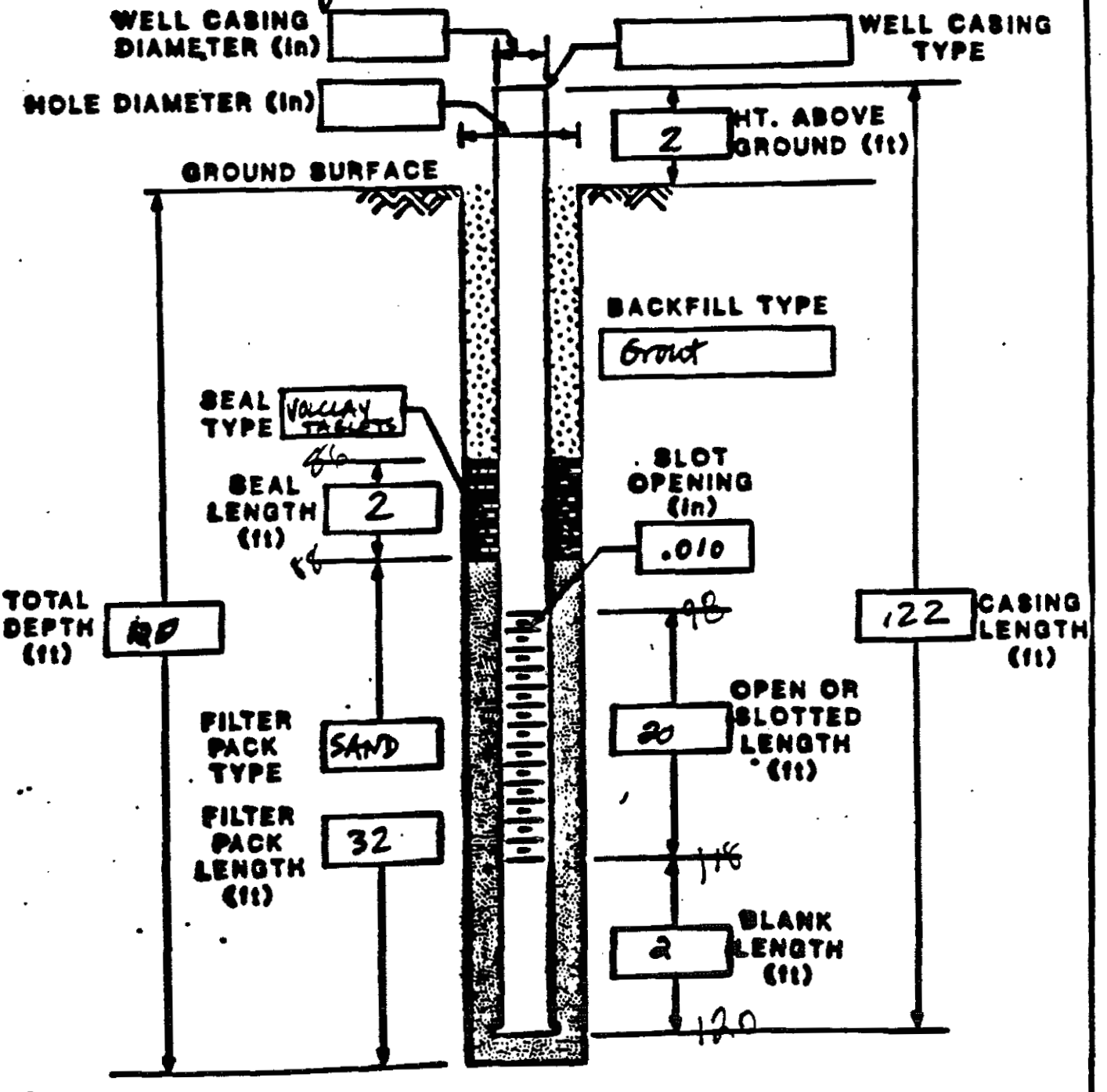
SITE ID: MON 01 LOCATION ID: 60B DATE INSTALLED: 3/19/85

APPROX. SITE COORDINATES: (FT.) N 59720.0 E 87390.0

OPEN AREA PER LINEAL FT. ($IN^2/FT.$)

FORMATION OF COMPLETION: Dechelley

FIELD REP.: McEnery DRILLER: SH+B



COMMENTS:

NEG-AL-ENG-3 (8/84)

Well Completion Records

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

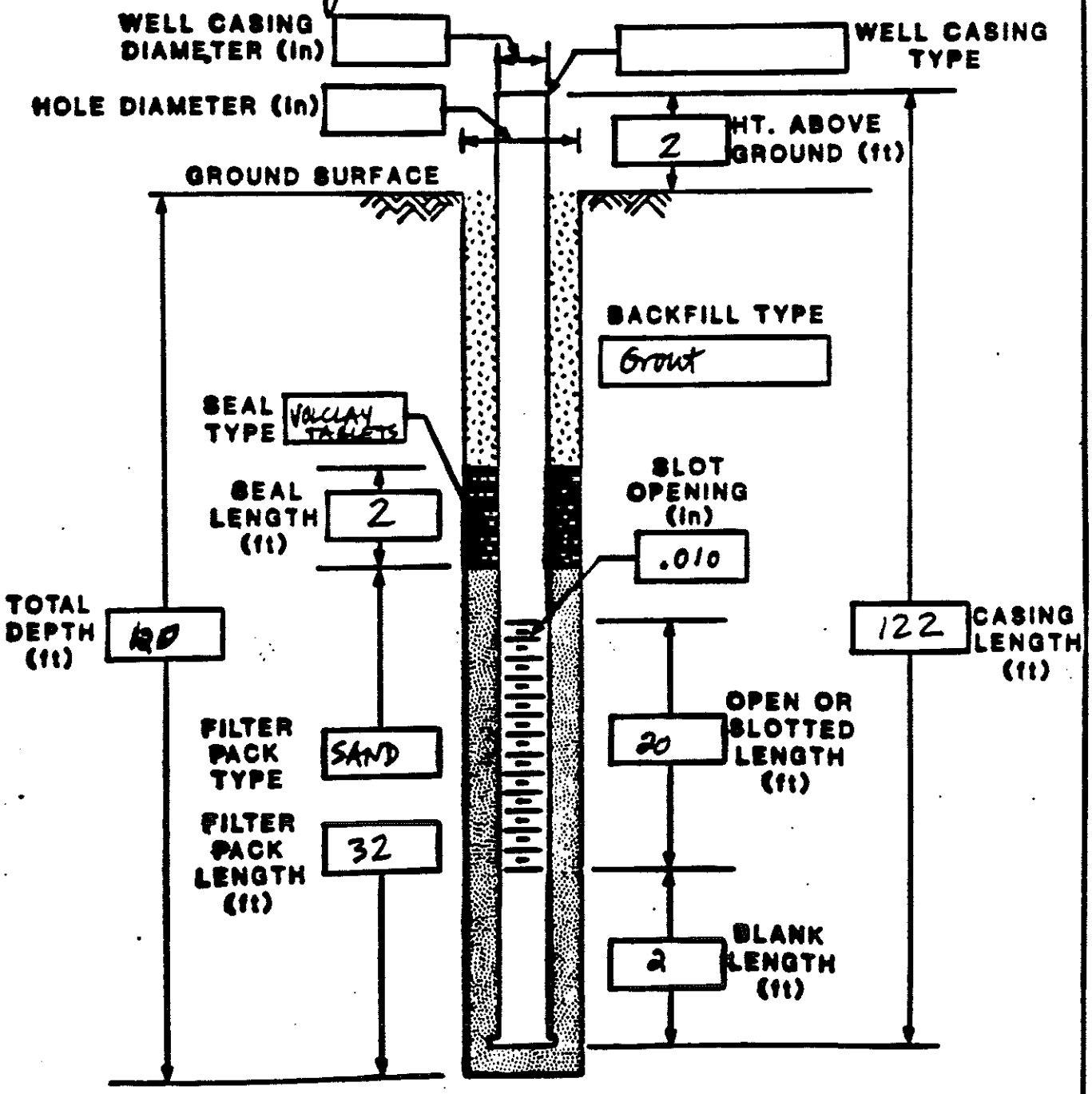
SITE ID: MON 01 LOCATION ID: 60BB DATE INSTALLED: 3/19/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly

FIELD REP.: McEnery DRILLER: SH+B



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

Construction Logs

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON 01 LOCATION ID: 608 B FIELD REP: McEnery

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 3/19/85

BOREHOLE SUMMARY

DRILLER: _____

RIG TYPE: _____

BIT TYPE	HOLE DIA.* (in.)	END DEPTH● (ft.)	FLUID TYPE
		114.5	H_2O + revert
		120.0	

CASING SUMMARY

CASING TYPE*	DESCRIPTION	DIA. (in.)	END DEPTH◆ (ft.)
B			122
S			120
B			110

* P-Protective S-Screen B-Blank O-Open N-None

◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE●	DESCRIPTION	END DEPTH● (ft.)
F	Sand	120
S	Volclay Tablets	88
B	Grout	86

● B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING			
CORING	3/16/85	9:00 am	3/18/85 1:00 pm
REAMING	3/18/85	2:30 pm	6:00 pm
CASING	3/19/85	1:30 pm	2:00 pm
FILTER PACK	3/19/85	3:00	3:15
SEAL	3/19/85	3:15	3:20
BACKFILL	3/19/85	3:20	5:30
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

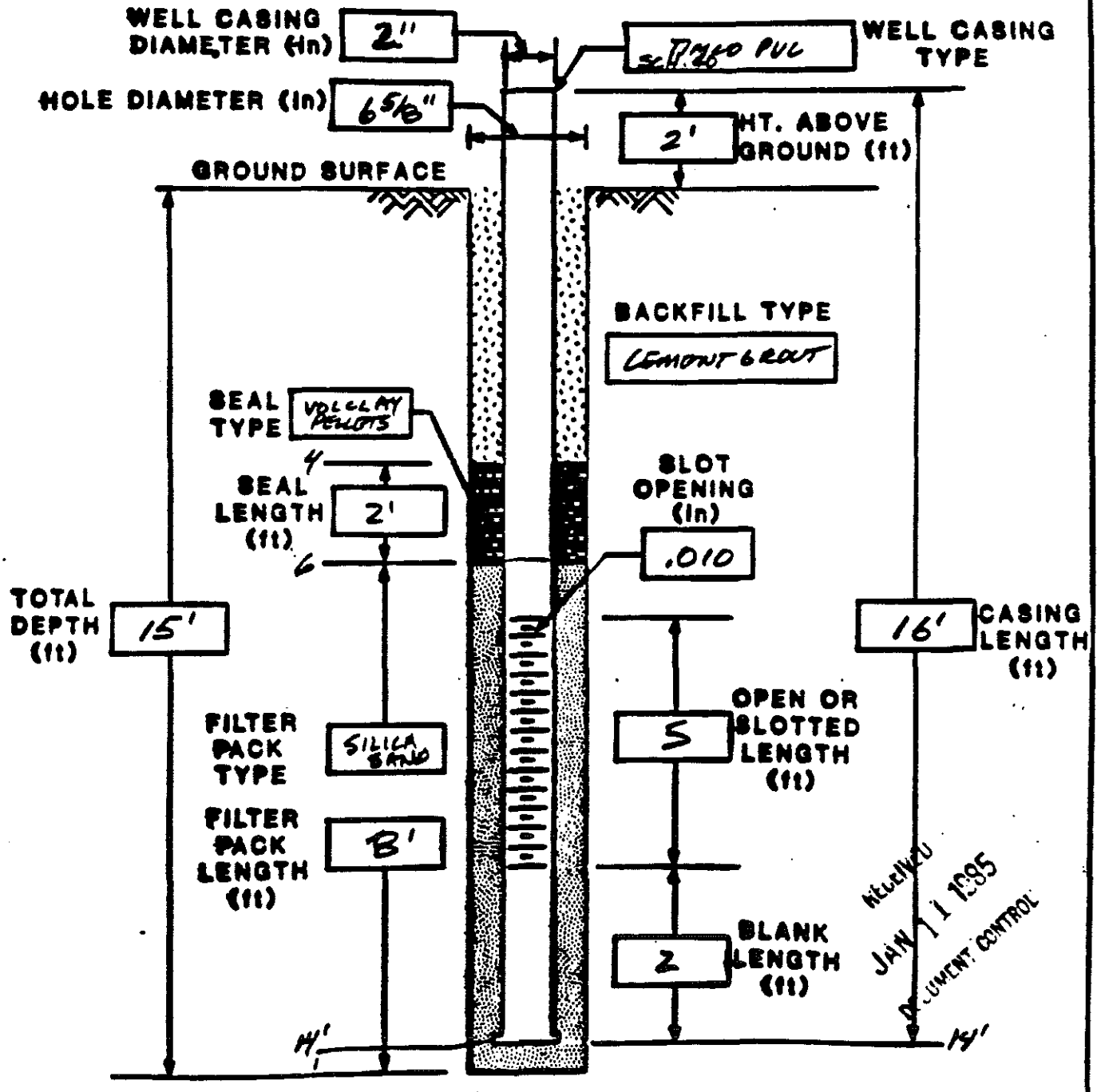
SITE ID: MONO1 LOCATION ID: 609 DATE INSTALLED: 1-3-85

APPROX. SITE COORDINATES: (FT.) N 59052.132 E 87652.915

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) 0.440

FORMATION OF COMPLETION: SHINARUMP / ALLUVIUM DRY ARROYO FROM TAILS

FIELD REP.: SILVA DRILLER: DEAR SHB



RECEIVED JAN 11 1985 DOCUMENT CONTROL

COMMENTS: CAVED @ 14'

JEG-AL-ENG-S (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

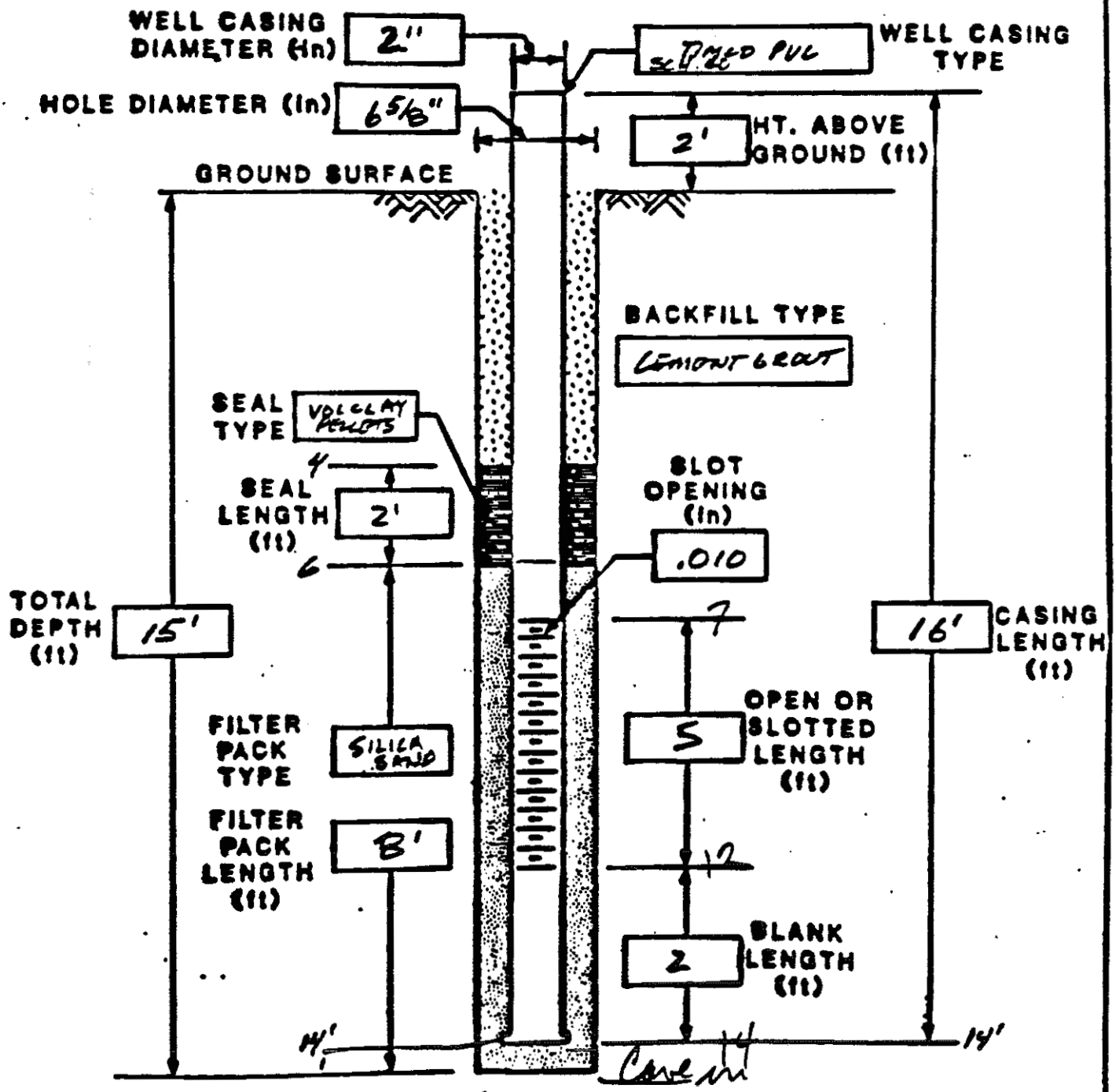
SITE ID: MONO1 LOCATION ID: 609 DATE INSTALLED: 1-3-85

APPROX. SITE COORDINATES: (FT.) N 59052.132 E 87652.915

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) 0.440

FORMATION OF COMPLETION: SHINARUMP / ALLUVIUM DRY ARROYO FROM FILES

FIELD REP.: SILVA DRILLER: DEAR SMB



COMMENTS: CAVED @ 14'

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON 01 LOCATION ID: 609 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N 59052.132 E 87652.915

GROUND ELEVATION (FT. MSL): 4878.30 COMPLETION DATE: 1-3-85

BOREHOLE SUMMARY

DRILLER: BEAR SHB 1

RIG TYPE: MOBILE B-80

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.) ●	FLUID TYPE
6" NSA	6"	15'	DRY

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END DEPTH (ft.) ◆
4'P	PROTECTIVE CASING	4"	0-2'
9'S	9' BLANK PVC	2"	0-9
5'S	5' SLOTTED PVC	2"	9-14
2'B	2' BLANK PVC	2"	16

● P-Protective S-Screen B-Blank O-Open N-None

◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END DEPTH (ft.) ●
B	CEMENT GROUT TO G.S.	0-4
G	VOLCLAY PELLETS	4-6
F	SILICA SAND	6-14

● B - Backfill G - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	1/3/85	10 AM	11 AM
CASING		11 AM	11:30
FILTER PACK		11 30	11:40
SEAL		11:40	11:45
BACKFILL		11:45	12:15
DEVELOPMENT	DRY NOT	DEVELOPED	
OTHER			

WELL DEVELOPMENT

HOLE NOT DEVELOPED
DRY ALLUVIUM HOLE

COMMENTS:

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

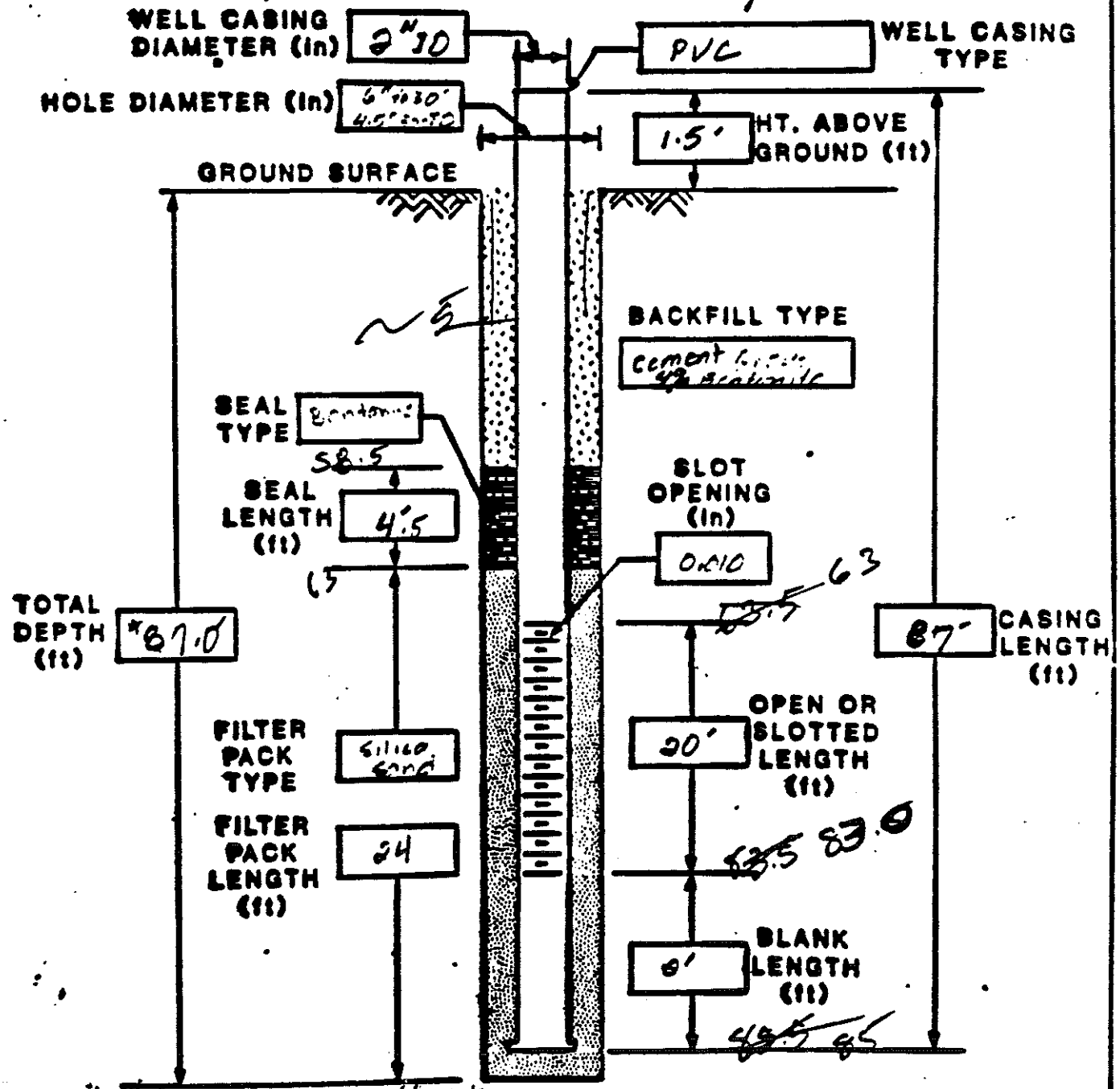
SITE ID: MON-01 LOCATION ID: 61D DATE INSTALLED: 3/26/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Conglomerate

FIELD REP.: Roger Holland DRILLER: S4;B (Ed Adams)



COMMENTS: 0 - 30' 6" [illegible]
from 30' to 70' [illegible]
* Bottom of casing set at 85.5'

ARG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

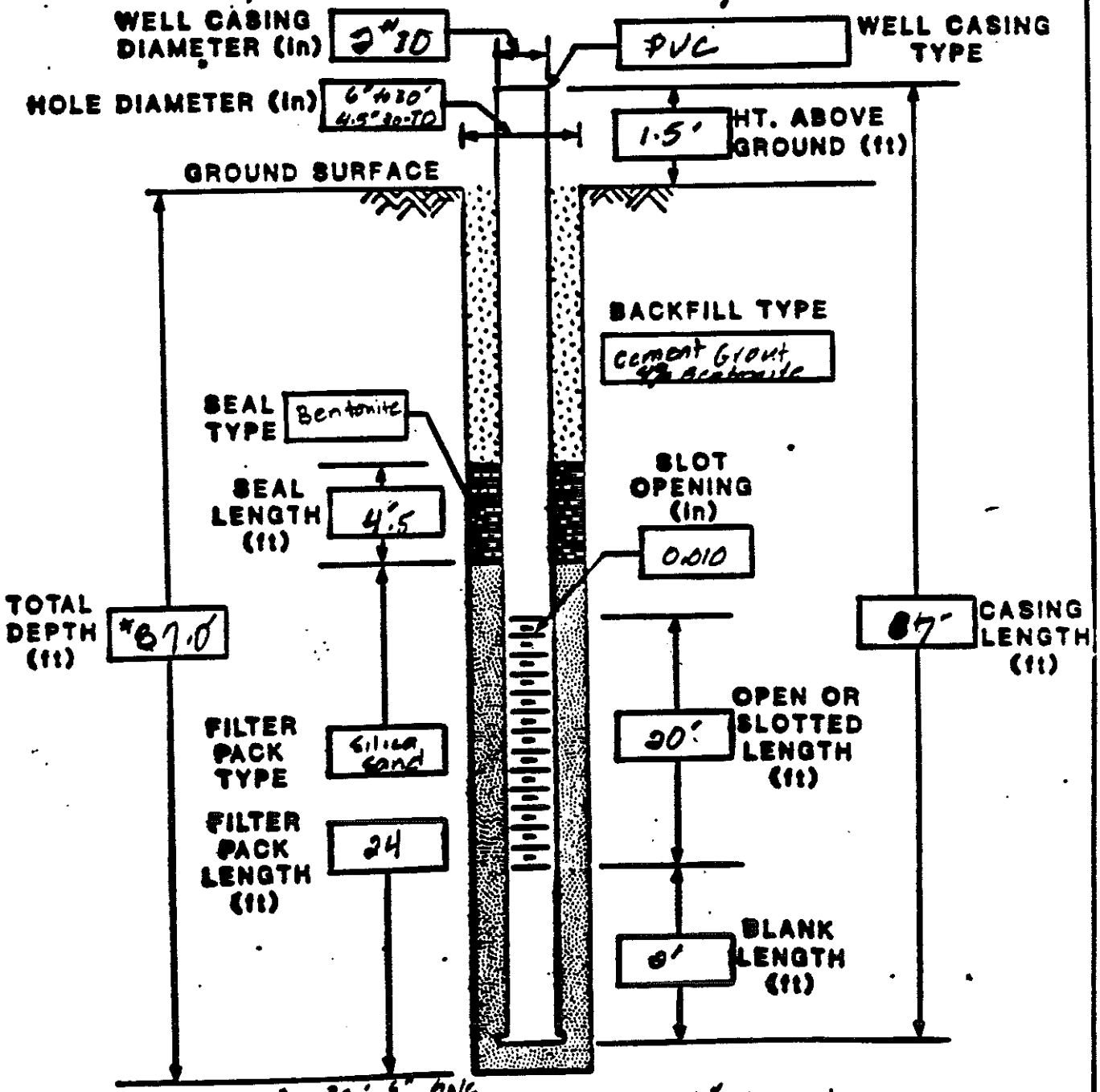
SITE ID: MON-01 LOCATION ID: 61D DATE INSTALLED: 3/06/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. (IN^2/FT.) _____

FORMATION OF COMPLETION: Shinarump Conglomerate

FIELD REP.: Roger Holland DRILLER: SH&B (Ed Adams)



COMMENTS: 0 - 30' 6" hole from 30' to TD hole 4½" diameter

* Bottom of casing set at 85.5'

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

8/12

WELL COMPLETION RECORD

PACKER INSTALLATION

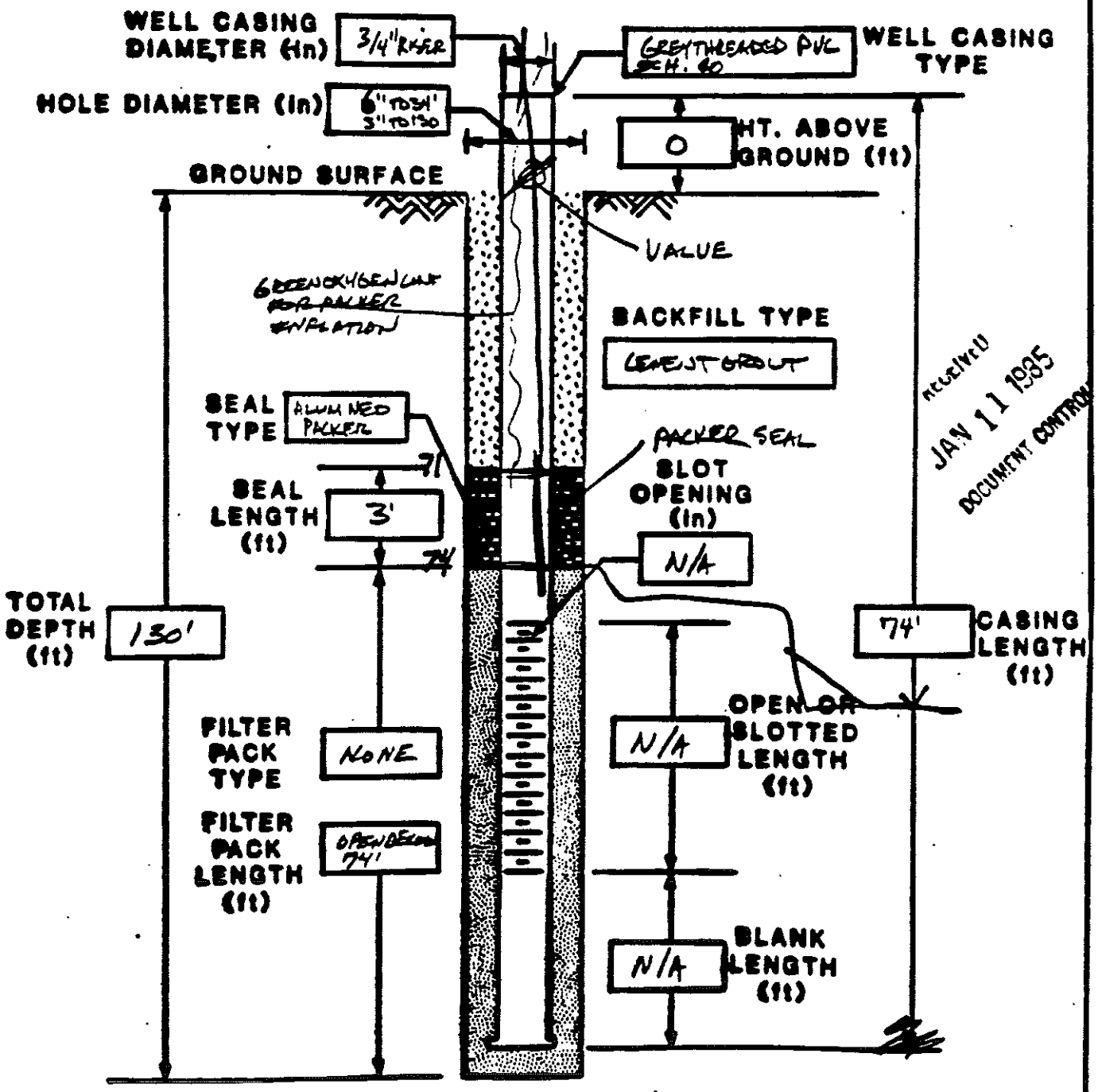
SITE ID: MDN01 LOCATION ID: 610 DATE INSTALLED: 1/6/84

APPROX. SITE COORDINATES: (FT.) N 56360.765 E 88649.506

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) 0.440

FORMATION OF COMPLETION: AQUIFER ARTESIAN @ 74-130'

FIELD REP.: SILVA DRILLER: BEARSHB



RECEIVED JAN 11 1985 DOCUMENT CONTROL

COMMENTS: 2X4 PACKER @ 74-71' W 3/4" RISER (WATER ARTESIAN FLOW)
VALVE @ GROUND SURFACE PRODUCED 3 GPM @ TIME OF INSTALLATION

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON-01 LOCATION ID: 610 FIELD REP: Roger Halland
APPROX. SITE COORDINATES (FT.): N 56360.765 E 88649.506
GROUND ELEVATION (FT. MSL): 4661.65 COMPLETION DATE: 3/27/85

BOREHOLE SUMMARY

DRILLER: SH;B (Ed Adams)
RIG TYPE:

BIT TYPE	HOLE DIA. (in.)	END DEPTH ● (ft.)	FLUID TYPE
~~Auger~~	6 5/8"	37'	Clear H2O
Tricone	4.5"	87'	"

CASING SUMMARY

CASING TYPE●	DESCRIPTION	DIA. (in.)	END DEPTH ◆ (ft.)
~~Pro~~	~~White Plastic~~	~~[illegible]~~	~~[illegible]~~
B	PVC	2"	83.5
S	PVC .010	2"	63.5
B	PVC	2"	+1.5'

● P-Protective S-Screen B-Blank O-Open N-None
◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE●	DESCRIPTION	END DEPTH ◆ (ft.)
B	cement Grout	59'
S	Bentonite	63'
F	Silica sand	85.5'

● B - Backfill S - Seal F - Filter Pack
◆ Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	3/26/85	~~[illegible]~~ 2:00pm	3/27/85 12:00 Noon
CASING			
FILTER PACK	3/27/85	12:30 pm	1:00 pm
SEAL	"	1:00 pm	1:15 pm
BACKFILL	"	1:30 pm	2:30 pm
DEVELOPMENT	4/2/85	1:05 pm	2:10 pm
OTHER			

WELL DEVELOPMENT

COMMENTS: water slightly milky
35-60 psi

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

9/12

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON 01 LOCATION ID: 610 FIELD REP: SILVA

APPROX. SITE COORDINATES (FT.): N 56360.765 E 88649.506

GROUND ELEVATION (FT. MSL): 4861.65 COMPLETION DATE: 1-7-85

BOREHOLE SUMMARY

DRILLER: WAYNE JEVERNAGER

RIG TYPE: MOBILE B-80

BIT TYPE	HOLE DIA. (in.)	END DEPTH ● (ft.)	FLUID TYPE
6" HSA	6 5/8	34'	NAT'L
3" IMPREG BIT	3"	130'	F/A /REVERT
4 WATERWAY V			WATER

CASING SUMMARY

CASING TYPE●	DESCRIPTION	DIA. (in.)	END DEPTH ◆ (ft.)
	PROTECTIVE CASING NOT INSTALLED		AS OF 1/8/84
	GREEN RXY HOSE	1/4"	
B	VALVE		0
B	3/4" GREY PVC RISER	3/4	71
SEAL A	PACKER SETUP	3"	74

● P-Protective S-Screen B-Blank O-Open N-None

◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE●	DESCRIPTION	END DEPTH ◆ (ft.)
B	CEMENT GROUT BACKFILL	
S	PACKER SEAL	71-74'
	NOT SCREENED BELOW PACKER	

● B - Backfill S - Seal F - Filter Pack

◆ Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME	
DRILLING	12-2-84	8:AM	5:30	
	12-3-84	10:30	5:30	
	12-4-84	9:30	5:45	
	12-11-84	9:15	5:30	73'
	12-12-84	9:30	5:45	100'
	1-3-85	SET UP ONLY		
	1-4-85	9:30	4:30	110'
CASING	1-5-85	10:45	3:30	130'
	1-6-85	9:30	12:30	
FILTER PACK	NA			
SEAL	1-6-85	12:35 PM	1:30 PM	
BACKFILL	1-6-85	1:35 PM	4:30 PM	
DEVELOPMENT	1-6-85	4:30 PM	10:30 AM	
	1-7-85			
OTHER				

WELL DEVELOPMENT

ARTESIAN CONDITIONS ON 1/3/85
DRILLED TO 130' ON 1-5-85
WATER ALLOWED TO RUN OVER NITE
AFTER GROUTING TOP OF PACKER

COMMENTS: ARTESIAN WATER SOURCE FROM SANDSTONES & VARIOUS AQUIFER FROM 74-130'

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON-01 LOCATION ID: 610 FIELD REP: Roger Holland

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 3/27/85

BOREHOLE SUMMARY

DRILLER: SH&B (Ed Adams)

RIG TYPE: _____

BIT TYPE	HOLE DIA.* (in.)	END DEPTH● (ft.)	FLUID TYPE
Auger	6 5/8"	37'	Clear H2O
Tricone	4.5"	87'	"

CASING SUMMARY

CASING TYPE*	DESCRIPTION	DIA. (in.)	END DEPTH✚ (ft.)
~~Perf~~	~~White Plastic~~	~~[illegible]~~	~~[illegible]~~
B	PVC	2"	89.5
S	PVC .010	2"	63.5
B	PVC	2"	+1.5'

* P-Protective S-Screen B-Blank O-Open N-None

✚ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE*	DESCRIPTION	END DEPTH● (ft.)
B	cement Grout	59'
S	Bentonite	63'
F	Silica-sand	85.5'

* B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	3/26/85	~~[illegible]~~ 3:00pm	3/27/85 12:00 Noon
CASING			
FILTER PACK	3/27/85	12:30 pm	1:30 pm
SEAL	"	1:30 pm	1:15 pm
BACKFILL	"	1:30 pm	2:30 pm
DEVELOPMENT	4/2/85	1:05 pm	2:12 pm
OTHER			

WELL DEVELOPMENT

COMMENTS: water slightly milky

36-60 psi

JEG-AL-ENG-1 (8/84)

DATE _____ SUBJECT _____ SHEET NO. _____

BY _____ CHKD. _____ JOB NO. _____

(Completion Record)

No Well Log for 611

Steel Casing set to 63 for Coring to 185 then reamed

	grout	→ 156
	bent seal	156 - 160
	Sand	160 - 185
assume	screen	163 - 183
	sump	183 - 185

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD (filled out by B. Williams)

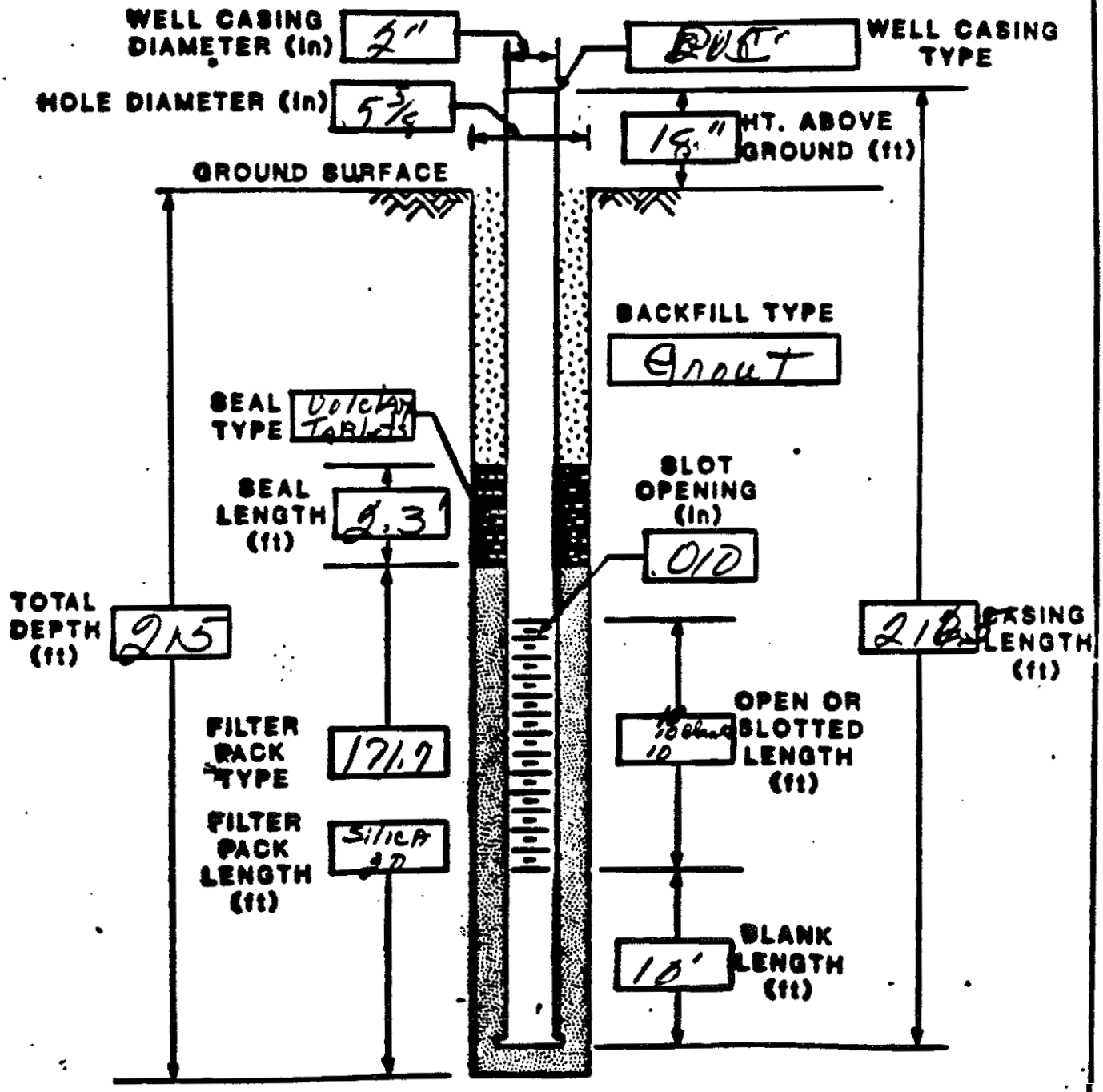
SITE ID: MON-01 LOCATION ID: 612 DATE INSTALLED: 3-

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly

FIELD REP.: A. Miller DRILLER: B. Williams



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD (filled out by B. Williams)

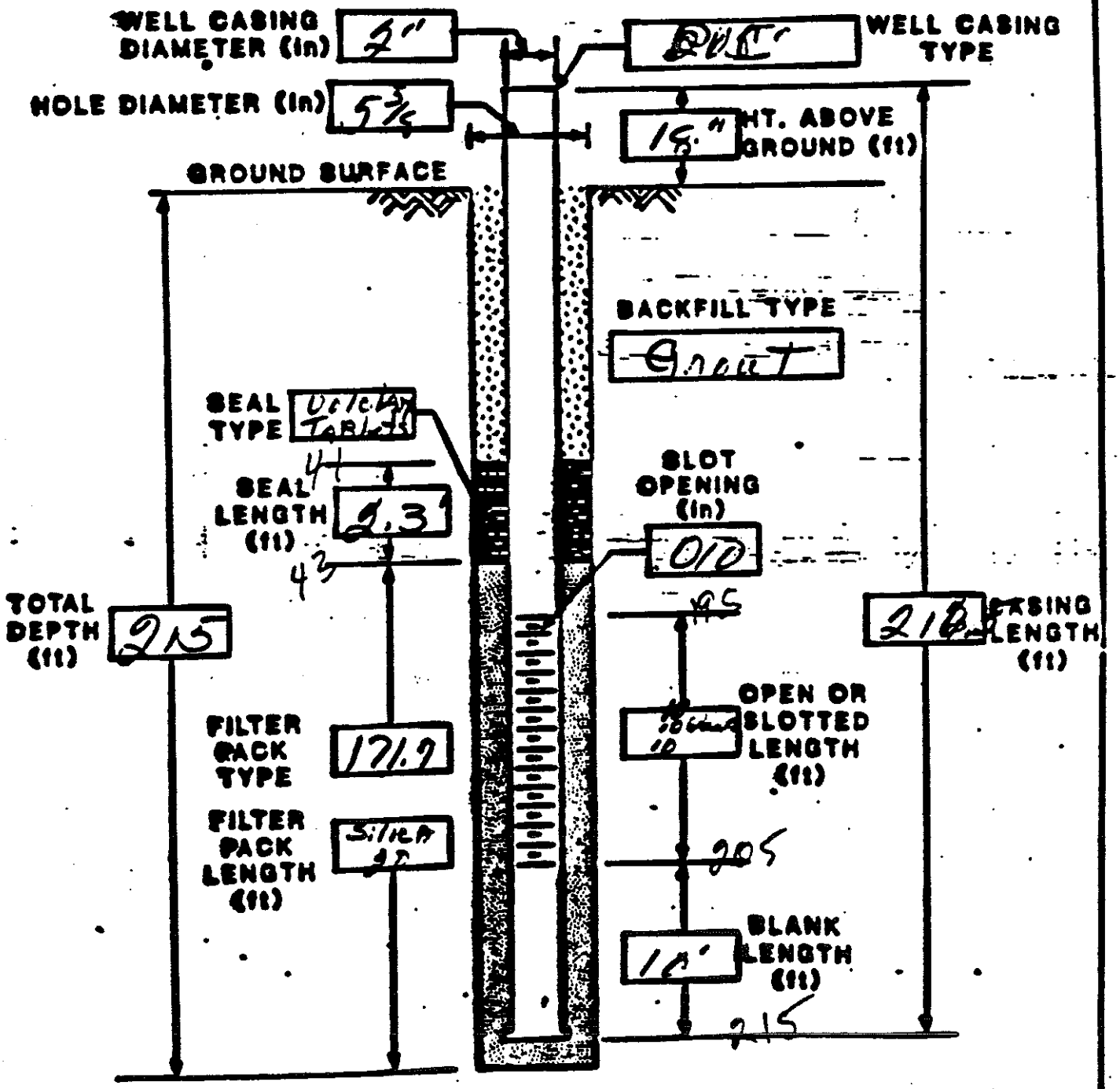
SITE ID: MCN-01 LOCATION ID: 612 DATE INSTALLED: 3-

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

INFORMATION OF COMPLETION: DeChelly

FIELD REP.: G. Miller DRILLER: B. Williams



COMMENTS: _____

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

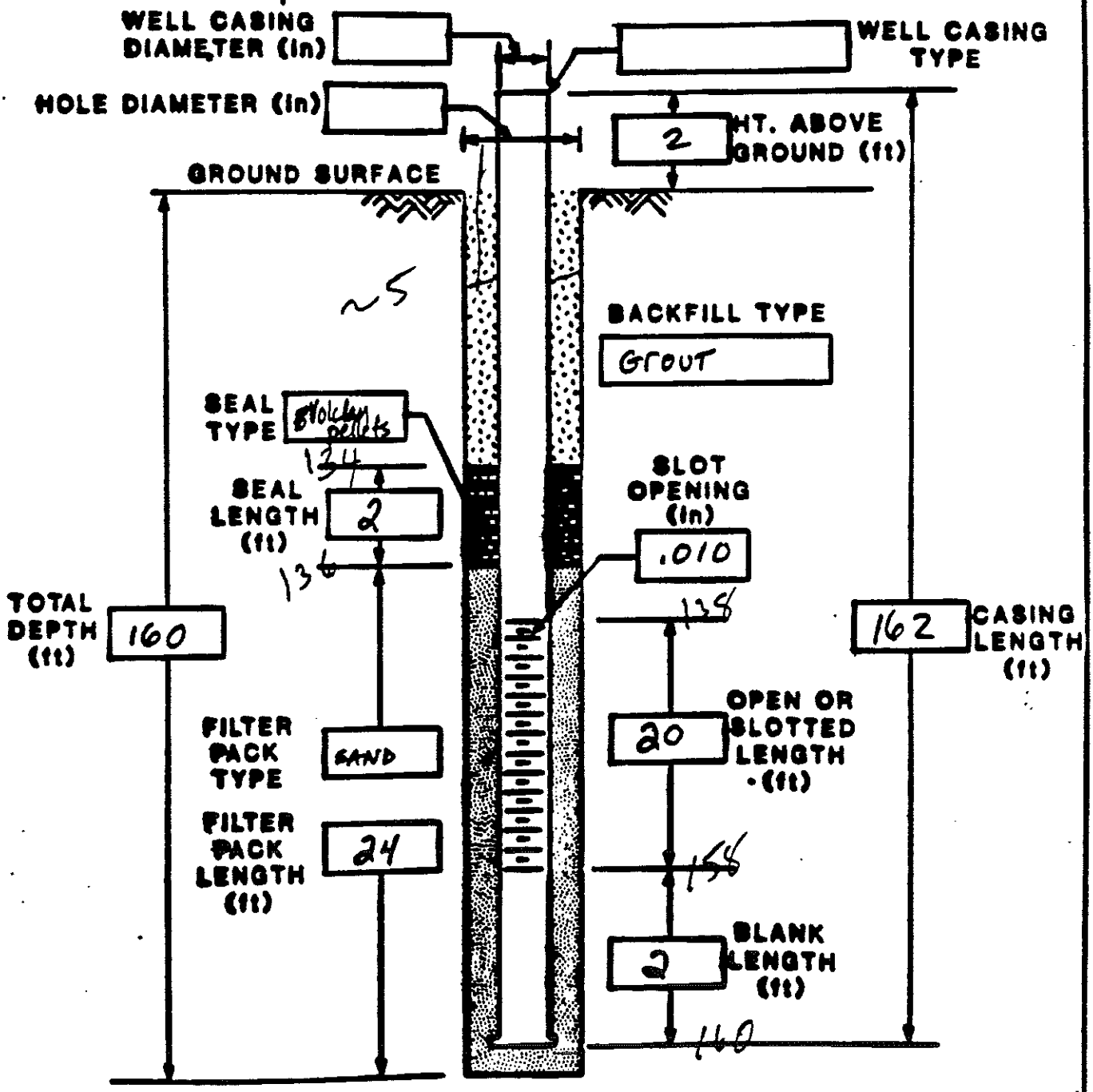
SITE ID: MON 07 LOCATION ID: 613 DATE INSTALLED: 3/18/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly

FIELD REP.: McEnery DRILLER: SH+B



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

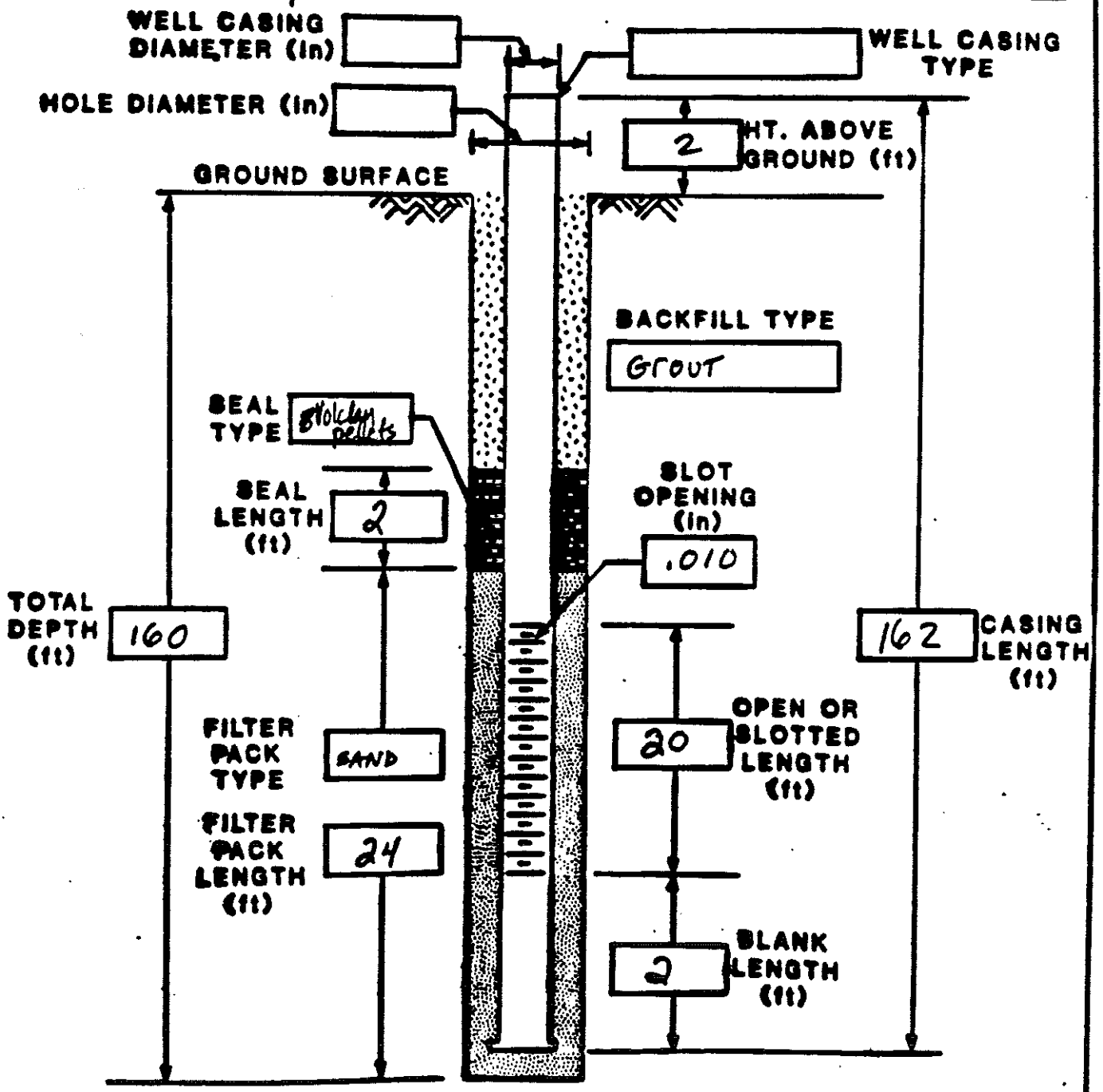
SITE ID: MON 07 LOCATION ID: 613 DATE INSTALLED: 3/18/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly

FIELD REP.: McEnery DRILLER: SH+B



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: MON 01 LOCATION ID: 613 FIELD REP: Holland / Miller / McEnery

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 3/18/85

BOREHOLE SUMMARY

DRILLER: _____

RIG TYPE: _____

BIT TYPE	HOLE DIA.* (in.)	END ● DEPTH (ft.)	FLUID TYPE
		144.7	
	5 5/8"	160	

CASING SUMMARY

CASING TYPE●	DESCRIPTION	DIA. (in.)	END● DEPTH (ft.)
B			162
S			160
B			141

● P-Protective S-Screen B-Blank O-Open N-None

● Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE●	DESCRIPTION	END● DEPTH (ft.)
F	SAND	160
S	VOLCLAY TABLETS	136
B	GROUT	134

● B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING			
CORING			
REAMING	3/17/85	2:25 pm	3/18/85 2:00 pm
CASING	3/18/85	2:45	3:00
FILTER PACK	3/18/85	3:00	3:20
SEAL	3/18/85	3:20	3:30
BACKFILL	3/18/85	4:00	6:30
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

JEG-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD (filled out by B. Williams)

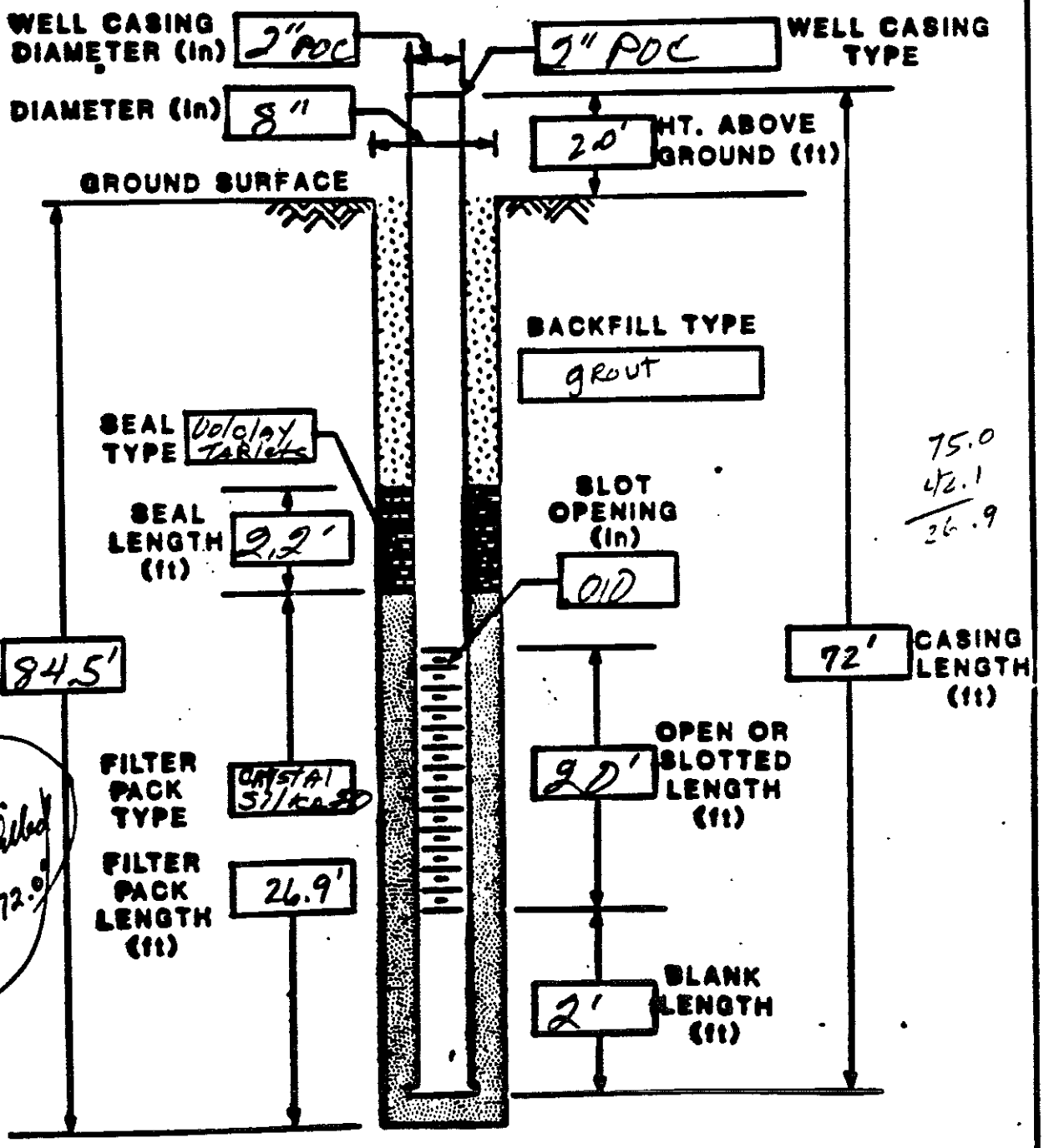
SITE ID: MON-01 LOCATION ID: Airport Hole #614 DATE INSTALLED: 3-

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: MoenKopi

FIELD REP.: G Miller DRILLER: B Williams



75.0
42.1
26.9

10/19/94 25' cased borehole was backfilled or cased to 72.0 ft.

COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

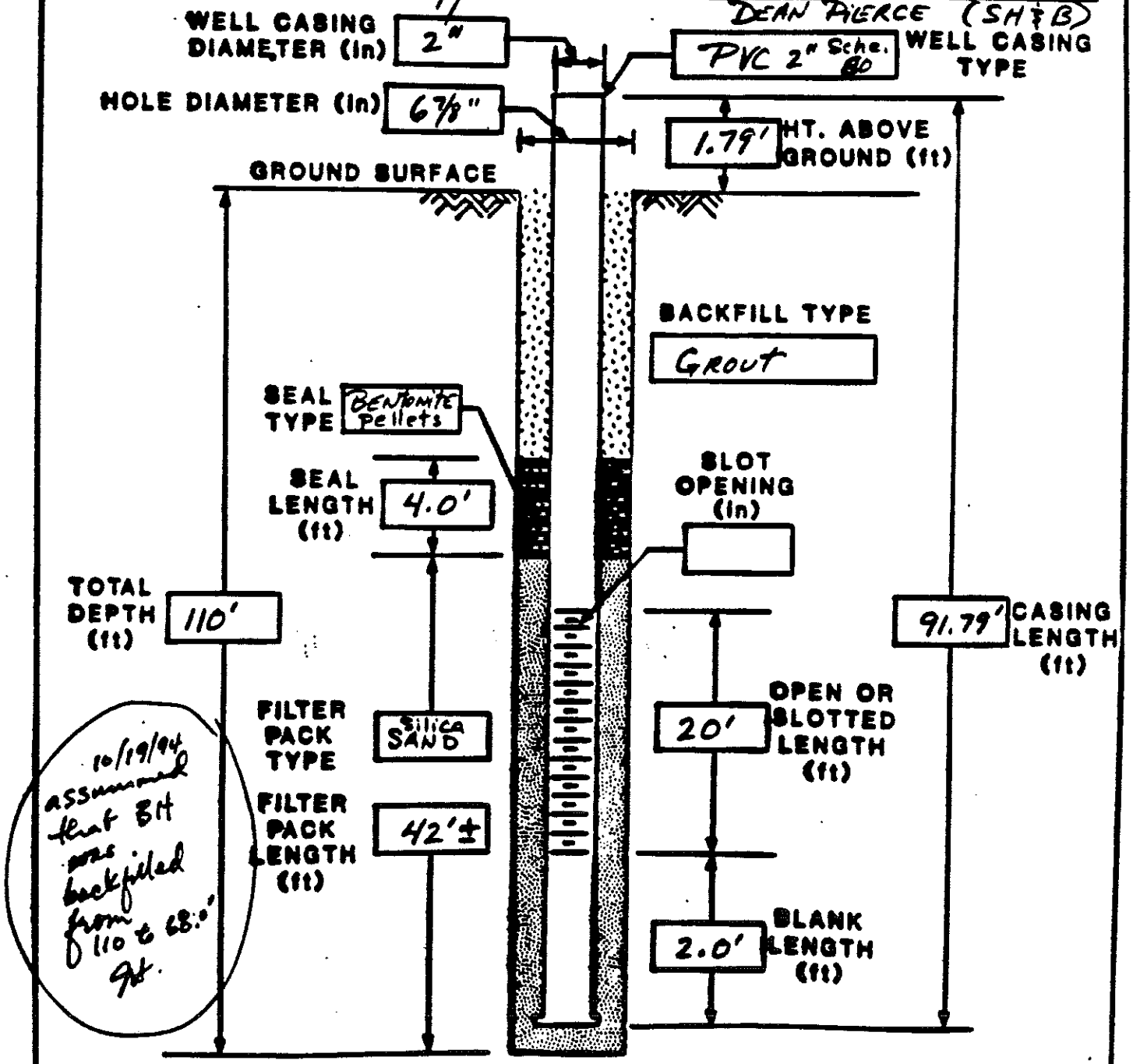
SITE ID: MON LOCATION ID: 615 DATE INSTALLED: 3/16-17/86

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Member of Chinle Fm.

FIELD REP.: Chris McEnery/G. Miller DRILLER: Jim Carter (SH&B)
Dean Pierce (SH&B)



10/19/94 assumed that BH was backfilled from 110 to 68.0' gt.

COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

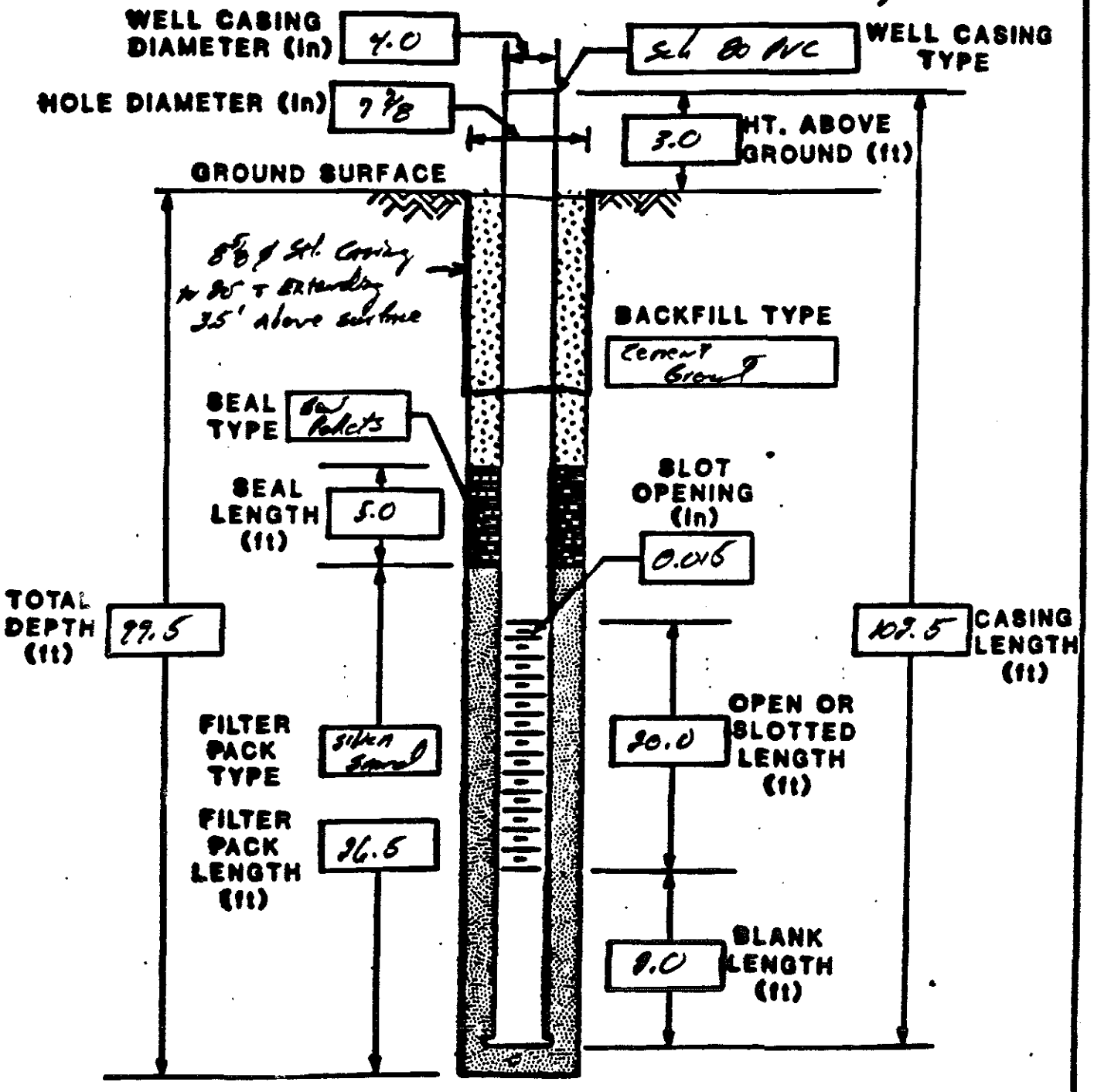
SITE ID: Mex-01 LOCATION ID: 650 DATE INSTALLED: 9/30/86

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. (IN^2/FT.) _____

FORMATION OF COMPLETION: Alluvium

FIELD REP.: R. Cooke DRILLER: Brown Drilling Co.



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Mw-01 LOCATION ID: 650 FIELD REP: A. Cockett

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 9/30/85

BOREHOLE SUMMARY

DRILLER: Bonar Drilling Co.

RIG TYPE: Gardner - Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
Tricone	7 7/8	104	Bent

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
B	Steel	8 5/8	20.0
B	Sch 80 PVC	4	77.5
S	"	4	77.5
B	"	4	99.5

P-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	9/30/85	9:00	10:00
CASING	9/30	10:30	11:30
FILTER PACK	9/30	11:30	1:00
SEAL	9/30	1:00	1:30
BACKFILL	9/30	1:30	2:00
DEVELOPMENT	10/1	8:30	
OTHER			

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	Cement Grout	
S	Bent. Pellets	
F	Silica Sand	

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

WELL DEVELOPMENT

COMMENTS: _____

JE G-AL-ENS-1 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

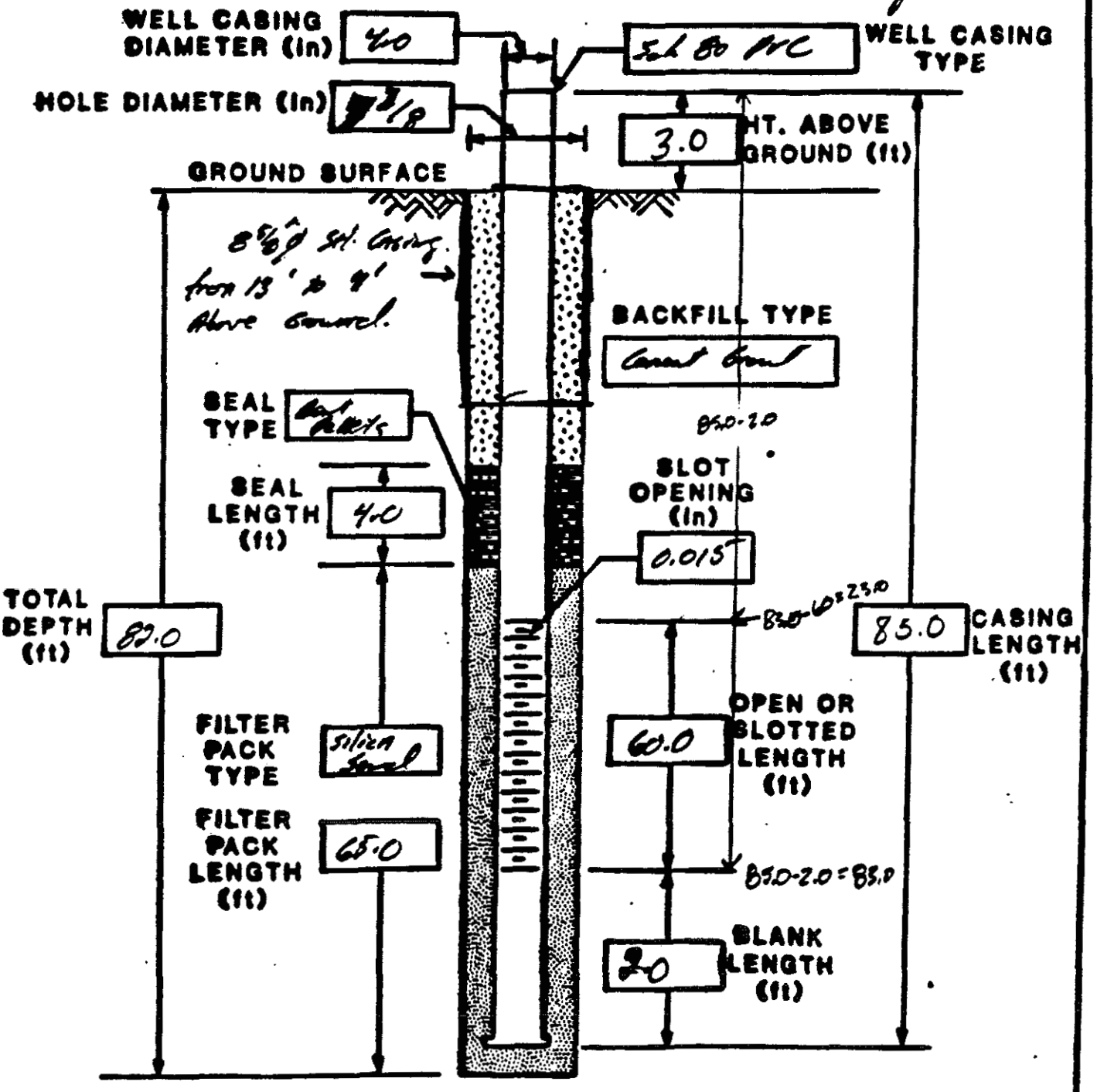
SITE ID: Mw-01 LOCATION ID: 651 DATE INSTALLED: 7/29/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Alluvium

FIELD REP.: R. Corbett DRILLER: Beaver Drilling Co.



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Mw-01 LOCATION ID: 651 FIELD REP: A. Cochet

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 9/29/85

BOREHOLE SUMMARY

DRILLER: Beeson Drilling Co.

RIG TYPE: Gardner - Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.) ●	FLUID TYPE
Tricone	7 7/8	82.0	Air

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END DEPTH (ft.) ●
B	Steel Casing	8 5/8	13.0
B	Sch 80 PVC	4	20.0
S	"	4	80.0
B	"	4	82.0

● P-Protective S-Screen B-Blank O-Open SI-Slone

● Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END DEPTH (ft.) ●
B	Coarse Gravel	13.0
S	Bent Pellets	17.0
F	Silica Sand	82.0

● B - Backfill S - Seal F - Filter Pack

● Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	9/29/85	8:20	9:30
CASING	9/29	10:15	12:15
FILTER PACK	9/29	12:15	3:00
SEAL	9/29	3:00	3:30
BACKFILL	9/29	3:30	4:00
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

JE 6-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

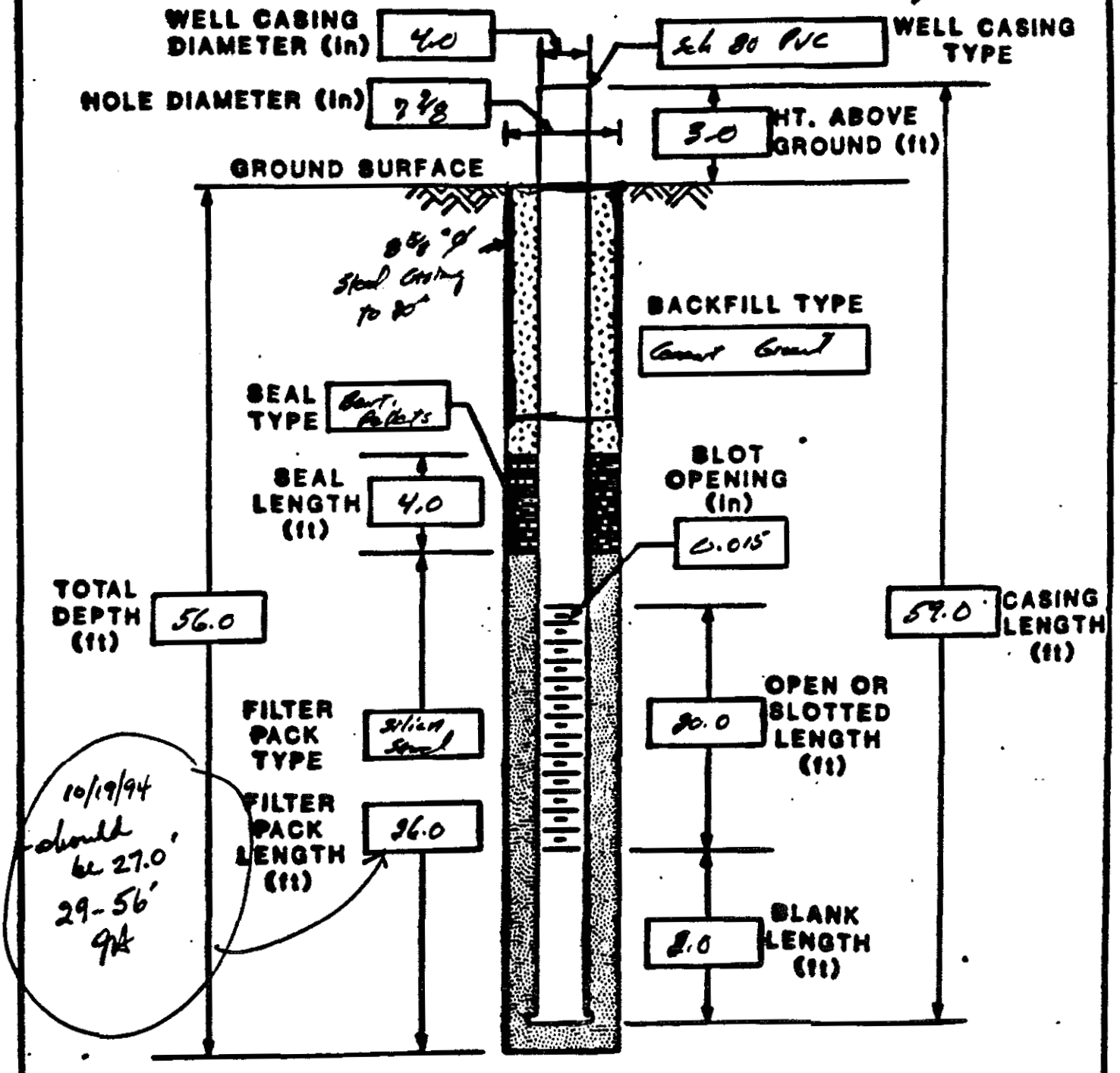
SITE ID: Mon-01 LOCATION ID: 652 DATE INSTALLED: 7/22/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Alluvium

FIELD REP.: R. Crockett DRILLER: Bowman Drilling Co



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Mw-01 LOCATION ID: 652 FIELD REP: R. Cooke

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 9/29/86

BOREHOLE SUMMARY

DRILLER: Brown Drilling Co.

RIG TYPE: Gardner - Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH ● (ft.)	FLUID TYPE
Tricone	7 7/8	58	Air

CASING SUMMARY

CASING TYPE ●	DESCRIPTION	DIA. (in.)	END ◆ DEPTH (ft.)
B	Steel	8 5/8	80
B	Sch 80 PVC	4.0	34
S	"	"	54
B	"	"	56

● P-Protective S-Screen B-Blank O-Open N-None

◆ Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE ●	DESCRIPTION	END ◆ DEPTH (ft.)
B	Cement Grout	25
S	Bent Pellets	29
F	Silica Sand	560

● B - Backfill S - Seal F - Filter Pack

◆ Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	9/29/86	9:00	9:40
CASING	9/29	10:30	12:00
FILTER PACK	9/29	12:00	12:30
SEAL	9/29	12:30	1:00
BACKFILL	9/29	1:00	1:30
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

JE 0-AL-ENG-1 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

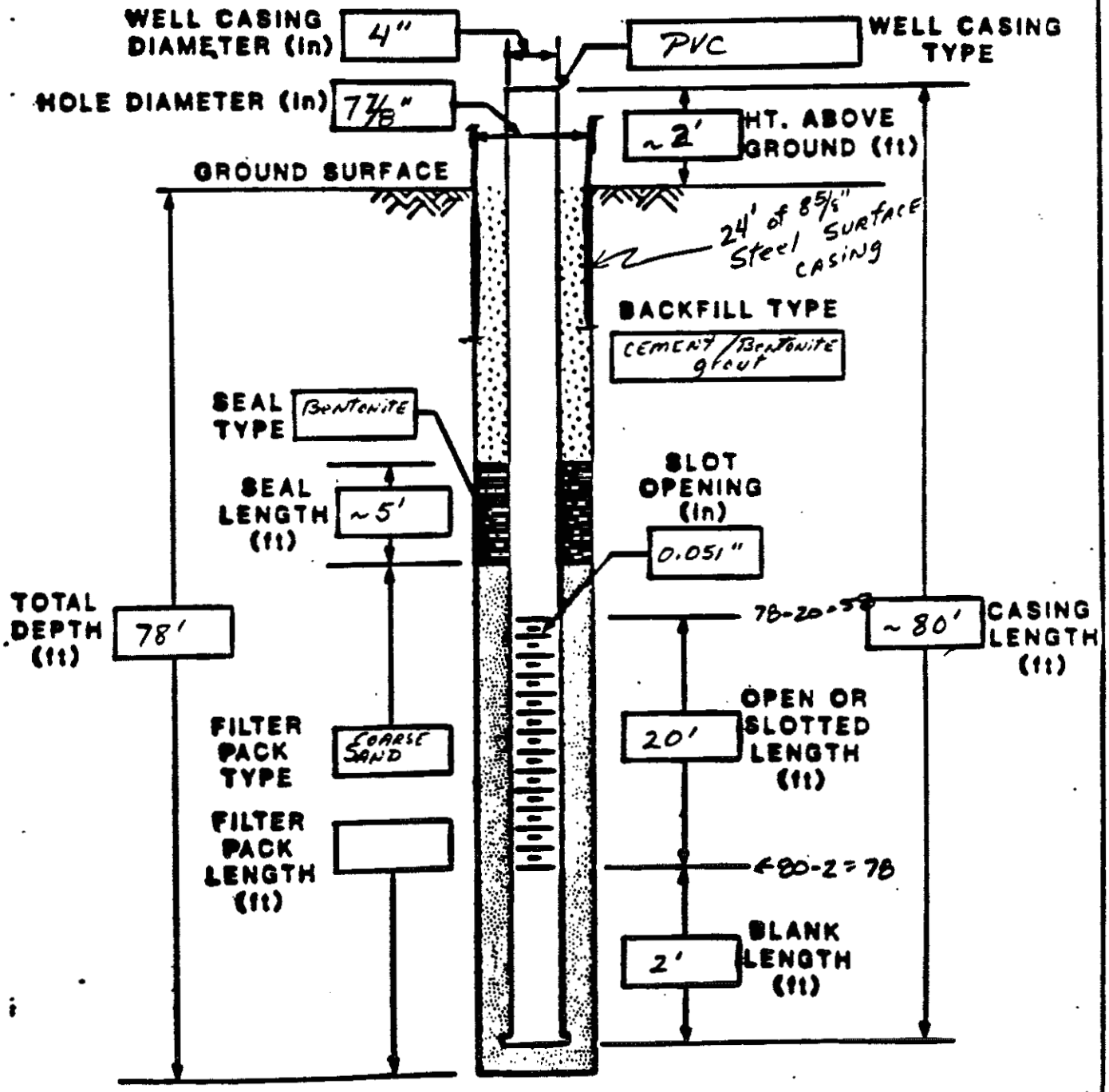
SITE ID: MON LOCATION ID: #653 DATE INSTALLED: 9.25.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND (Qd)

FIELD REP.: G. MILLER DRILLER: BOB BEEMAN



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

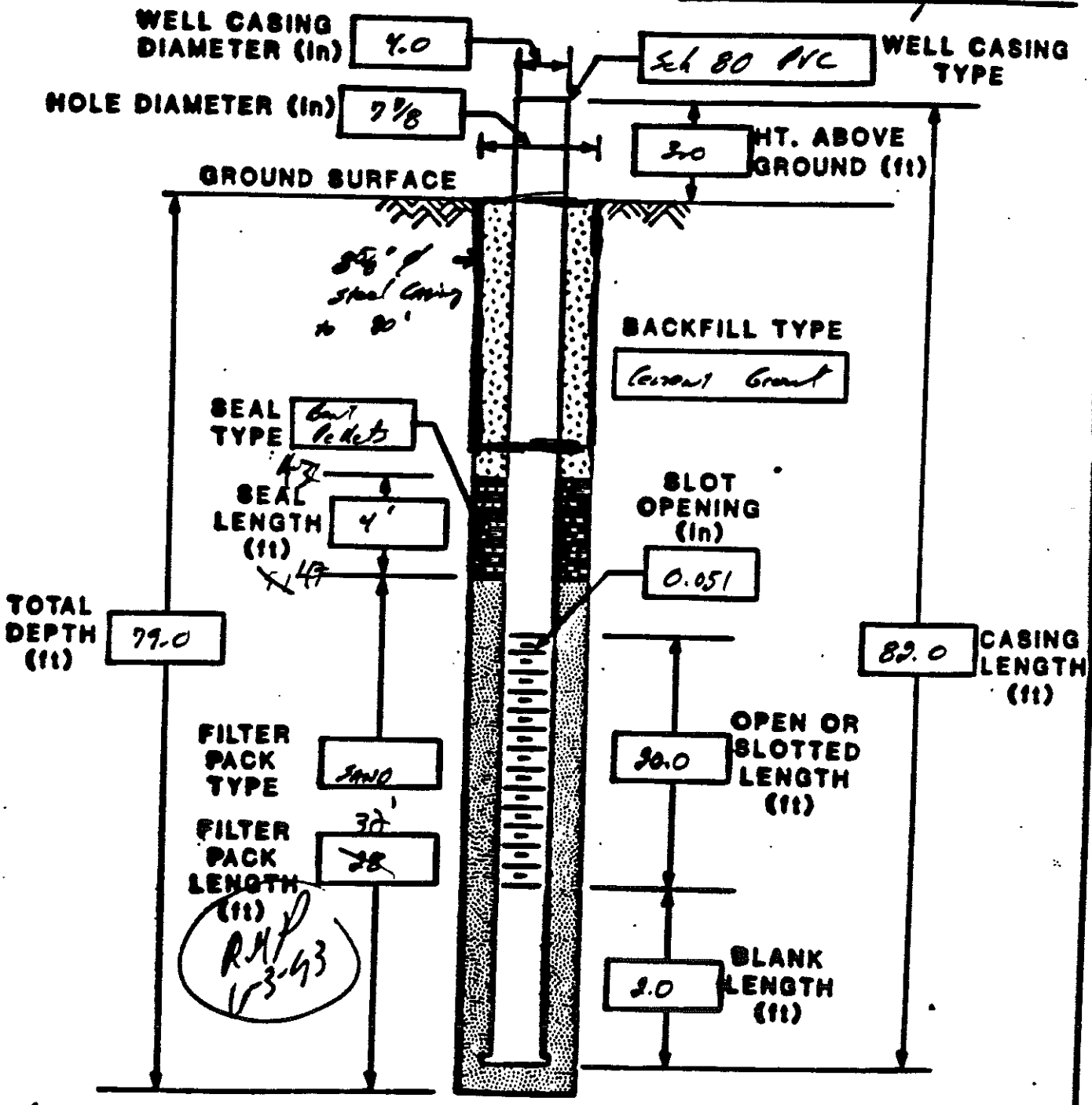
SITE ID: Mon. 01 LOCATION ID: 654 DATE INSTALLED: 9/27/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Alluvium

FIELD REP.: R. Corbett DRILLER: Cocran Drilling Co



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

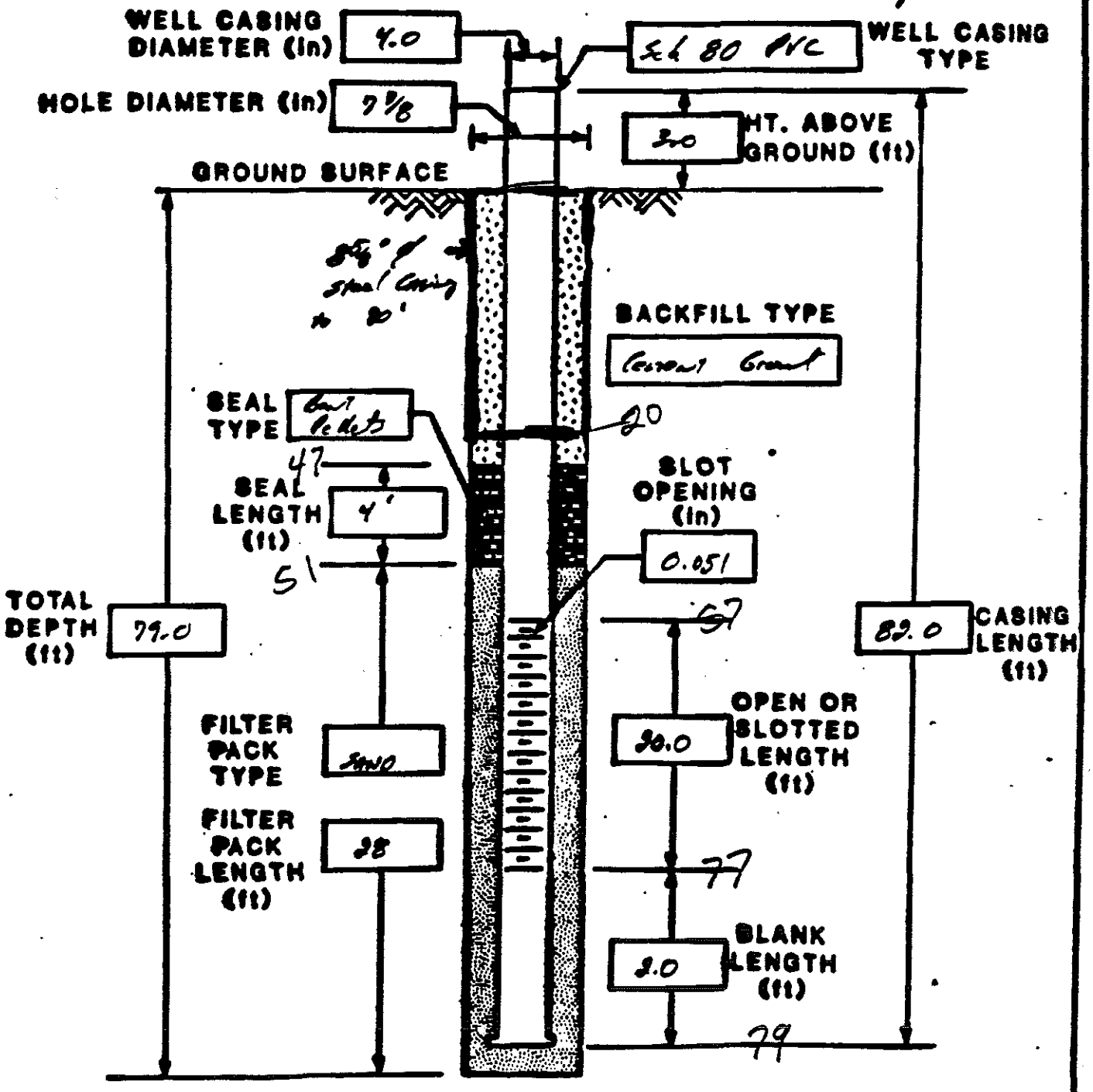
SITE ID: Mon. 01 LOCATION ID: 654 DATE INSTALLED: 7/27/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Alluvium

FIELD REP.: R. Corbett DRILLER: Beccion Drilling Co.



COMMENTS: _____

JEG-AL-ENG-9 (9/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Nov-01 LOCATION ID: 654 FIELD REP: R. Cockell

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 9/27/85

BOREHOLE SUMMARY

DRILLER: Beeman Drilling Co.

RIG TYPE: Gardner - Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
Tricone	7 7/8	77.0	Air

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
P	Black Steel	8 5/8	0.0
B	"	"	20.0
B	Sch 80 PVC	4.0	57.0
S	"	"	77.0
B	"	"	77.0

P-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	Cement Grout	43.0
S	Bent. Pellets	47.0
F	Silica Sand	77.0

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	9/27/85	1:30	2:15
CASING	9/27	3:40	3:45
FILTER PACK	9/27	4:00	5:00
SEAL	9/27	5:00	6:20
BACKFILL	9/27	5:30	6:00
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

JE 0-AL-ENG-1 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

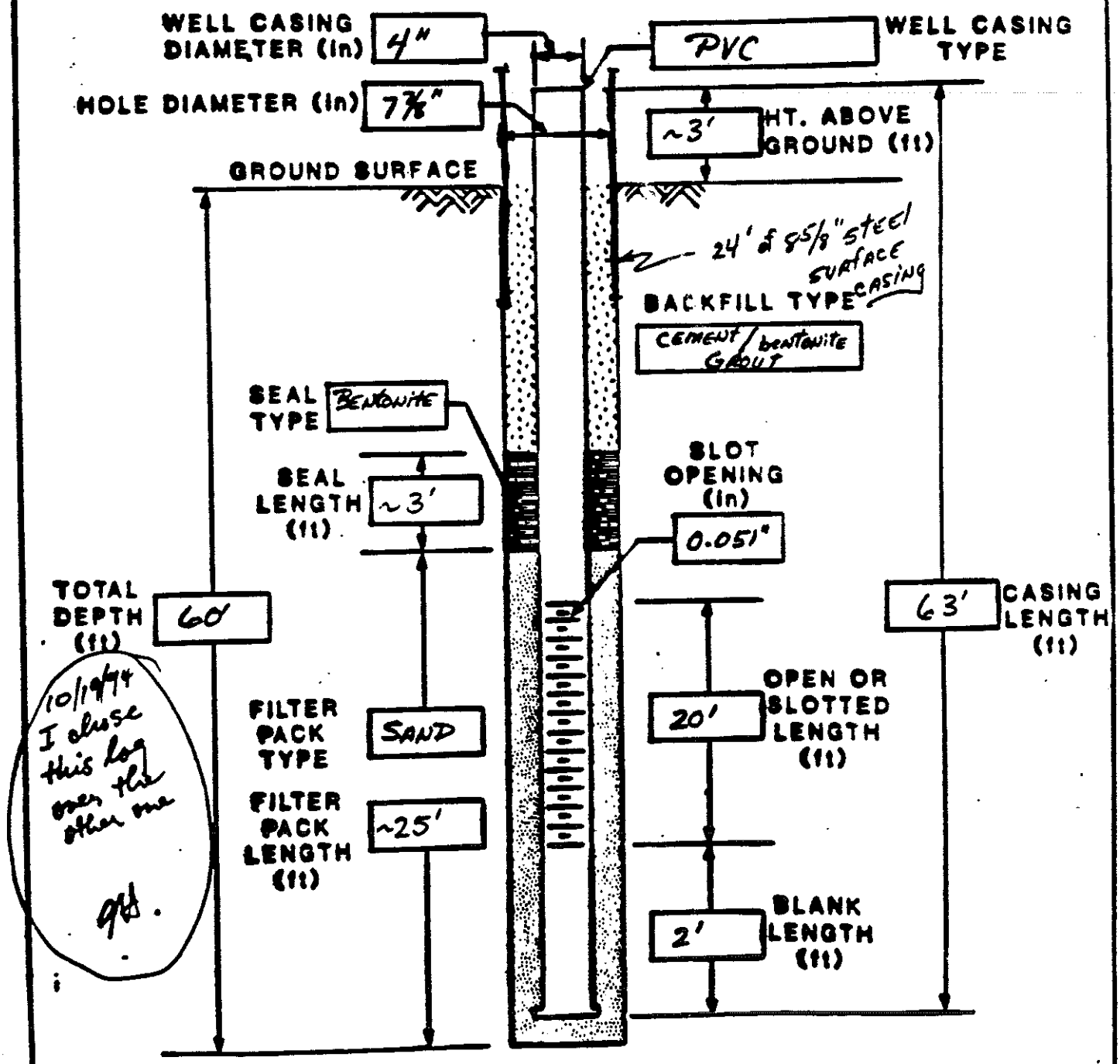
SITE ID: MON LOCATION ID: # 655 DATE INSTALLED: 9.12.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND

FIELD REP.: G. Miller DRILLER: B. BEEMAN



10/19/94 I close this log over the other one gd.

COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

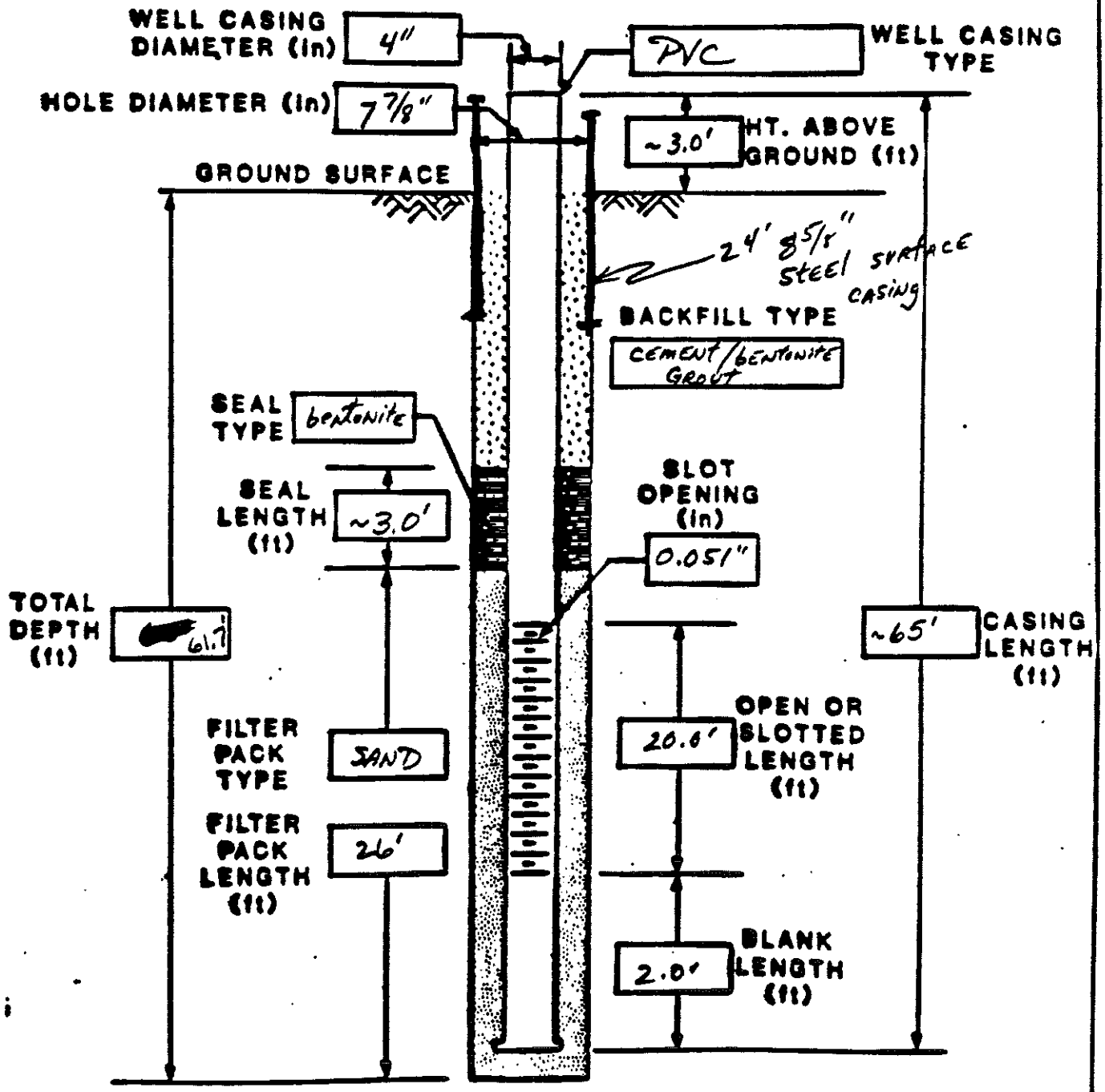
SITE ID: MON LOCATION ID: #655 DATE INSTALLED: 9.12.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND

FIELD REP.: G. Miller DRILLER: B. BEEMAN



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

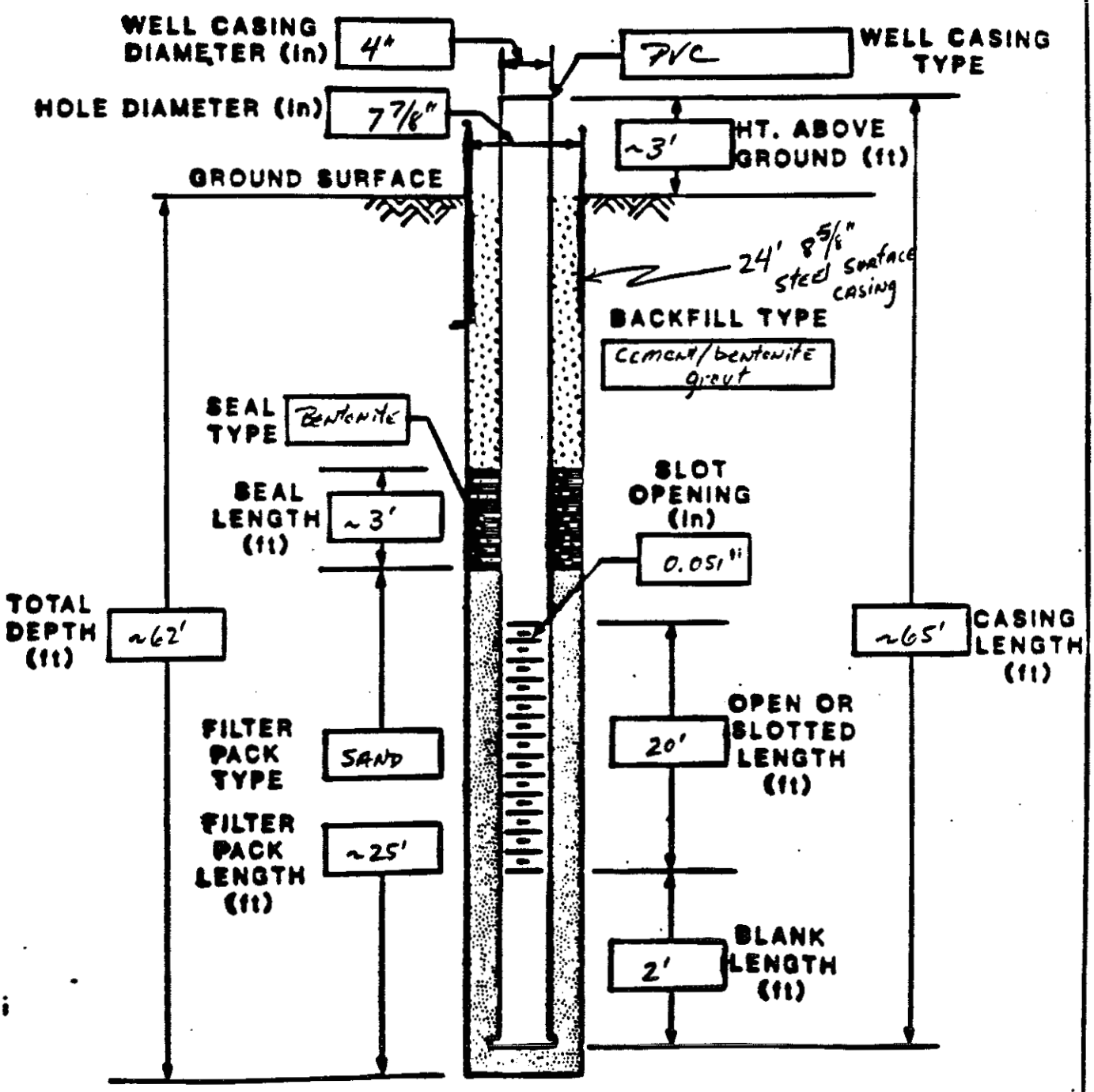
SITE ID: MON LOCATION ID: #656 DATE INSTALLED: 9.12.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND

FIELD REP.: G. Miller DRILLER: Bob Beeman



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

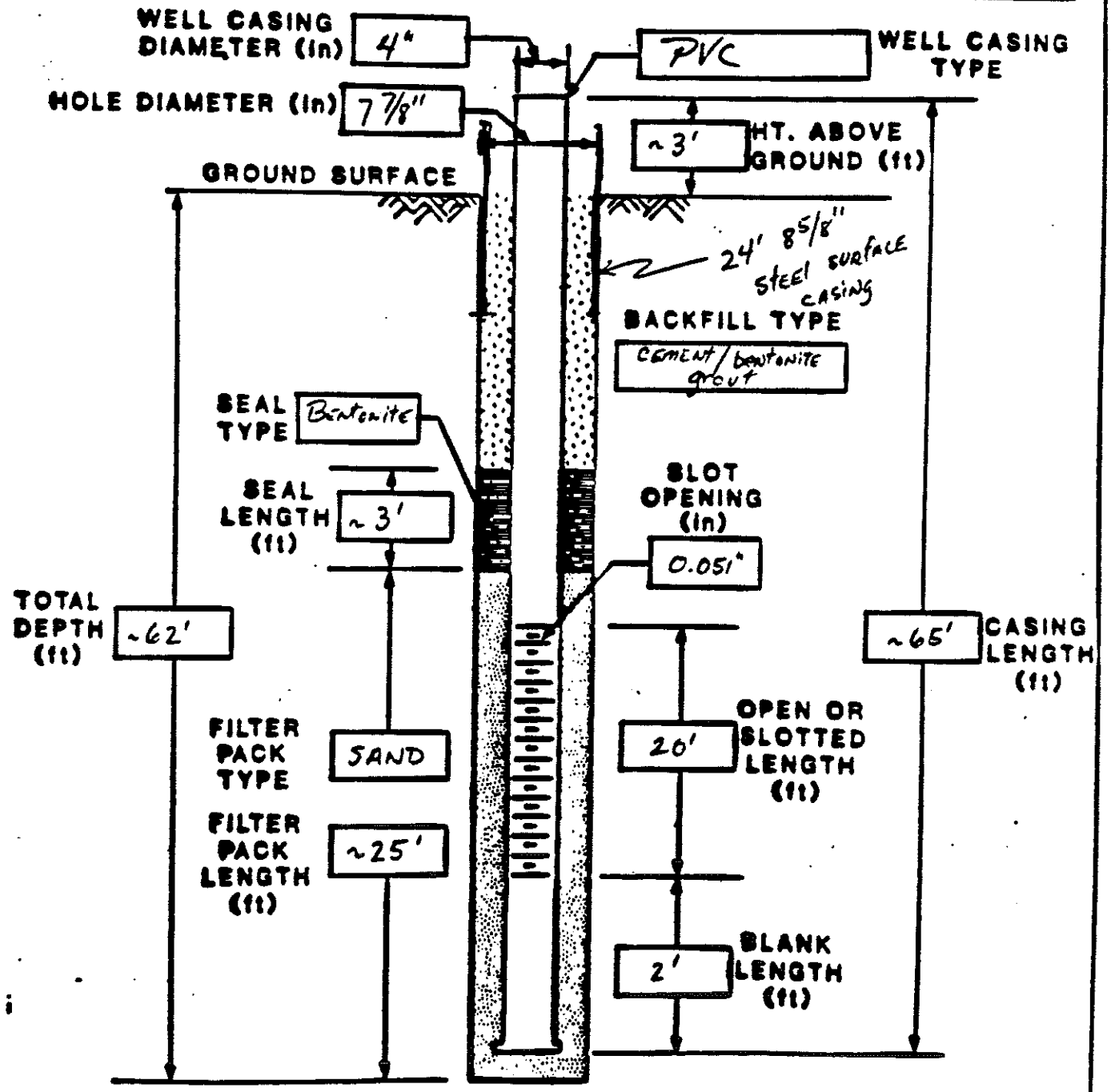
SITE ID: MON LOCATION ID: #656 DATE INSTALLED: 9.12.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND

FIELD REP.: G. MILLER DRILLER: Bob Beeman



COMMENTS: _____

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

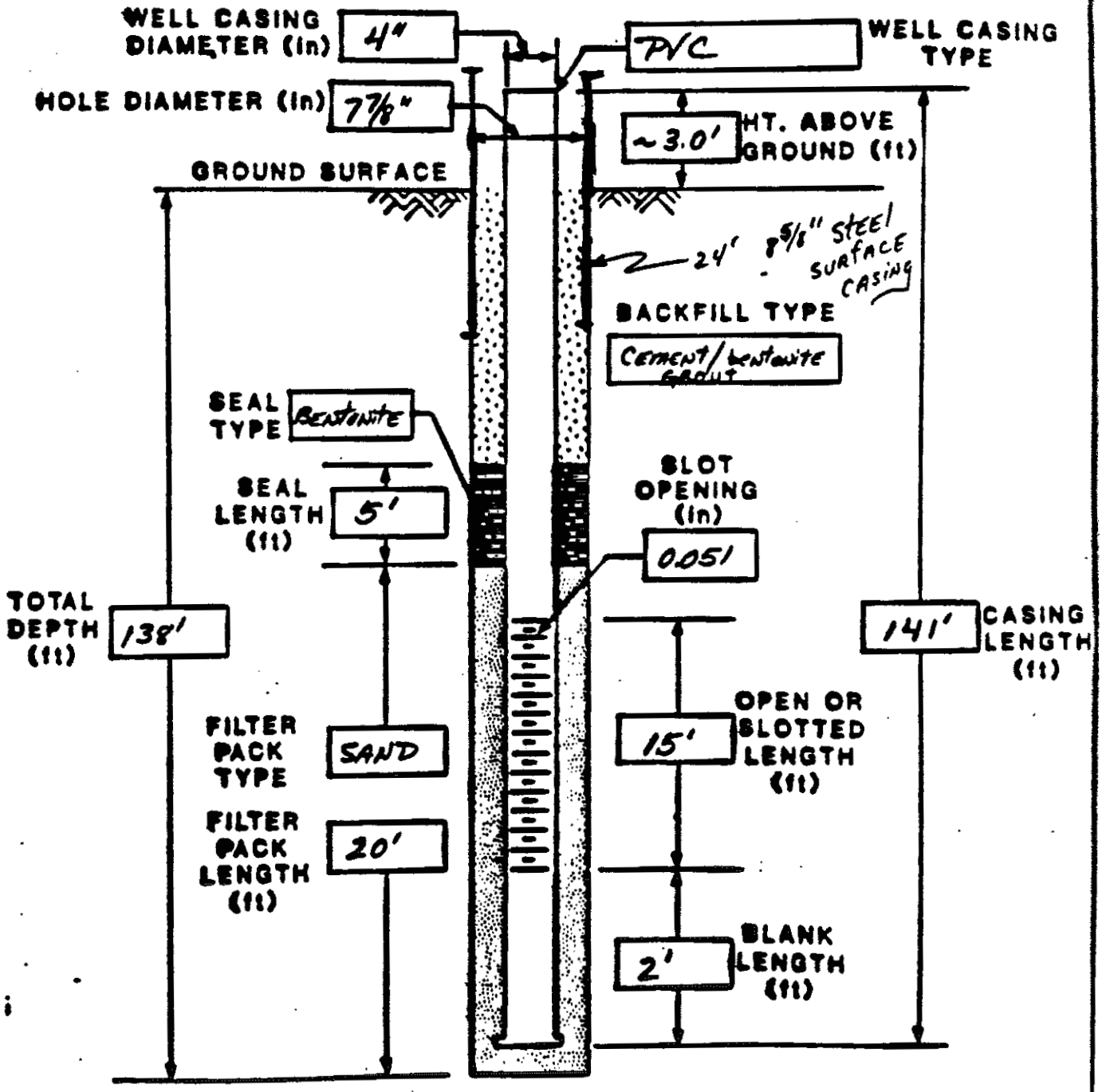
SITE ID: MON LOCATION ID: #657 DATE INSTALLED: 9.5.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly Ss Mbr. of Cutler Fm.

FIELD REP.: G. Miller DRILLER: B. Beeman



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

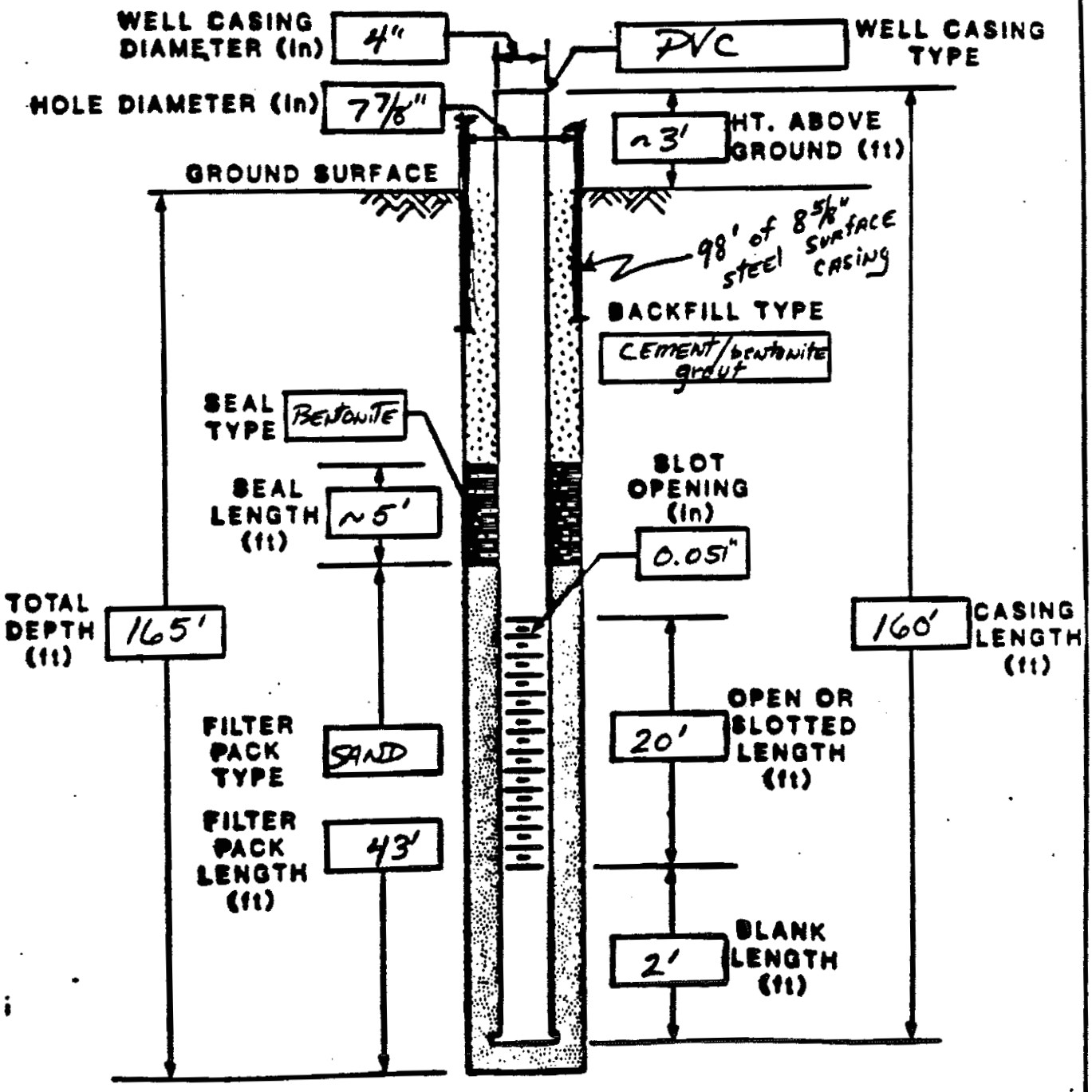
SITE ID: MON LOCATION ID: #658 DATE INSTALLED: 9.26.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Ss. Mbr. of Chinle Fm.

FIELD REP.: G. Miller DRILLER: Bob Beeman (MOAB)



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

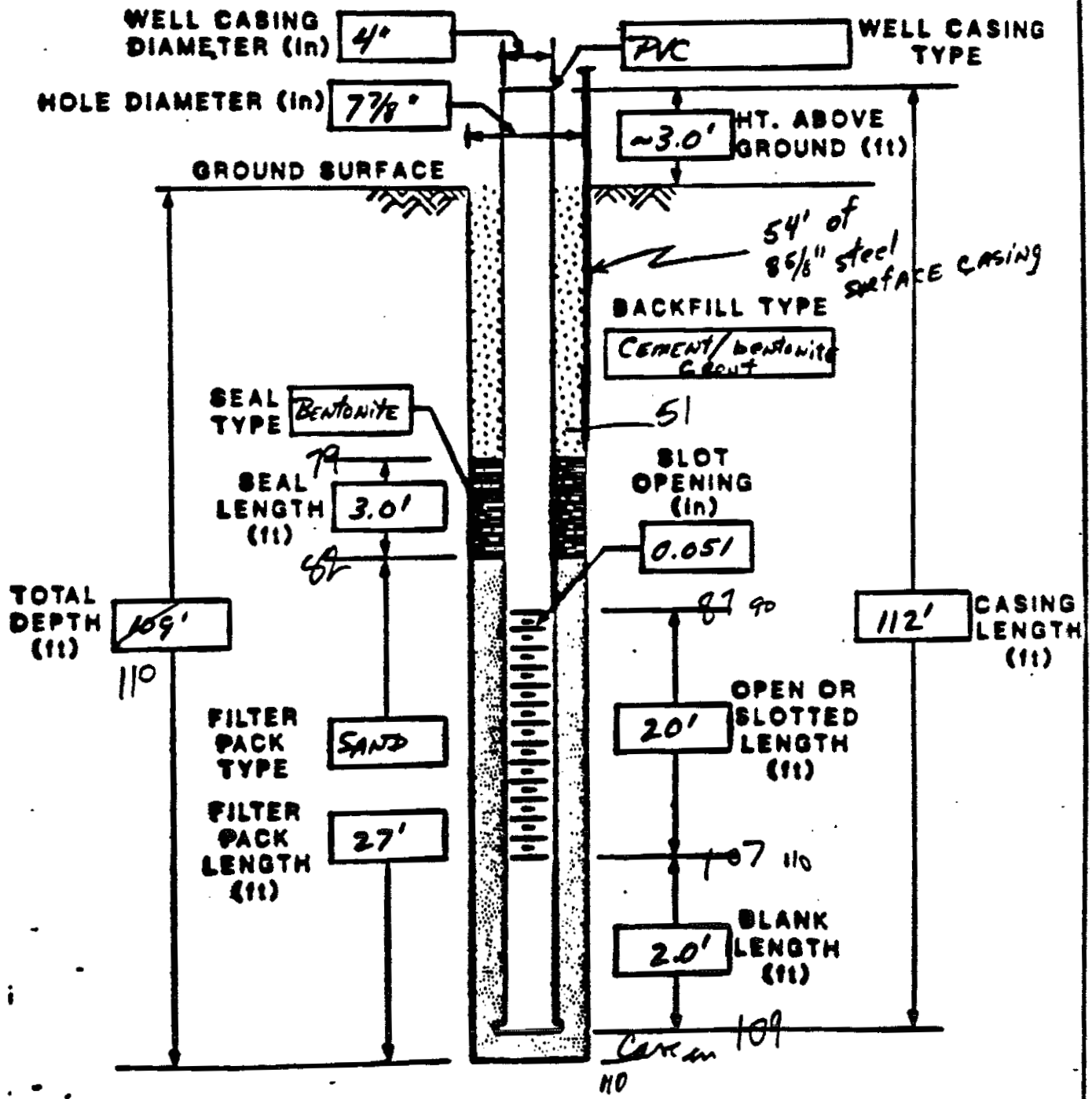
SITE ID: MON LOCATION ID: #659 DATE INSTALLED: 9.11.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Mbr. of Chinle Fm.

FIELD REP.: G. Miller DRILLER: B. Beeman



COMMENTS: _____

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

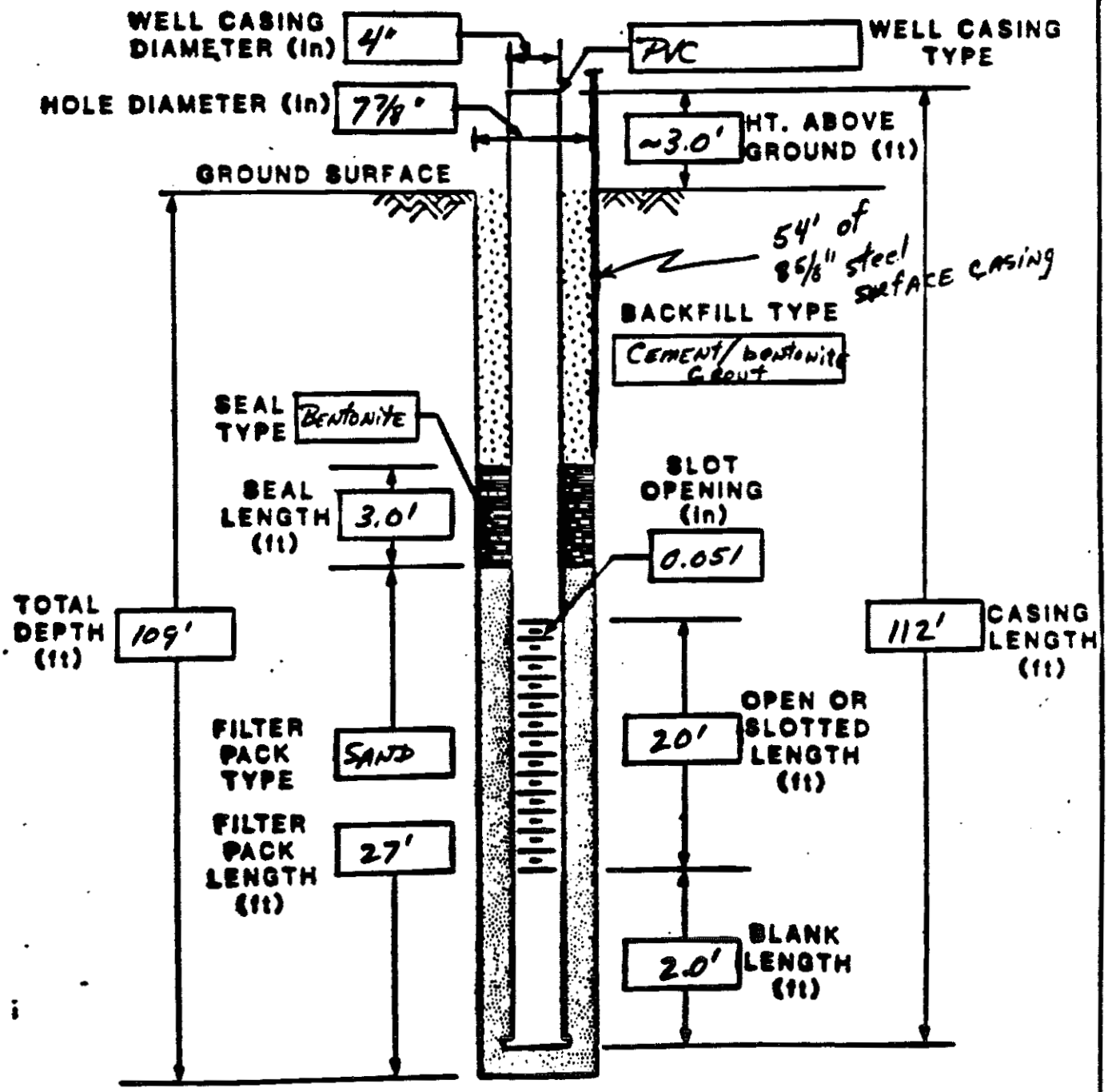
SITE ID: MON LOCATION ID: #659 DATE INSTALLED: 9.11.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Mbr. of Chinle Fm.

FIELD REP.: G. Miller DRILLER: B. BEEMAN



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

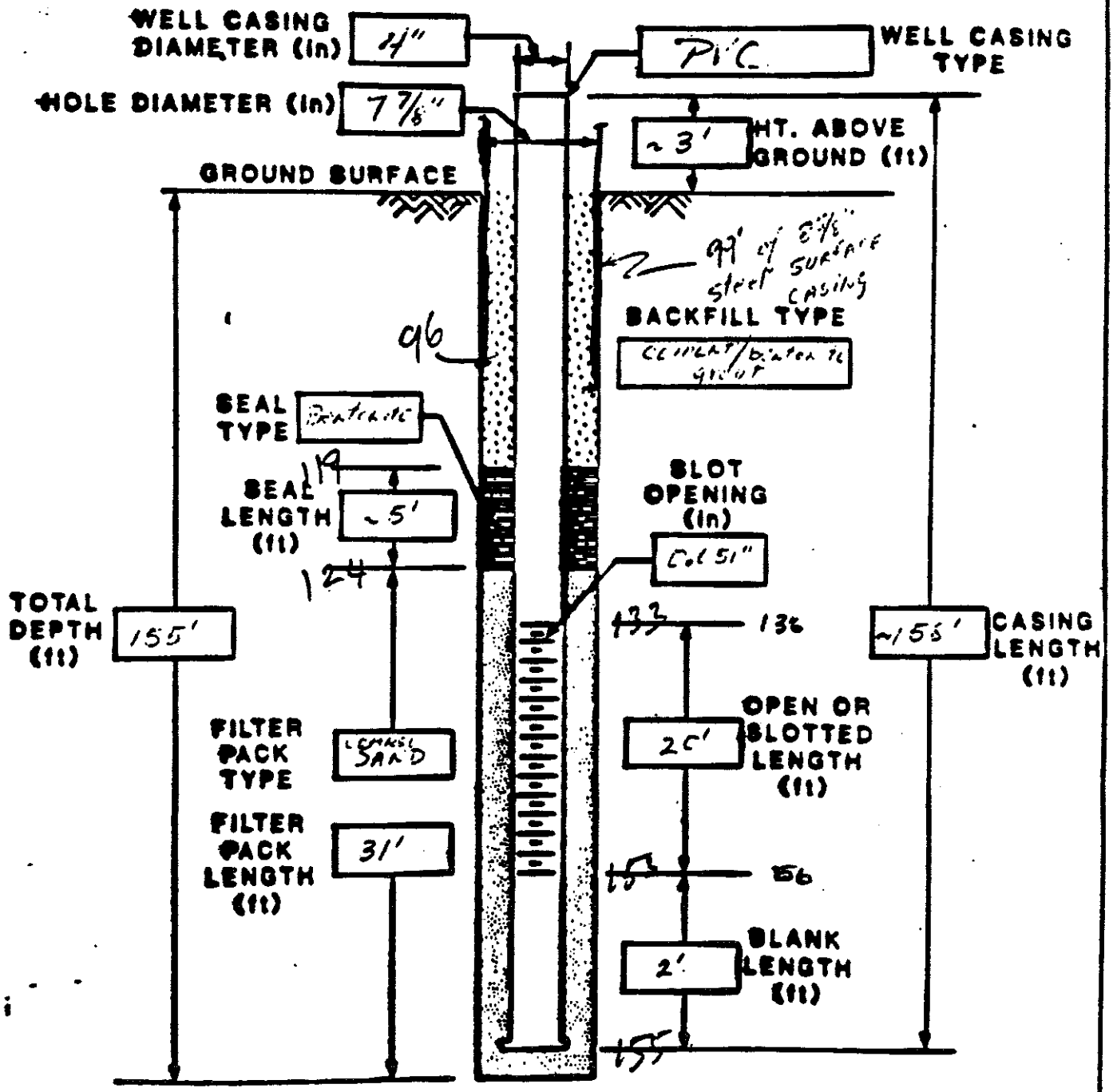
SITE ID: MON LOCATION ID: #660 DATE INSTALLED: 9 24 85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Slimkaump Ss. Mbr. of Chinle Fm

FIELD REP.: G. Miller DRILLER: Bob Bowman



COMMENTS: _____

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

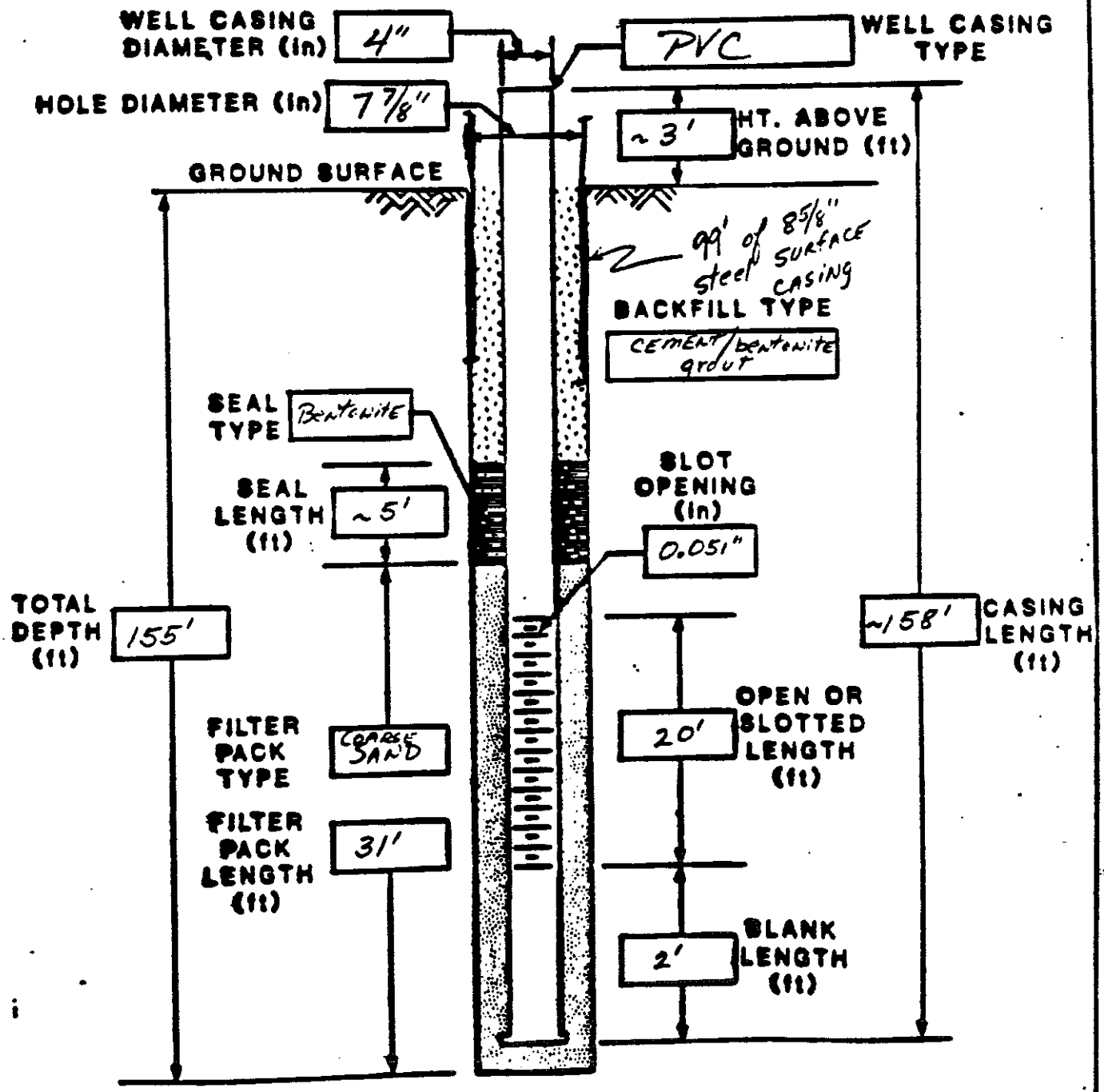
SITE ID: MON LOCATION ID: #660 DATE INSTALLED: 9.24.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Shinarump Ss. Mbr. of Chinle Fm

FIELD REP.: G. Miller DRILLER: Bob Beeman



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

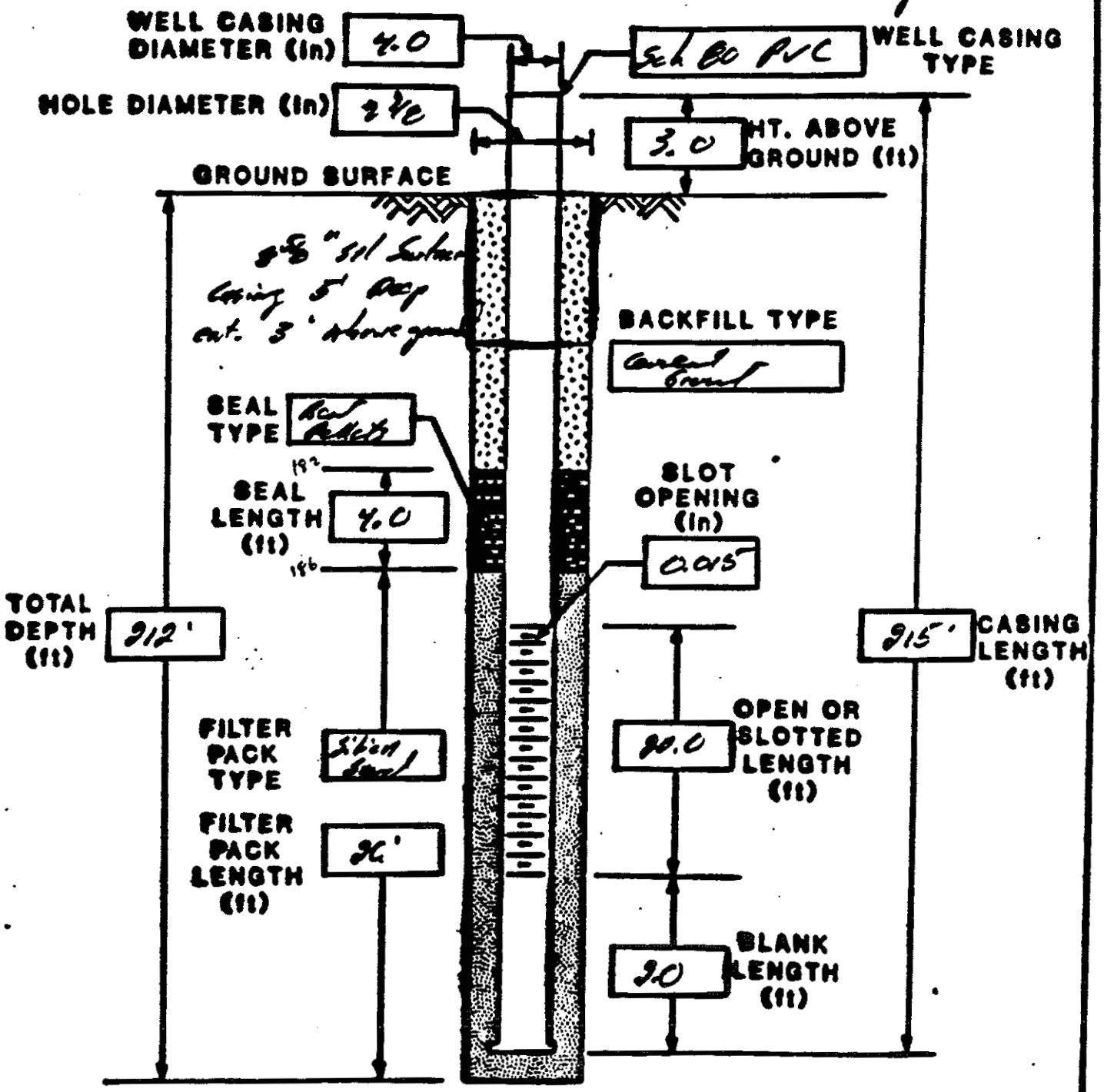
SITE ID: Rev-01 LOCATION ID: 661 DATE INSTALLED: 11/2/86

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Rio Chelly Sandstone

FIELD REP.: R. Cornell DRILLER: Beaver Drilling Co.



COMMENTS: _____

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

This hole was abandoned see 661R for correct well completion

WELL COMPLETION RECORD

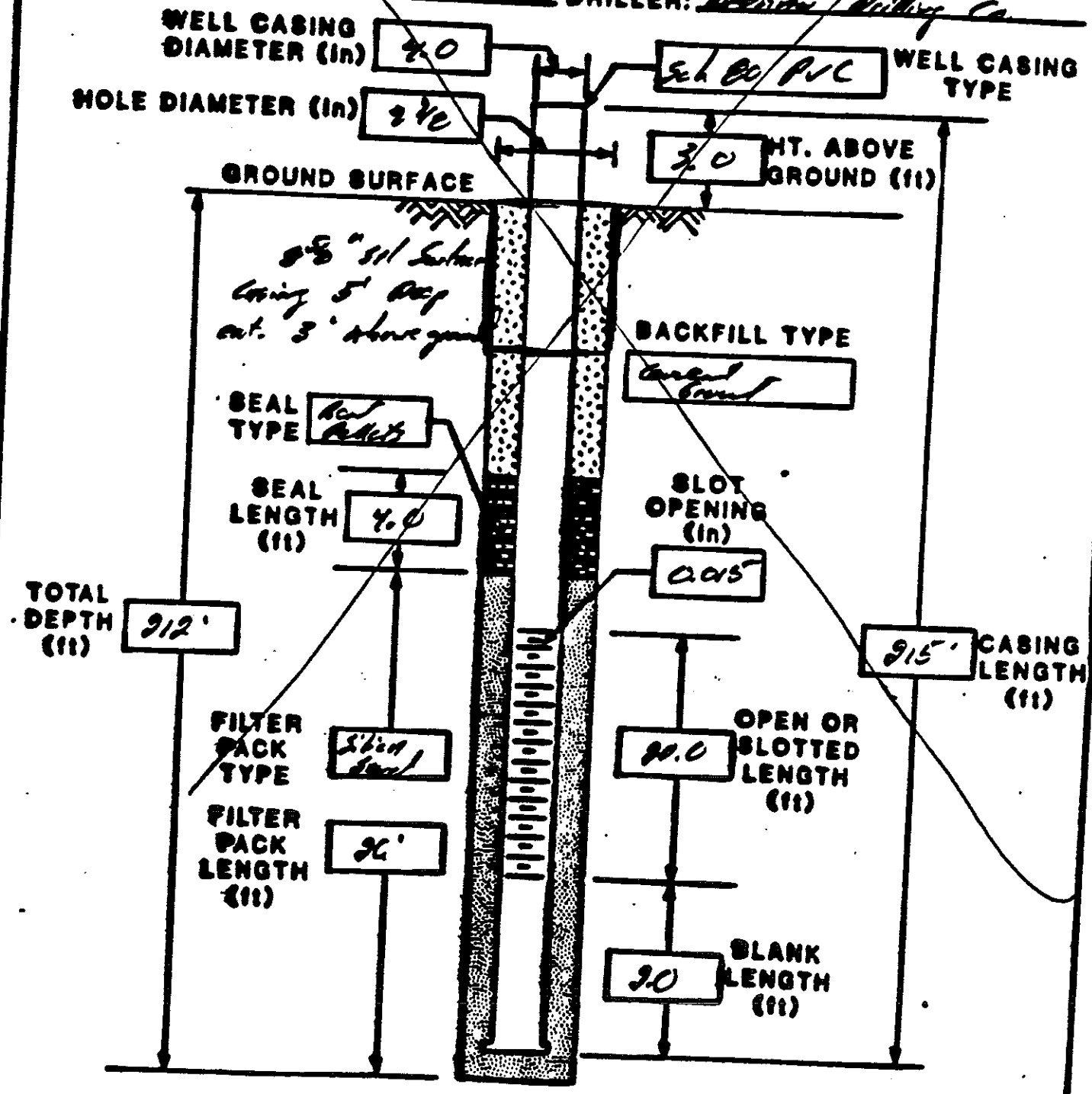
SITE ID: Rev-01 LOCATION ID: 661 DATE INSTALLED: 4/2/85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: Bedded sandstone

FIELD REP.: [illegible] DRILLER: [illegible] Drilling Co.



COMMENTS: _____

REG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

#661R

WELL COMPLETION RECORD

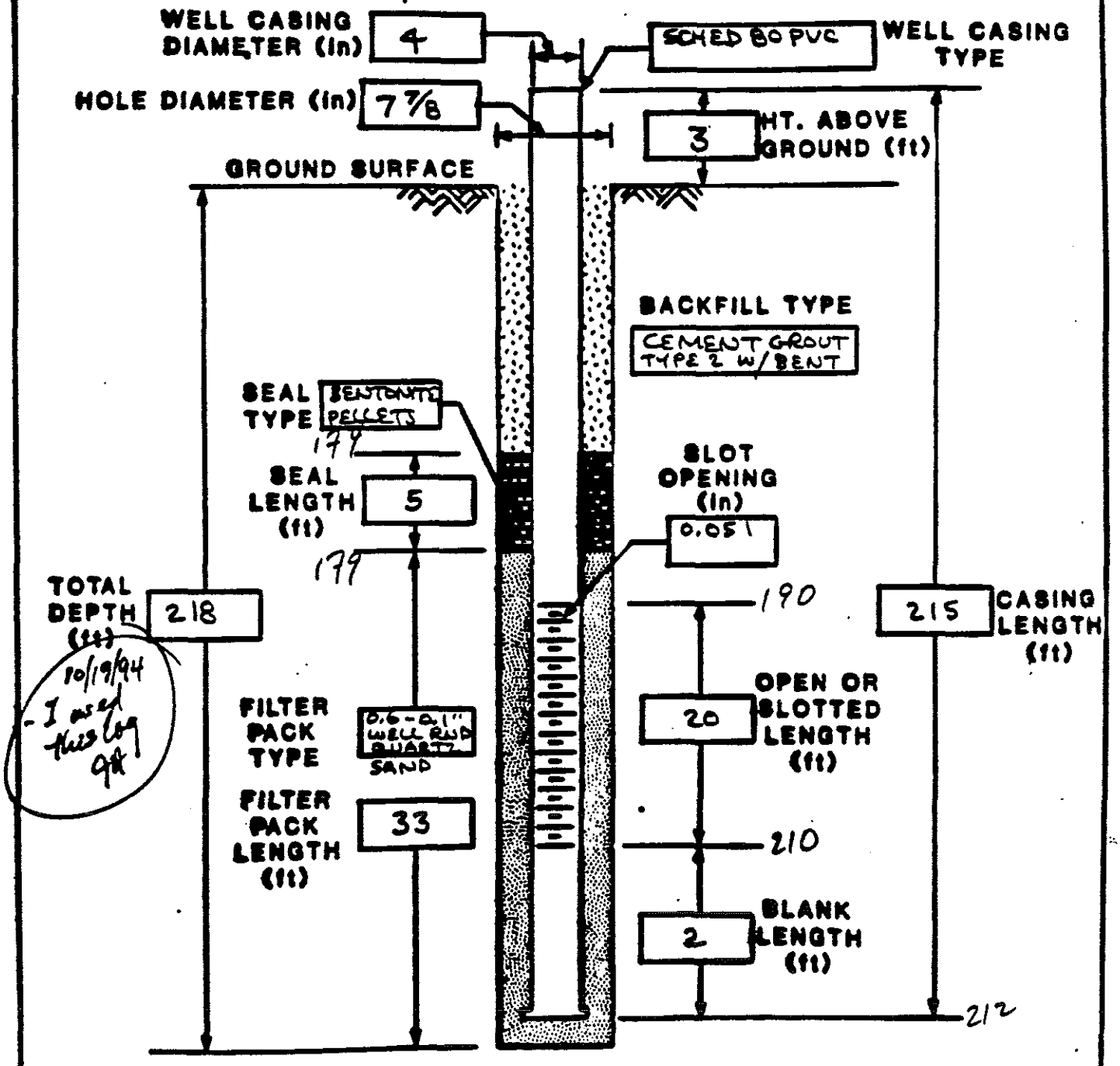
SITE ID: MON.01 LOCATION ID: HOLE# 661R DATE INSTALLED: 10-6-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. (IN^2/FT.) _____

FORMATION OF COMPLETION: De CHELLY FORMATION, SANDSTONE

FIELD REP.: K. DONNELSON / SH&B GEOL DRILLER: BOB BEEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 3', SHINARUMP FM. 0-23', MOENKOPI FM, 23-39', De CHELLY FM 39-218'.

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

#661R

WELL COMPLETION RECORD

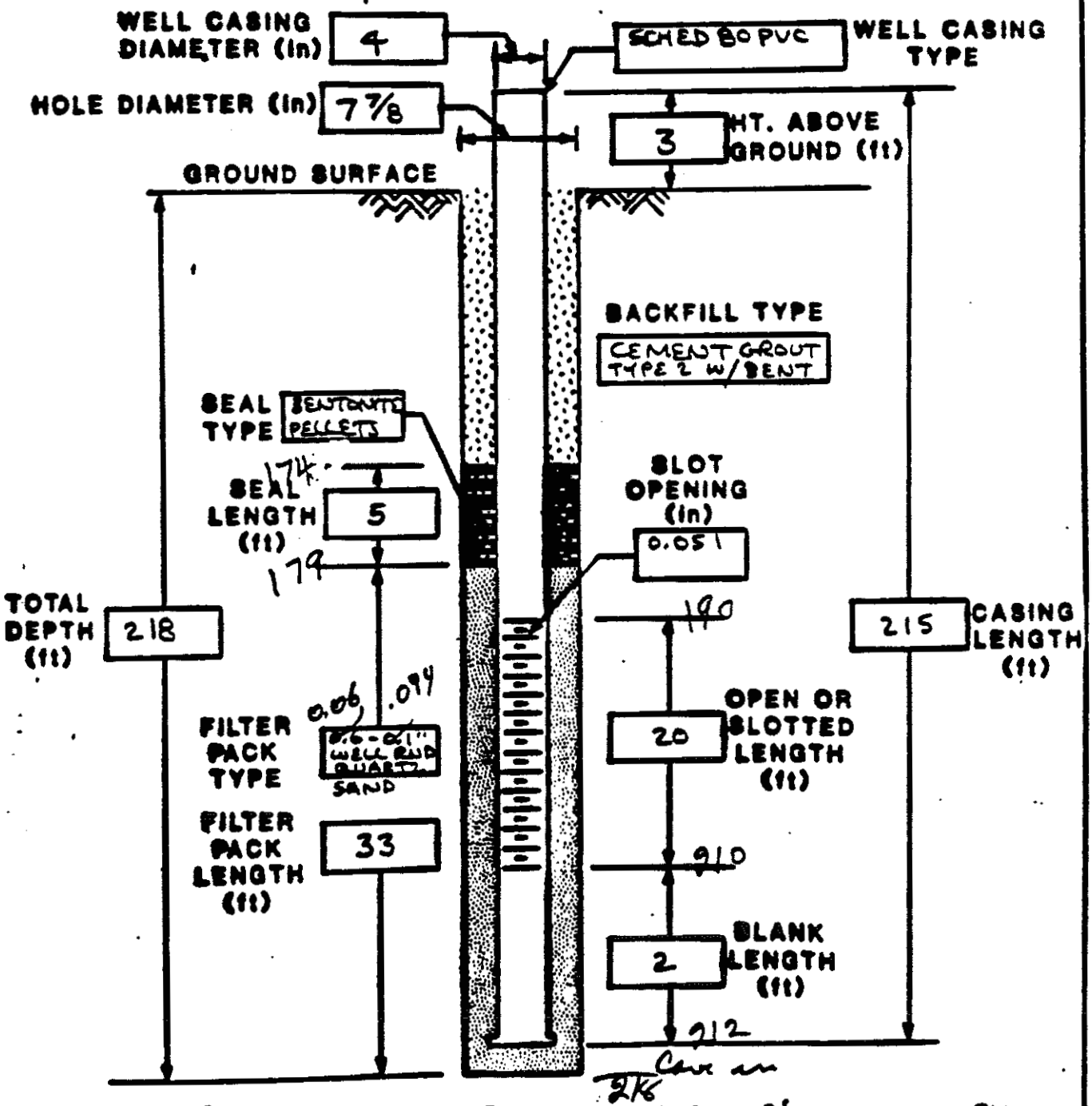
SITE ID: MON.01 LOCATION ID: HOLE# 661R DATE INSTALLED: 10-6-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: De CHELLY FORMATION, SANDSTONE

FIELD REP.: K. DONNELSON / SH&B GEOL DRILLER: BOB BEEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 3', SHINARUMP FM. 0-23', MOENKOPI FM, 23-39', De CHELLY FM 39-218'.

JEG-AL-ENG-3 (8/84)

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Hw-21 LOCATION ID: 661 FIELD REP: R. Gaskell

APPROX. SITE COORDINATES (FT.): N _____ E _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10/9/85

BOREHOLE SUMMARY

DRILLER: Beeson Drilling Co

RIG TYPE: Gardner Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
Tricone	9 7/8"	222	Air
Tricone	5"	222	Air

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
R	8 5/8" Stl	8 5/8	5.0
B	Sch 80 PVC	4	190
S	"	"	210
B	"	"	212

P-Protective S-Screen B-Blank O-Open St-Stone

Depth from Top of Casing

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	Coarse Gravel	181
S	Bent Pellets	186
F	Silica Sand	212

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10/1/85	2:00	6:30
	10/9/85	7:30	10:30
CASING	10/9/85	2:00	3:00
FILTER PACK	10/9/85	3:00	5:00
SEAL	10/9/85	5:00	5:45
BACKFILL	10/9/85	5:45	7:45
DEVELOPMENT			
OTHER			

WELL DEVELOPMENT

COMMENTS: _____

(G-AL-ENS-1 (9/84)

ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

BOREHOLE/WELL CONSTRUCTION LOG

SITE ID: Nav-21 LOCATION ID: 661 (Revised for 661-R) FIELD REP: R. Cockell

APPROX. SITE COORDINATES (FT.): N. _____ E. _____

GROUND ELEVATION (FT. MSL): _____ COMPLETION DATE: 10/9/85

BOREHOLE SUMMARY

DRILLER: Boeckx Drilling Co

RIG TYPE: Gardner Denver

BIT TYPE	HOLE DIA. (in.)	END DEPTH (ft.)	FLUID TYPE
Fixcore	9 7/8"	218	Air
Fixcore	5"	218	Air

CASING SUMMARY

CASING TYPE	DESCRIPTION	DIA. (in.)	END DEPTH (ft.)
B	8 5/8" Stl	8 5/8	5.0
B	Sch 80 PVC	4	190
S	"	"	210
B	"	"	212

B-Protective S-Screen B-Blank O-Open N-None

Depth from Top of Casing

CONSTRUCTION TIME LOG

ACTIVITY	START DATE	START TIME	END TIME
DRILLING	10/5/85	8:00	6:30
	10/7/85	7:30	10:30
CASING	10/9/85	2:00	3:00
FILTER PACK	10/9/85	5:00	5:20
SEAL	10/9/85	5:20	5:45
BACKFILL	10/6/85	5:45	7:45
DEVELOPMENT			
OTHER			

WELL CONSTRUCTION

TYPE CODE	DESCRIPTION	END DEPTH (ft.)
B	Coarse Gravel 174	181
S	Bent Pellets 179	186
F	Silica Sand 212	212
	Cave-in	218

B - Backfill S - Seal F - Filter Pack

Depth from Ground Surface

WELL DEVELOPMENT

Hole 661-R drilled to 218 ft. 10-5 to 10-6
This well Plugged with grout after Completion
See Revised for new well

COMMENTS: _____

SEB-AL-ENS-1 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

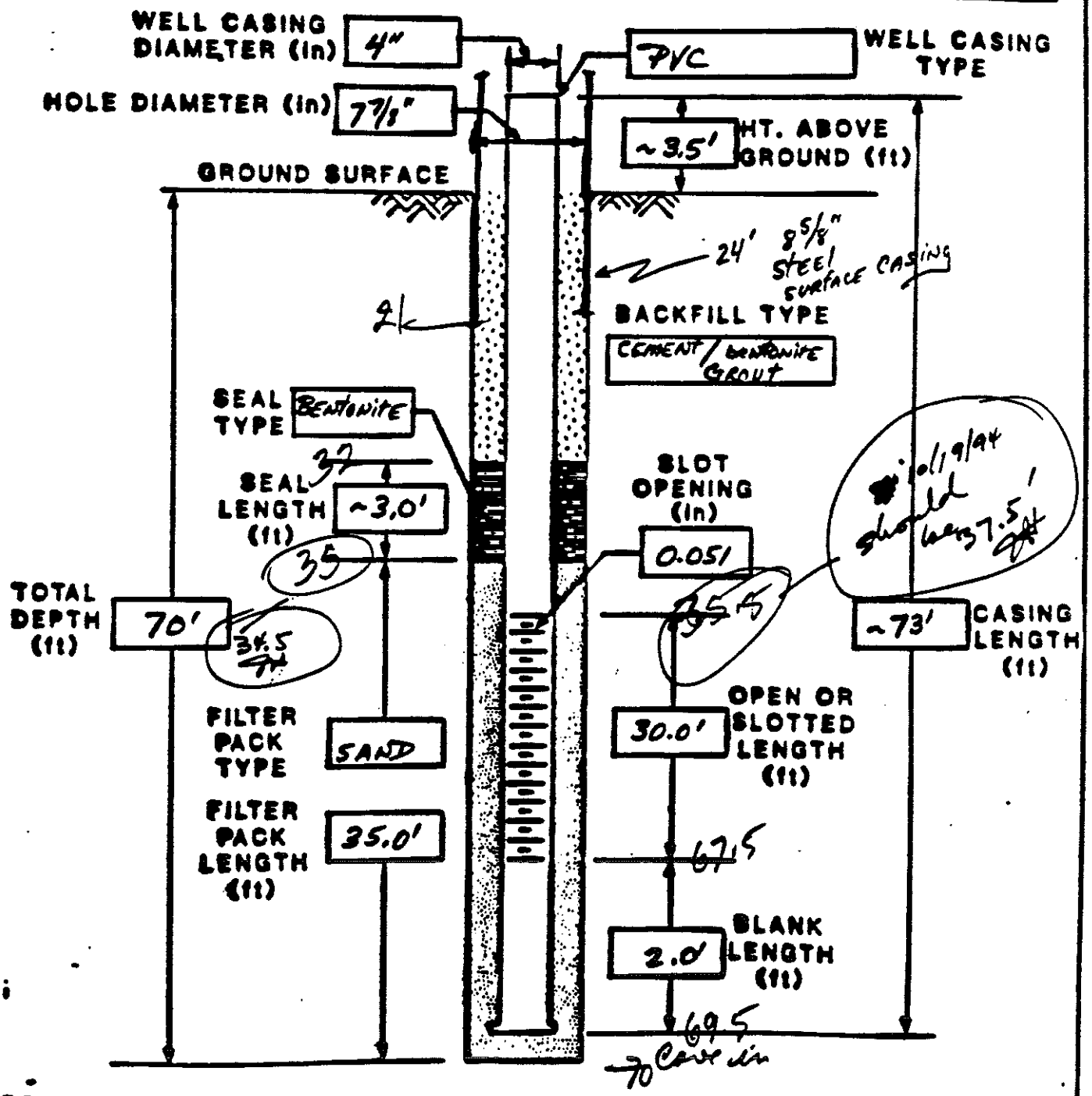
SITE ID: MON LOCATION ID: #662 DATE INSTALLED: 9.5.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND.

FIELD REP.: G. Miller DRILLER: B. BEEMAN



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

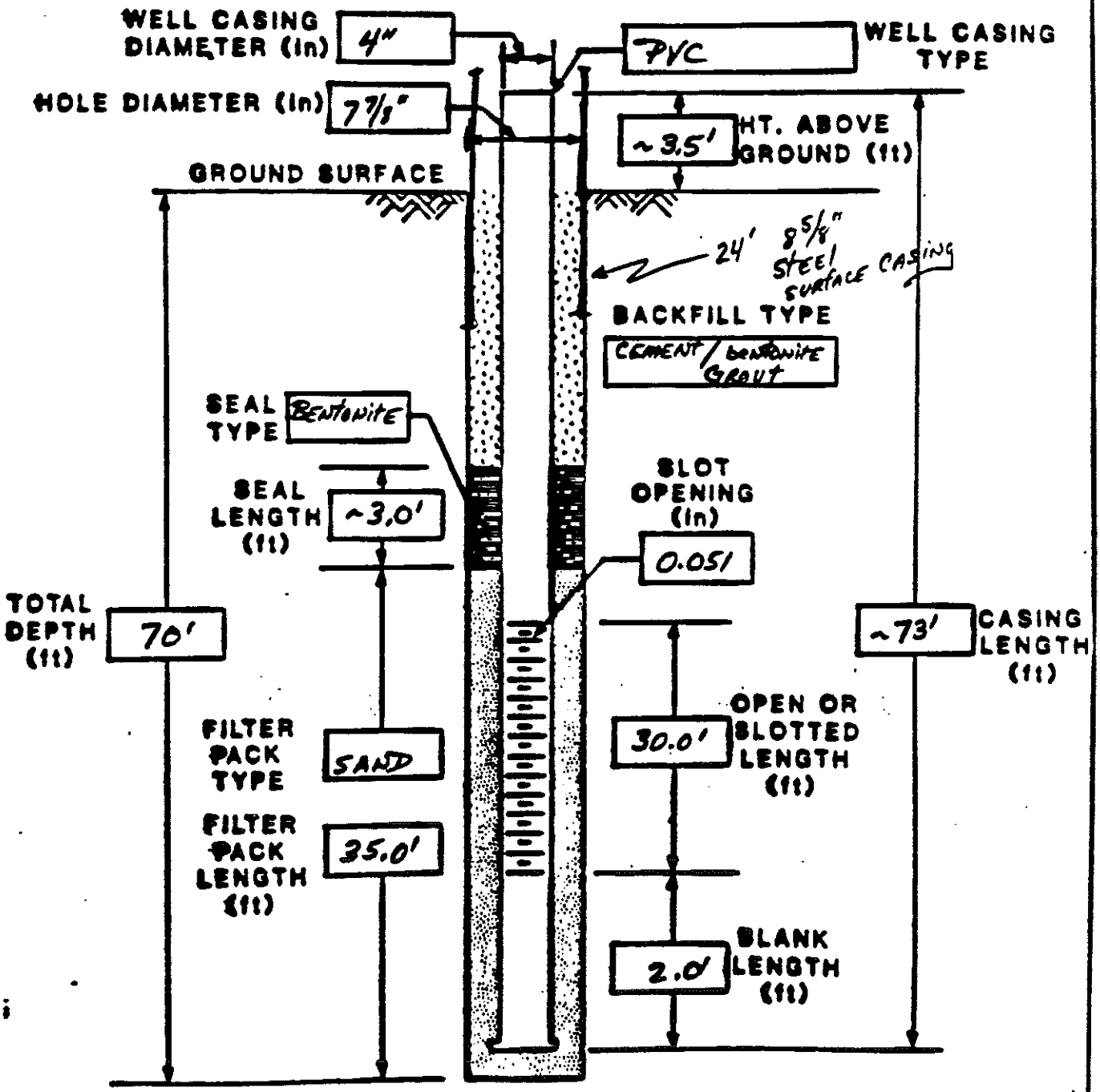
SITE ID: MON LOCATION ID: #662 DATE INSTALLED: 9.5.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: QUATERNARY DUNE SAND.

FIELD REP.: G. Miller DRILLER: B. BEEMAN



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

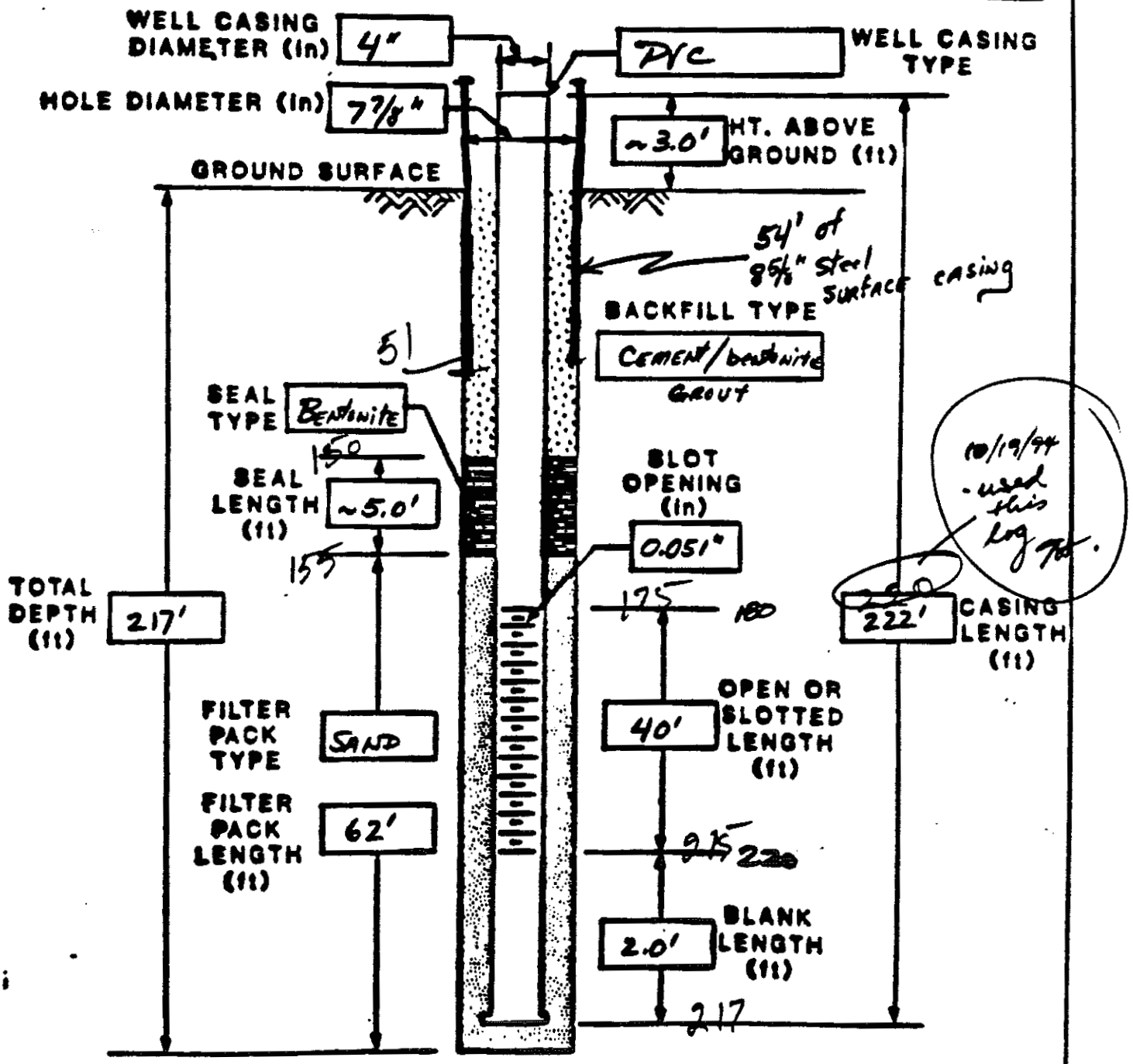
SITE ID: MON LOCATION ID: #663 DATE INSTALLED: 9.10.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly Ss. Mbr. of Cutler Fm.

FIELD REP.: G. Miller DRILLER: B. Beeman



COMMENTS: _____

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

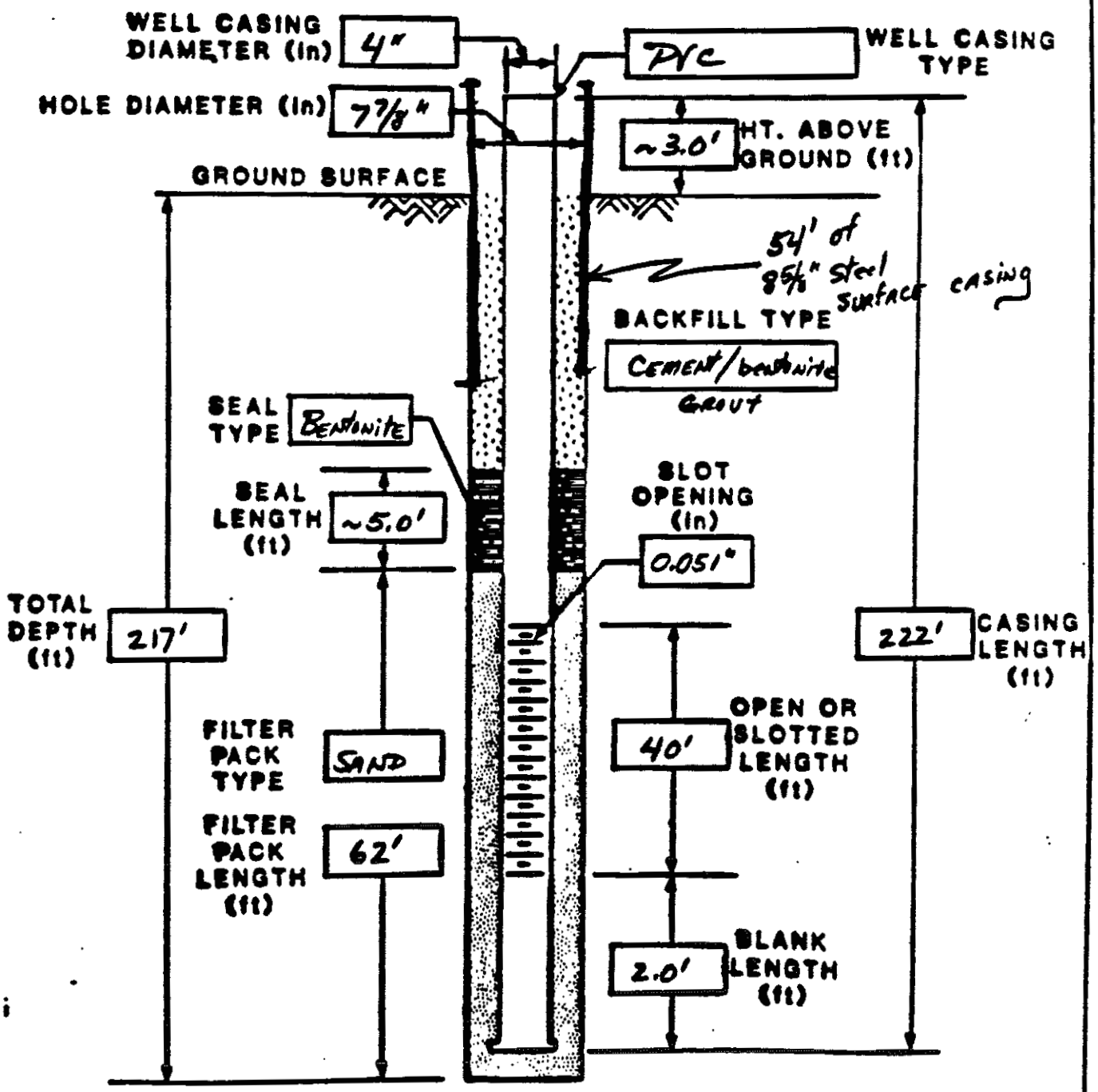
SITE ID: MON LOCATION ID: #663 DATE INSTALLED: 9.10.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly Ss. Mbr. of Cutler Fm.

FIELD REP.: G. Miller DRILLER: B. Beeman



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

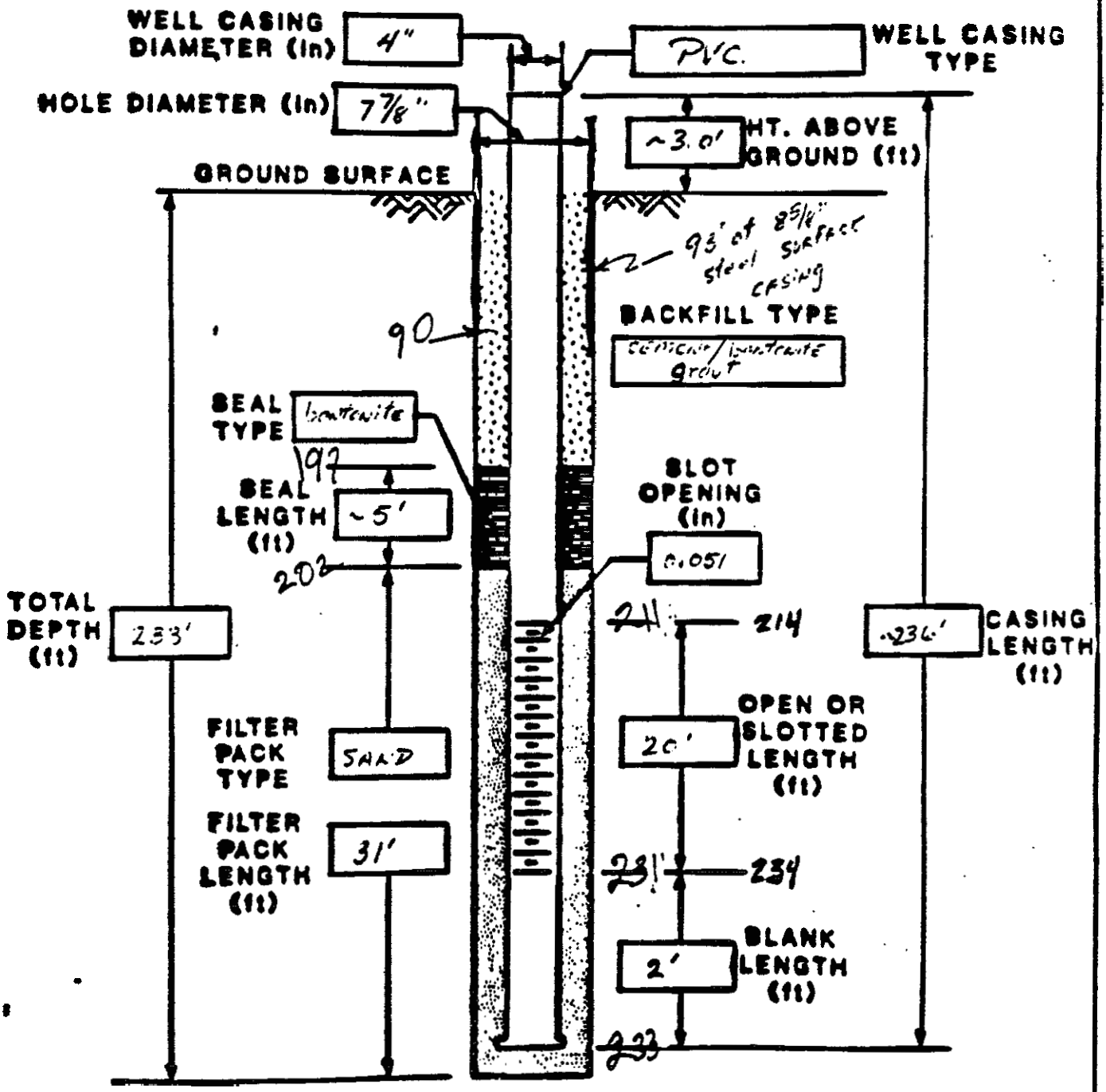
SITE ID: MCN LOCATION ID: #664 DATE INSTALLED: 9.19 85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly Ss. Mbr. of Cutler Fm.

FIELD REP.: G Miller DRILLER: Bob Berman



COMMENTS: _____

JEG-AL-ENG-3 (3/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

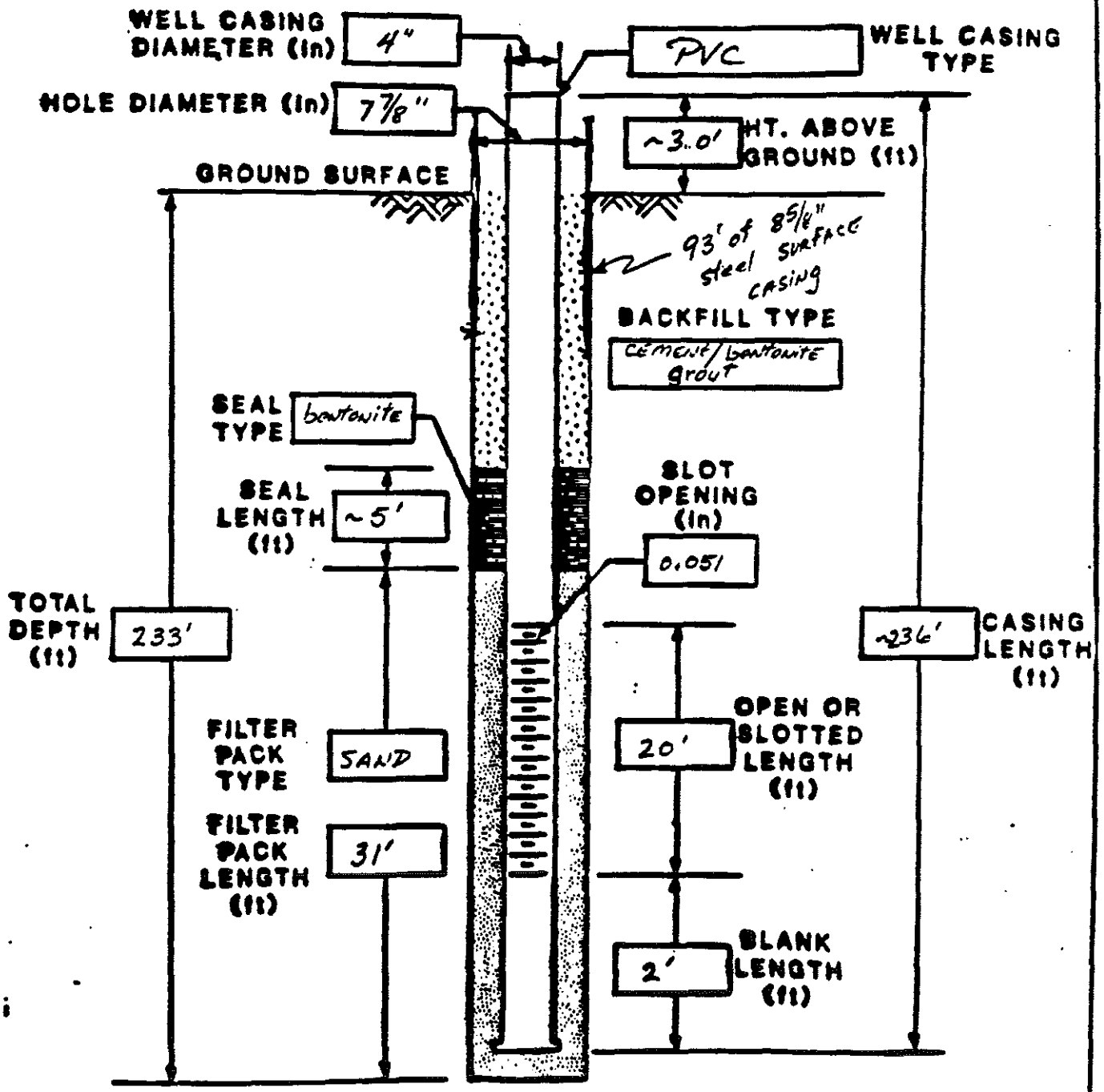
SITE ID: MON LOCATION ID: #664 DATE INSTALLED: 9.19.85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: DeChelly Ss. Mbr. of Cutler Fm.

FIELD REP.: G. Miller DRILLER: Bob Beeman



COMMENTS: _____

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

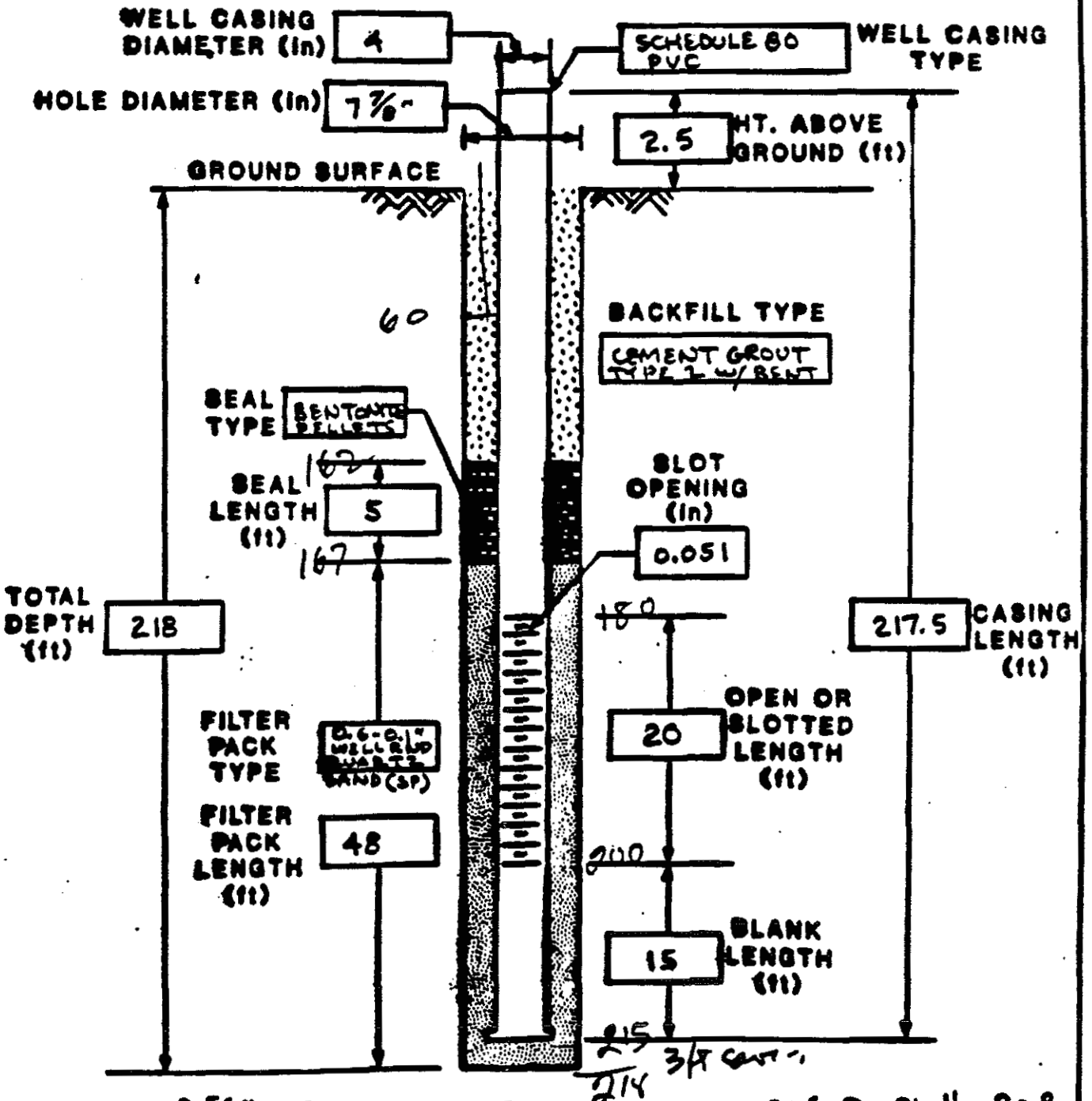
SITE ID: MON. 01 LOCATION ID: HOLE#668 DATE INSTALLED: 10-4-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: De CHELLY FORMATION

FIELD REP.: K. DONNELSON/SH&B GEOL DRILLER: BOB BREEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 60'. De Chelly Ss & interbedded Sh 150-180', De Chelly Ss 180-218'. 4% POROSITY 180-200'.

JEG-AL-ENB-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

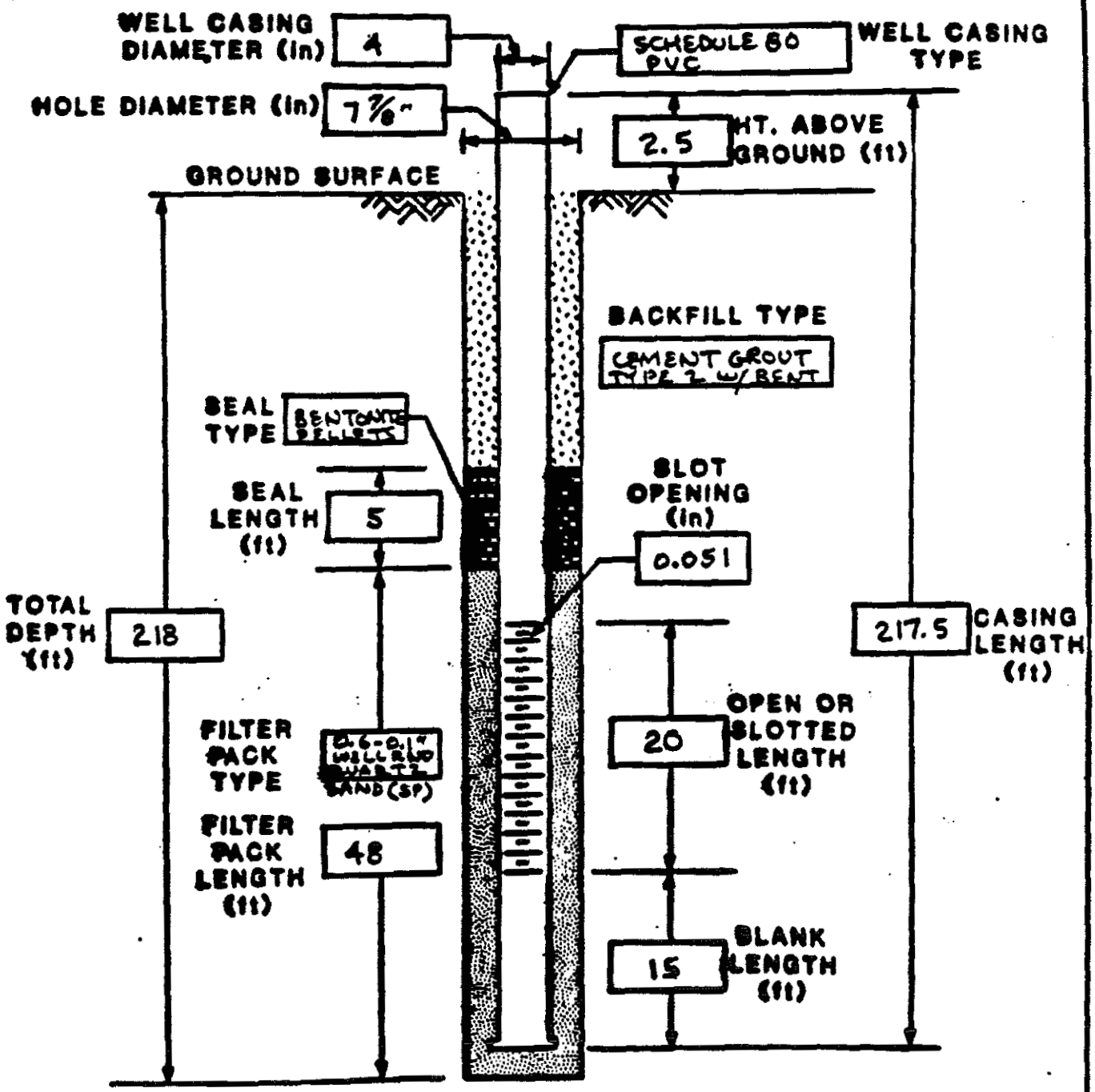
SITE ID: MON. 01 LOCATION ID: HOLE #668 DATE INSTALLED: 10-4-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: De CHELLY FORMATION

FIELD REP.: K. DONNELSON/SH&B GEOL DRILLER: BOB BEEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 60'; De Chelly Ss & interbedded Sh 150-180'; De Chelly Ss 180-218'; 4% POROSITY 180-200'.

JEG-AL-ENG-3 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

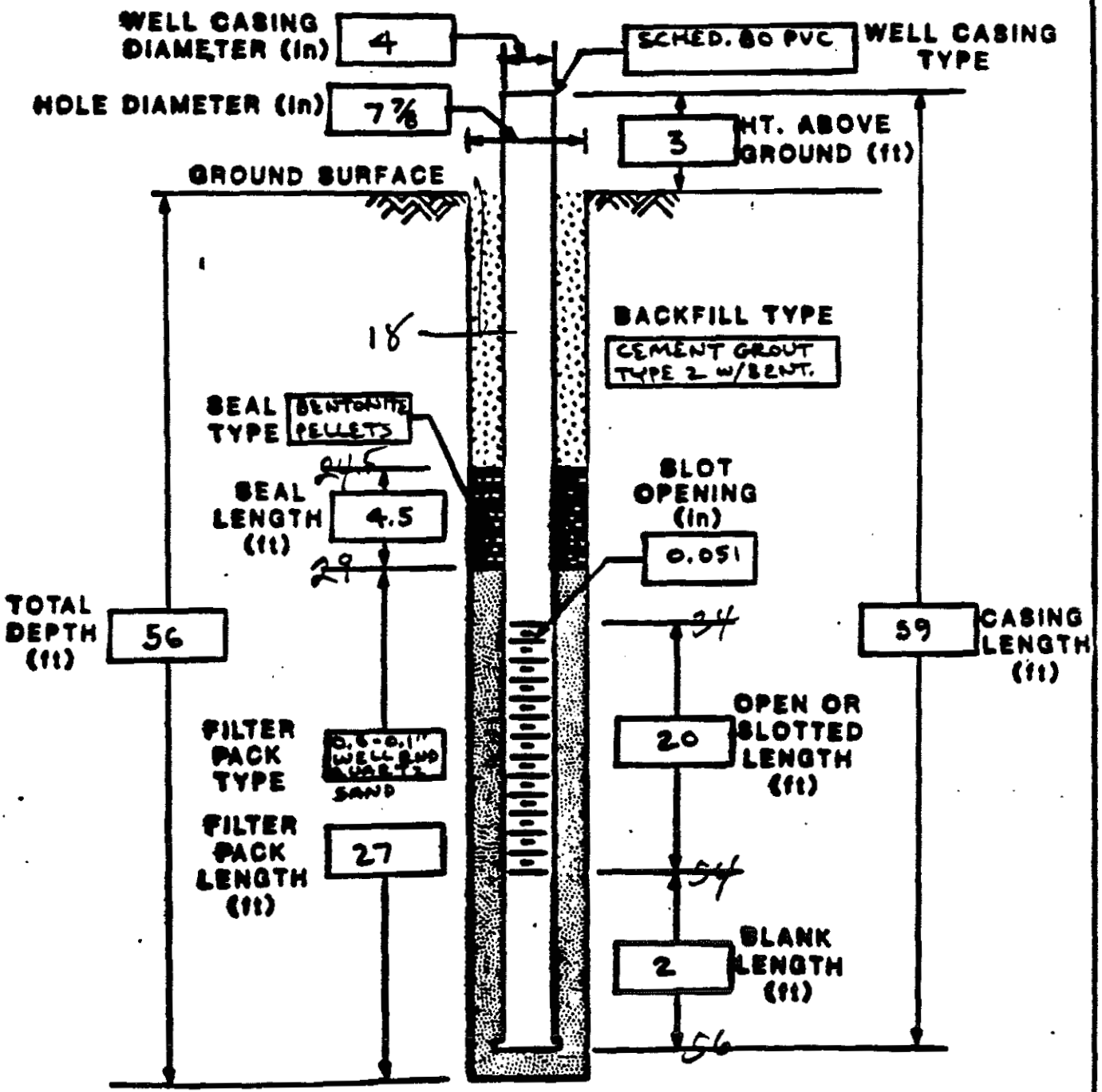
SITE ID: MON. 01 LOCATION ID: HOLE # 669 DATE INSTALLED: 10-5-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: ALLUVIUM (SP-SW), ABOVE SHINARUMP

FIELD REP.: K. DONNELSON/SHLB GEOL DRILLER: BOB BEEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 18'. Alluvium, fine SP Sand 0-20', fine-coarse SP-W Sand 20-56'. Top Shinarump @ 56'

JEG-AL-ENG-8 (8/84)

JACOBS ENGINEERING GROUP INC.
ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

WELL COMPLETION RECORD

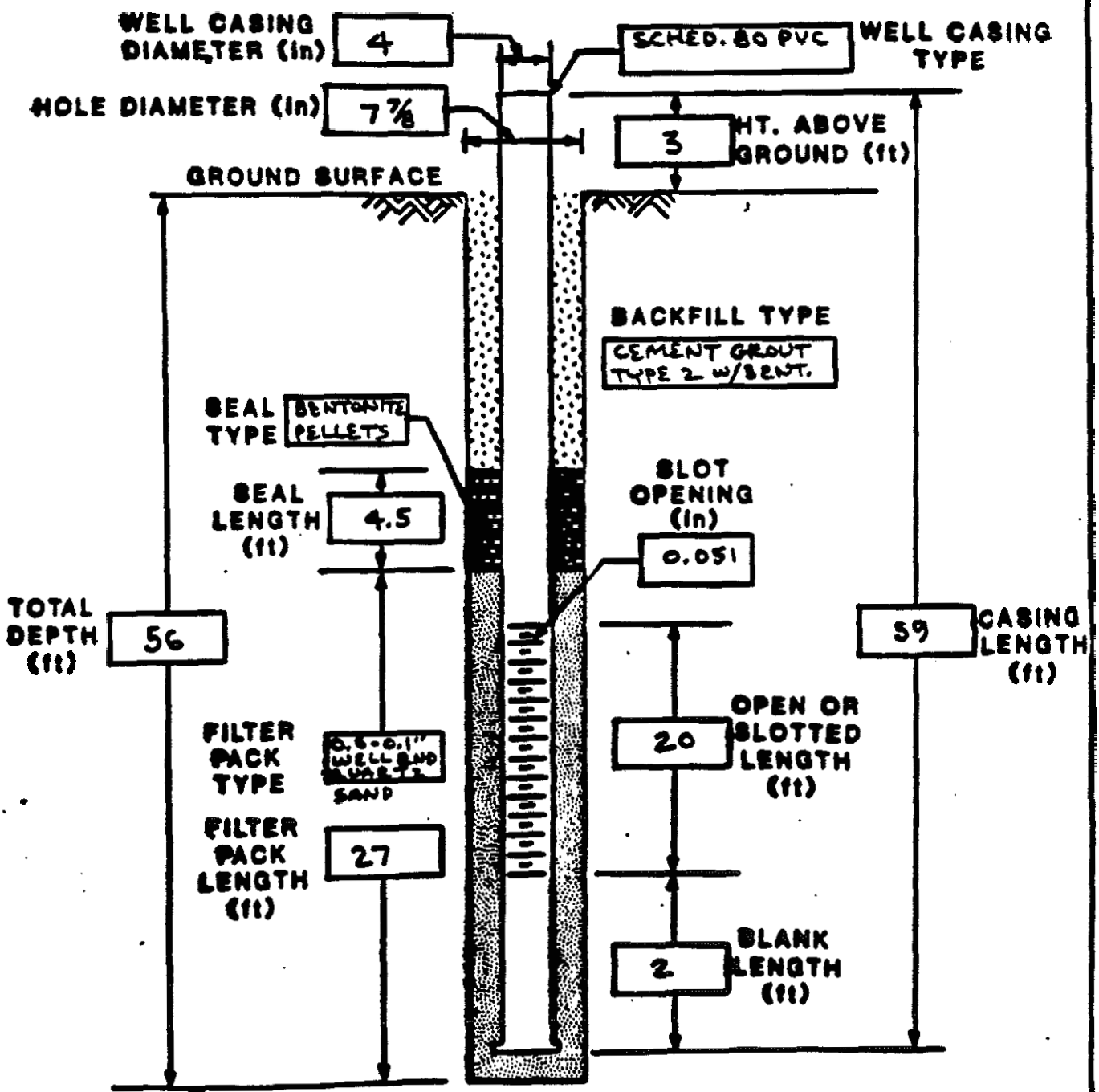
SITE ID: MON. 01 LOCATION ID: HOLE # 669 DATE INSTALLED: 10-5-85

APPROX. SITE COORDINATES: (FT.) N _____ E _____

OPEN AREA PER LINEAL FT. ($IN^2/FT.$) _____

FORMATION OF COMPLETION: ALLUVIUM (SP-SW), ABOVE SHINARUMP

FIELD REP.: K. DONNELSON/SH&B GEOL DRILLER: BOB BEEMAN DRILLING CO.



COMMENTS: 8 5/8" STEEL CASING FROM SURFACE TO 18'. Alluvium, fine SP Sand 0-20'. fine-coarse SP-W Sand 20-56'. Top Shinarump @ 56'

JEG-AL-ENG-2 (8/84)

APPENDIX B

WATER LEVELS, ALL WELLS

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STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0601	54980.4	88017.7	SR	U	4884.43	4881.51	02/15/85	12:00	18.40	15.48	4866.03
							03/07/85	12:00	13.70	10.78	4870.73
							03/12/85	16:00	14.00	11.08	4870.43
							06/04/85	12:00	14.03	11.11	4870.40
							08/15/85	17:08	14.50	11.58	4869.93
							04/07/86	15:10	13.84	10.92	4870.59
							10/09/86	13:08	14.16	11.24	4870.27
							03/26/87	12:00	13.98	11.06	4870.45
							05/08/87	12:45	13.67	10.75	4870.76
							05/31/91	10:05	13.91	10.99	4870.52
							02/23/92	16:00	13.98	11.06	4870.45
							08/11/92	17:53	15.50	12.58	4868.93
							11/22/92	09:40	13.70	10.78	4870.73
							02/18/93	09:29	13.12	10.20	4871.31
							06/29/93	10:23	13.74	10.82	4870.69
							12/09/93	14:39	13.78	10.86	4870.65
							04/21/94	11:42	13.51	10.59	4870.92
							12/07/94	14:30	13.89	10.97	4870.54
							12/14/94	10:44	13.90	10.98	4870.53
							04/19/95	11:07	13.43	10.51	4871.00
0602	56377.4	88661.2	AL	N	4864.02	4861.53	03/07/85	12:00	8.10	5.61	4855.92
							03/12/85	16:00	8.30	5.81	4855.72
							04/23/85	08:22	8.41	5.92	4855.61
							06/04/85	12:14	8.50	6.01	4855.52
							08/18/85	16:40	9.43	6.94	4854.59
							04/06/86	12:03	8.57	6.08	4855.45
							10/09/86	13:05	9.03	6.54	4854.99
							03/26/87	12:00	8.79	6.30	4855.23
							05/08/87	12:10	8.32	5.83	4855.70
							04/21/88	12:30	8.03	5.54	4855.99
							06/04/89	11:34	9.04	6.55	4854.98
							05/30/91	13:40	8.57	6.08	4855.45
							02/25/92	15:10	8.66	6.17	4855.36
							08/10/92	16:08	9.32	6.83	4854.70
							11/22/92	11:20	8.60	6.11	4855.42
							02/18/93	09:49	7.95	5.46	4856.07
							06/29/93	16:07	8.51	6.02	4855.51
							12/09/93	14:29	8.80	6.31	4855.22
							04/20/94	10:15	8.36	5.87	4855.66
							12/07/94	14:42	8.84	6.35	4855.18
							12/14/94	10:41	8.80	6.31	4855.22

FORMATION OF COMPLETION CODE:
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
U - UPGRADIENT
N - UNKNOWN

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0602	56377.4	88661.2	AL	N	4864.02	4861.53	04/19/95	11:03	8.28	5.79	4855.74
0603	57812.7	89036.9	AL	C	4848.56	4846.64	02/15/85	12:00	13.90	11.98	4834.66
							03/07/85	12:00	10.20	8.28	4838.36
							03/12/85	16:00	14.40	12.48	4834.16
							04/23/85	17:46	10.25	8.33	4838.31
							06/04/85	11:45	10.31	8.39	4838.25
							08/15/85	11:26	10.88	8.96	4837.68
							04/06/86	11:46	10.33	8.41	4838.23
							10/09/86	12:50	10.37	8.45	4838.19
							03/26/87	12:00	10.40	8.48	4838.16
							05/08/87	11:35	9.96	8.04	4838.60
							04/22/88	15:00	9.75	7.83	4838.81
							06/04/89	09:24	10.38	8.46	4838.18
							05/31/91	12:26	10.25	8.33	4838.31
							02/22/92	15:00	10.46	8.54	4838.10
							08/10/92	14:51	10.56	8.64	4838.00
							11/21/92	09:50	10.05	8.13	4838.51
							02/18/93	09:53	9.70	7.78	4838.86
							06/29/93	09:07	10.13	8.21	4838.43
							12/09/93	14:24	10.58	8.66	4837.98
							04/20/94	10:03	10.03	8.11	4838.53
							12/07/94	15:54	10.33	8.41	4838.23
							12/14/94	10:37	10.35	8.43	4838.21
							04/19/95	10:52	9.90	7.98	4838.66
0604	58397.0	89424.6	AL	C	4839.09	4837.30	02/15/85	12:00	12.20	10.41	4826.89
							03/07/85	12:00	8.10	6.31	4830.99
							03/12/85	16:00	8.20	6.41	4830.89
							04/23/85	11:50	8.11	6.32	4830.98
							06/04/85	11:30	8.26	6.47	4830.83
							08/18/85	17:25	8.89	7.10	4830.20
							04/06/86	10:44	8.09	6.30	4831.00
							10/09/86	11:45	8.23	6.44	4830.86
							03/26/87	12:00	7.80	6.01	4831.29
							05/08/87	13:05	7.71	5.92	4831.38
							06/05/89	10:17	8.19	6.40	4830.90
							05/31/91	13:58	7.99	6.20	4831.10
							02/22/92	16:08	8.09	6.30	4831.00
							08/11/92	16:51	8.30	6.51	4830.79
							11/19/92	14:25	7.75	5.96	4831.34
							02/18/93	10:00	7.45	5.66	4831.64

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
N - UNKNOWN
C - CROSS GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0604	58397.0	89424.6	AL	C	4839.09	4837.30	06/29/93	16:35	7.67	5.88	4831.42
							12/10/93	09:53	8.20	6.41	4830.89
							04/20/94	09:51	7.72	5.93	4831.37
							12/07/94	14:09	7.95	6.16	4831.14
							12/14/94	10:10	7.94	6.15	4831.15
							04/19/95	10:04	7.62	5.83	4831.47
0605	58707.6	90066.7	AL	D	4833.96	4831.42	02/15/85	12:00	15.20	12.66	4818.76
							03/07/85	12:00	9.70	7.16	4824.26
							03/12/85	16:00	9.50	6.96	4824.46
							04/23/85	16:45	9.63	7.09	4824.33
							06/04/85	11:35	9.68	7.14	4824.28
							08/20/85	11:30	10.53	7.99	4823.43
							04/05/86	12:55	9.67	7.13	4824.29
							10/09/86	12:05	10.12	7.58	4823.84
							03/26/87	12:00	9.53	6.99	4824.43
							05/08/87	13:10	9.35	6.81	4824.61
							04/21/88	13:30	9.27	6.73	4824.69
							06/05/89	15:36	9.91	7.37	4824.05
							12/04/89	16:00	10.76	8.22	4823.20
							06/19/90	15:30	10.30	7.76	4823.66
							01/25/91	14:05	9.98	7.44	4823.98
							05/31/91	15:30	9.80	7.26	4824.16
							08/15/92	13:50	10.40	7.86	4823.56
							11/22/92	14:15	9.65	7.11	4824.31
							02/18/93	10:30	9.24	6.70	4824.72
							06/29/93	16:41	9.10	6.56	4824.86
							12/10/93	10:02	9.60	7.06	4824.36
							04/20/94	11:29	9.18	6.64	4824.78
							12/07/94	16:10	7.91	5.37	4826.05
							12/14/94	11:12	9.76	7.22	4824.20
							04/19/95	10:15	9.17	6.63	4824.79
0606	59034.2	88634.0	AL	D	4863.31	4860.44	03/07/85	12:00	35.20	32.33	4828.11
							03/12/85	16:00	35.40	32.53	4827.91
							04/23/85	16:36	35.37	32.50	4827.94
							06/04/85	11:20	35.39	32.52	4827.92
							04/05/86	15:15	34.95	32.08	4828.36
							10/09/86	17:00	35.18	32.31	4828.13
							03/26/87	12:00	34.89	32.02	4828.42
							05/08/87	10:50	34.82	31.95	4828.49
							04/22/88	13:45	34.61	31.74	4828.70

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
C - CROSS GRADIENT
D - DOWN GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0606	59034.2	88634.0	AL	D	4863.31	4860.44	06/07/89	15:55	34.08	31.21	4829.23
							12/01/89	15:10	36.20	33.33	4827.11
							06/23/90	12:25	35.11	32.24	4828.20
							01/27/91	13:15	34.74	31.87	4828.57
							06/01/91	09:26	34.96	32.09	4828.35
							02/21/92	08:20	35.06	32.19	4828.25
							08/11/92	15:07	35.0	32.13	4828.31
							11/24/92	09:00	34.62	31.75	4828.69
							02/18/93	12:20	34.73	31.86	4828.58
							06/29/93	17:31	34.50	31.63	4828.81
							12/09/93	14:13	35.12	32.25	4828.19
							04/20/94	09:43	34.76	31.89	4828.55
							12/08/94	15:09	34.81	31.94	4828.50
							12/14/94	10:27	34.80	31.93	4828.51
							04/19/95	11:56	34.62	31.75	4828.69
0607	59657.2	87519.2	SR	D	4871.26	4869.41	02/15/85	12:00	DRY	DRY	-
							03/07/85	12:00	DRY	DRY	-
							03/12/85	16:00	DRY	DRY	-
							04/23/85	16:08	DRY	DRY	-
							06/04/85	09:30	DRY	DRY	-
							04/06/86	12:30	DRY	DRY	-
							03/26/87	12:00	DRY	DRY	-
							05/08/87	09:30	DRY	DRY	-
							06/06/89	13:00	DRY	DRY	-
							11/23/92	09:25	DRY	DRY	-
							06/29/93	09:54	DRY	DRY	-
							12/09/93	12:08	DRY	DRY	-
							04/20/94	08:21	DRY	DRY	-
							12/07/94	12:48	DRY	DRY	-
							12/14/94	11:50	DRY	DRY	-
							04/19/95	12:21	DRY	DRY	-
0608	58685.7	87189.4	DC	O	4903.11	4901.08	04/23/85	16:31	58.38	56.35	4844.73
							06/04/85	09:45	57.80	55.77	4845.31
							08/16/85	18:30	58.00	55.97	4845.11
							04/07/86	15:00	57.62	55.59	4845.49
							10/09/86	14:55	57.25	55.22	4845.86
							03/26/87	12:00	57.64	55.61	4845.47
							05/08/87	10:05	57.44	55.41	4845.67
0609	59052.1	87652.9	SR	O	4880.17	4878.30	02/15/85	12:00	DRY	DRY	-

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
O - ON-SITE

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0609	59052.1	87652.9	SR	O	4880.17	4878.30	03/07/85	12:00	DRY	DRY	-
							03/12/85	16:00	DRY	DRY	-
							04/23/85	16:14	DRY	DRY	-
							06/04/85	09:40	DRY	DRY	-
							04/06/86	12:40	DRY	DRY	-
							03/26/87	12:00	DRY	DRY	-
							05/08/87	10:00	DRY	DRY	-
							06/06/89	13:30	DRY	DRY	-
							06/29/93	10:06	DRY	DRY	-
							12/09/93	11:07	DRY	DRY	-
							04/20/94	08:40	DRY	DRY	-
							12/07/94	13:02	DRY	DRY	-
							12/14/94	11:57	DRY	DRY	-
							04/19/95	12:35	DRY	DRY	-
0610	56338.8	88611.6	SR	N	4861.81	4860.83	02/15/85	12:00	DRY	DRY	-
							03/07/85	12:00	DRY	DRY	-
							03/12/85	16:00	DRY	DRY	-
							04/23/85	08:30	5.39	4.41	4856.42
							06/04/85	12:12	5.52	4.54	4856.29
							08/18/85	17:04	6.32	5.34	4855.49
							04/06/86	11:59	5.40	4.42	4856.41
							10/09/86	12:55	5.87	4.89	4855.94
							02/18/93	09:45	DRY	DRY	-
							04/20/94	10:12	DRY	DRY	-
							12/07/94	14:40	DRY	DRY	-
							12/14/94	10:40	DRY	DRY	-
							04/19/95	11:01	DRY	DRY	-
0611	57811.0	89017.5	DC	N	4848.35	4846.35	03/07/85	12:00	FLOWING	FLOWING	-
							03/12/85	16:00	FLOWING	FLOWING	-
							04/23/85	17:50	FLOWING	FLOWING	-
							06/04/85	12:20	FLOWING	FLOWING	-
							03/26/87	12:00	FLOWING	FLOWING	-
							05/08/87	11:35	FLOWING	FLOWING	-
							06/07/89	12:45	10.71	8.71	4837.64
							08/15/92	10:56	10.98	8.98	4837.37
							11/23/92	12:50	10.40	8.40	4837.95
							06/29/93	06:38	10.62	8.62	4837.73
							12/09/93	10:37	10.98	8.98	4837.37
							04/20/94	10:05	10.44	8.44	4837.91
							12/07/94	15:56	10.70	8.70	4837.65

FORMATION OF COMPLETION CODE:
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
O - ON-SITE
N - UNKNOWN

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0611	57811.0	89017.5	DC	N	4848.35	4846.35	12/14/94	10:35	10.65	8.65	4837.70
							04/19/95	10:54	10.28	8.28	4838.07
0612	58437.2	85614.8	DC	N	5001.74	5000.09	02/19/85	12:00	160.60	158.95	4841.14
							02/28/85	12:00	158.50	156.85	4843.24
							03/07/85	12:00	158.40	156.75	4843.34
							04/23/85	15:15	161.97	160.32	4839.77
							06/04/85	10:00	158.92	157.27	4842.82
							08/18/85	16:30	161.33	159.68	4840.41
							04/07/86	14:37	160.86	159.21	4840.88
							10/09/86	18:25	160.17	158.52	4841.57
							03/26/87	12:00	160.40	158.75	4841.34
							05/08/87	10:25	161.24	159.59	4840.50
							04/23/88	10:00	160.65	159.00	4841.09
							08/15/92	14:34	161.25	159.60	4840.49
							11/22/92	09:45	160.50	158.85	4841.24
							02/18/93	08:47	161.00	159.35	4840.74
							06/29/93	16:26	161.93	160.28	4839.81
							12/09/93	14:18	161.99	160.34	4839.75
							04/20/94	10:27	161.57	159.92	4840.17
							12/07/94	15:28	161.09	159.44	4840.65
							12/14/94	11:40	161.15	159.50	4840.59
							04/19/95	12:49	160.86	159.21	4840.88
0613	56377.8	88643.7	DC	N	4862.82	4860.81	03/07/85	12:00	FLOWING	FLOWING	-
							03/12/85	16:00	FLOWING	FLOWING	-
							04/23/85	08:17	FLOWING	FLOWING	-
							06/04/85	12:10	FLOWING	FLOWING	-
							04/06/86	11:55	FLOWING	FLOWING	-
							10/09/86	13:00	FLOWING	FLOWING	-
							03/26/87	12:00	FLOWING	FLOWING	-
							05/08/87	12:20	FLOWING	FLOWING	-
							06/04/89	13:44	FLOWING	FLOWING	-
							06/22/90	13:00	FLOWING	FLOWING	-
							01/25/91	15:25	FLOWING	FLOWING	-
							05/30/91	15:10	-4.74	-6.75	4867.56
							02/26/92	12:00	-5.22	-7.23	4868.04
							08/10/92	16:59	FLOWING	FLOWING	-
							11/21/92	15:20	FLOWING	FLOWING	-
							02/18/93	09:44	FLOWING	FLOWING	-
							06/29/93	16:07	FLOWING	FLOWING	-
							12/09/93	14:28	FLOWING	FLOWING	-
							04/20/94	10:14	FLOWING	FLOWING	-

FORMATION OF COMPLETION CODE:
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
N - UNKNOWN

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0613	56377.8	88643.7	DC	N	4862.82	4860.81	12/07/94	14:41	FLOWING	FLOWING	-
							12/14/94	10:34	FLOWING	FLOWING	-
							04/19/95	11:00	FLOWING	FLOWING	-
0614	60940.5	87832.6	SR	D	4855.66	4854.28	03/07/85	12:00	48.30	46.92	4807.36
							03/12/85	16:00	48.50	47.12	4807.16
							04/23/85	15:01	49.90	48.52	4805.76
							06/04/85	09:15	49.61	48.23	4806.05
							08/19/85	12:50	49.59	48.21	4806.07
							04/05/86	10:15	49.67	48.29	4805.99
							10/09/86	16:00	50.08	48.70	4805.58
							03/26/87	12:00	50.24	48.86	4805.42
							05/08/87	13:55	49.64	48.26	4806.02
							04/19/88	15:20	49.35	47.97	4806.31
							06/07/89	10:00	49.40	48.02	4806.26
							12/02/89	16:00	50.16	48.78	4805.50
							06/23/90	15:00	49.58	48.20	4806.08
							01/28/91	14:15	49.26	47.88	4806.40
							06/01/91	12:13	49.68	48.30	4805.98
							08/10/92	12:54	49.70	48.32	4805.96
							11/24/92	12:40	49.43	48.05	4806.23
							02/18/93	11:44	48.88	47.50	4806.78
							06/29/93	17:53	48.40	47.02	4807.26
							12/09/93	13:48	48.89	47.51	4806.77
							04/20/94	09:16	49.07	47.69	4806.59
							12/07/94	15:43	49.28	47.90	4806.38
							12/14/94	09:50	49.34	47.96	4806.32
							04/19/95	09:21	49.26	47.88	4806.40
0615	57794.4	88980.7	SR	C	4849.29	4847.50	04/23/85	17:55	10.67	8.88	4838.62
							06/04/85	11:50	10.71	8.92	4838.58
							08/15/85	16:30	11.25	9.46	4838.04
							04/06/86	11:38	10.71	8.92	4838.58
							10/09/86	12:45	10.76	8.97	4838.53
							03/26/87	12:00	11.06	9.27	4838.23
							05/08/87	11:40	10.33	8.54	4838.96
							06/08/89	09:20	FLOWING	FLOWING	-
							08/15/92	11:06	FLOWING	FLOWING	-
							11/23/92	12:25	FLOWING	FLOWING	-
							06/29/93	07:55	FLOWING	FLOWING	-
							12/09/93	10:41	FLOWING	FLOWING	-

FORMATION OF COMPLETION CODE:
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION

FLOW RELATIONSHIP CODE:
N - UNKNOWN
D - DOWN GRADIENT
C - CROSS GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0615	57794.4	88980.7	SR	C	4849.29	4847.50	04/20/94	10:01	FLOWING	FLOWING	-
							12/07/94	15:57	FLOWING	FLOWING	-
							12/14/94	10:33	FLOWING	FLOWING	-
							04/19/95	10:56	FLOWING	FLOWING	-
0616	56747.3	87987.6	AL	N	4869.92	4869.00	04/19/95	11:45	8.65	7.73	4861.27
0618	58868.3	87016.1	DC	O	4921.02	4920.00	04/23/85	15:55	60.21	59.19	4860.81
							06/04/85	11:10	89.56	88.54	4831.46
							04/07/86	14:27	88.15	87.13	4832.87
							10/09/86	18:15	89.14	88.12	4831.88
							03/26/87	12:00	93.39	92.37	4827.63
							12/09/93	11:30	91.0	89.98	4830.02
							04/20/94	08:49	90.10	89.08	4830.92
							12/07/94	13:30	89.63	88.61	4831.39
0619	58876.5	87587.9	DC	O	4887.42	4886.52	02/15/85	12:00	57.90	57.00	4829.52
							03/07/85	12:00	55.40	54.50	4832.02
							03/12/85	16:00	55.60	54.70	4831.82
							06/04/85	09:43	55.49	54.59	4831.93
							04/07/86	14:58	55.24	54.34	4832.18
							10/09/86	14:00	54.90	54.00	4832.52
							03/26/87	12:00	55.29	54.39	4832.13
							05/08/87	14:35	54.20	53.30	4833.22
							04/20/94	08:45	54.6	53.70	4832.82
							12/07/94	13:14	56.54	55.64	4830.88
							04/26/95	14:00	56.46	55.56	4830.96
0625	58272.5	89803.1	DC	C	4840.09	4838.80	02/15/85	12:00	FLOWING	FLOWING	-
							03/07/85	12:00	FLOWING	FLOWING	-
							03/12/85	16:00	FLOWING	FLOWING	-
							04/23/85	16:58	0.62	-0.67	4839.47
							06/04/85	11:35	0.63	-0.66	4839.46
							04/23/86	10:30	0.54	-0.75	4839.55
							10/09/86	12:00	1.37	0.08	4838.72
							03/26/87	12:00	0.59	-0.70	4839.50
							05/08/87	14:26	0.62	-0.67	4839.47
							02/26/92	13:15	FLOWING	FLOWING	-
							08/15/92	13:45	1.35	0.06	4838.74
							11/21/92	14:10	FLOWING	FLOWING	-
							02/18/93	10:15	FLOWING	FLOWING	-

FORMATION OF COMPLETION CODE:
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
AL - ALLUVIUM
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
C - CROSS GRADIENT
N - UNKNOWN
O - ON-SITE

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0625	58272.5	89803.1	DC	C	4840.09	4838.80	04/20/94	09:57	FLOWING	FLOWING	-
0650	64970.2	89923.8	AL	D	4793.29	4790.15	10/19/85	12:00	19.34	16.20	4773.95
							04/29/86	09:00	19.15	16.01	4774.14
							03/26/87	12:00	19.87	16.73	4773.42
							05/08/87	13:50	19.05	15.91	4774.24
							04/25/88	08:30	18.91	15.77	4774.38
							06/05/89	08:56	19.30	16.16	4773.99
							06/03/91	20:13	19.26	16.12	4774.03
							02/25/92	12:10	19.43	16.29	4773.86
							08/13/92	13:49	19.57	16.43	4773.72
							11/21/92	16:45	19.37	16.23	4773.92
							02/18/93	11:34	19.10	15.96	4774.19
							12/10/93	09:08	18.82	15.68	4774.47
							04/20/94	18:21	18.75	15.61	4774.54
							12/14/94	09:39	19.16	16.02	4774.13
							04/19/95	09:07	18.92	15.78	4774.37
0651	63788.9	92734.3	AL	D	4784.51	4781.46	10/19/85	12:00	5.70	2.65	4778.81
							04/29/86	13:00	8.11	5.06	4776.40
							10/09/86	17:45	8.62	5.57	4775.89
							03/26/87	12:00	8.87	5.82	4775.64
							05/08/87	13:35	7.98	4.93	4776.53
							04/19/88	12:00	7.54	4.49	4776.97
							06/03/89	08:30	8.30	5.25	4776.21
							12/03/89	09:15	8.81	5.76	4775.70
							06/21/90	15:44	5.50	2.45	4779.01
							01/26/91	14:15	8.10	5.05	4776.41
							06/02/91	09:01	8.14	5.09	4776.37
							02/25/92	12:35	8.05	5.00	4776.46
							08/13/92	09:23	8.80	5.75	4775.71
							11/21/92	09:25	8.36	5.31	4776.15
							02/18/93	10:54	7.44	4.39	4777.07
							06/29/93	17:09	8.19	5.14	4776.32
							12/10/93	11:08	8.14	5.09	4776.37
							04/20/94	11:58	7.77	4.72	4776.74
							12/14/94	09:01	8.17	5.12	4776.34
							04/19/95	10:37	7.79	4.74	4776.72
0652	62581.5	93759.3	AL	D	4803.84	4800.69	10/19/85	12:00	18.96	15.81	4784.88
							04/29/86	12:30	18.58	15.43	4785.26
							10/09/86	17:40	19.00	15.85	4784.84

FORMATION OF COMPLETION CODE:
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
C - CROSS GRADIENT
D - DOWN GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0652	62581.5	93759.3	AL	D	4803.84	4800.69	03/26/87	12:00	19.55	16.40	4784.29
							05/08/87	13:30	18.42	15.27	4785.42
							06/01/91	16:59	18.60	15.45	4785.24
							02/23/92	12:30	18.67	15.52	4785.17
							08/12/92	15:48	19.08	15.93	4784.76
							11/21/92	14:14	18.92	15.77	4784.92
							02/18/93	10:44	18.46	15.31	4785.38
							06/29/93	17:05	18.51	15.36	4785.33
							12/10/93	10:57	18.58	15.43	4785.26
							04/20/94	11:50	18.29	15.14	4785.55
							12/08/94	08:44	18.64	15.49	4785.20
							12/14/94	08:55	18.62	15.47	4785.22
							04/19/95	10:32	18.29	15.14	4785.55
0653	61249.3	89596.3	AL	D	4834.94	4832.14	10/19/85	12:00	35.55	32.75	4799.39
							04/28/86	15:00	35.06	32.26	4799.88
							10/09/86	16:45	35.25	32.45	4799.69
							03/26/87	12:00	36.07	33.27	4798.87
							05/08/87	11:15	34.99	32.19	4799.95
							04/21/88	09:10	34.93	32.13	4800.01
							06/22/89	12:30	35.00	32.20	4799.94
							12/01/89	13:00	33.50	30.70	4801.44
							06/19/90	09:30	35.05	32.25	4799.89
							01/24/91	14:30	34.98	32.18	4799.96
							06/04/91	19:10	35.14	32.34	4799.80
							02/25/92	09:40	35.28	32.48	4799.66
							08/13/92	18:45	35.20	32.40	4799.74
							11/19/92	09:14	35.18	32.38	4799.76
							02/18/93	11:19	35.12	32.32	4799.82
							06/29/93	17:47	34.75	31.95	4800.19
							12/09/93	17:01	34.67	31.87	4800.27
							04/20/94	11:17	34.63	31.83	4800.31
							12/08/94	13:04	34.74	31.94	4800.20
							12/14/94	10:04	34.76	31.96	4800.18
							04/19/95	09:45	34.72	31.92	4800.22
0654	59351.4	91063.4	AL	C	4827.01	4824.41	10/19/85	12:00	1.72	-0.88	4825.29
							04/27/86	10:28	1.23	-1.37	4825.78
							10/09/86	12:15	1.83	-0.77	4825.18
							03/26/87	12:00	2.18	-0.42	4824.83
							05/08/87	13:20	1.15	-1.45	4825.86
							04/23/88	14:15	0.78	-1.82	4826.23

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
C - CROSS GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0654	59351.4	91063.4	AL	C	4827.01	4824.41	06/06/89	12:55	1.42	-1.18	4825.59
							12/03/89	11:20	2.04	-0.56	4824.97
							06/19/90	14:14	1.52	-1.08	4825.49
							01/27/91	09:30	1.31	-1.29	4825.70
							06/02/91	12:40	1.28	-1.32	4825.73
							08/12/92	13:17	1.75	-0.85	4825.26
							11/22/92	10:30	1.42	-1.18	4825.59
							02/18/93	10:36	.95	-1.65	4826.06
							06/29/93	16:49	1.37	-1.23	4825.64
							12/10/93	10:10	1.33	-1.27	4825.68
							04/20/94	11:34	0.91	-1.69	4826.10
							12/14/94	10:16	FLOWING	FLOWING	-
							04/19/95	10:22	0.90	-1.70	4826.11
0655	59754.6	88624.1	AL	D	4860.39	4857.73	10/19/85	12:00	39.23	36.57	4821.16
							04/29/86	09:45	38.80	36.14	4821.59
							10/09/86	16:35	38.87	36.21	4821.52
							03/26/87	12:00	39.47	36.81	4820.92
							05/08/87	11:10	38.65	35.99	4821.74
							04/20/88	10:20	38.55	35.89	4821.84
							06/08/89	11:15	33.60	30.94	4826.79
							12/03/89	13:30	39.47	36.81	4820.92
							06/22/90	14:20	38.86	36.20	4821.53
							01/23/91	13:30	38.65	35.99	4821.74
							06/02/91	15:09	38.80	36.14	4821.59
							02/22/92	12:35	38.83	36.17	4821.56
							08/13/92	15:50	38.80	36.14	4821.59
							11/19/92	12:05	38.80	36.14	4821.59
							02/18/93	12:07	38.60	35.94	4821.79
							06/29/93	17:36	38.65	35.99	4821.74
							12/09/93	14:06	39.09	36.43	4821.30
							04/20/94	09:32	38.78	36.12	4821.61
							12/07/94	13:53	38.67	36.01	4821.72
							12/14/94	10:21	38.60	35.94	4821.79
							04/19/95	11:50	38.50	35.84	4821.89
0656	59545.2	89175.1	AL	D	4854.61	4852.07	10/19/85	12:00	35.98	33.44	4818.63
							04/29/86	12:00	35.47	32.93	4819.14
							10/09/86	16:40	35.79	33.25	4818.82
							03/26/87	12:00	37.08	34.54	4817.53
							05/08/87	14:20	35.30	32.76	4819.31
							06/23/89	10:15	35.25	32.71	4819.36

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
C - CROSS GRADIENT
D - DOWN GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0656	59545.2	89175.1	AL	D	4854.61	4852.07	08/13/92	18:32	35.50	32.96	4819.11
							11/22/92	15:15	35.34	32.80	4819.27
							02/18/93	12:33	35.18	32.64	4819.43
							06/29/93	12:06	34.95	32.41	4819.66
							12/10/93	09:43	35.35	32.81	4819.26
							12/07/94	14:00	35.16	32.62	4819.45
							04/19/95	09:56	35.00	32.46	4819.61
0657	59266.0	87596.5	DC	O	4883.21	4881.18	10/19/85	12:00	50.20	48.17	4833.01
							04/28/86	11:35	49.90	47.87	4833.31
							10/09/86	16:25	50.75	48.72	4832.46
							03/26/87	12:00	51.10	49.07	4832.11
							05/08/87	09:50	49.89	47.86	4833.32
							04/22/88	09:00	49.66	47.63	4833.55
							06/21/89	10:30	49.80	47.77	4833.41
							12/04/89	09:30	50.58	48.55	4832.63
							06/21/90	11:30	50.31	48.28	4832.90
							01/24/91	09:30	49.73	47.70	4833.48
							11/23/92	10:00	48.70	46.67	4834.51
							06/29/93	12:35	52.36	50.33	4830.85
							12/09/93	10:56	51.81	49.78	4831.40
							04/20/94	08:27	50.60	48.57	4832.61
							12/07/94	12:52	49.95	47.92	4833.26
							12/14/94	11:55	50.00	47.97	4833.21
							04/19/95	12:25	49.82	47.79	4833.39
0658	54763.4	88857.0	SR	N	4878.82	4876.19	10/19/85	12:00	9.61	6.98	4869.21
							04/29/86	11:00	9.27	6.64	4869.55
							10/09/86	13:20	9.60	6.97	4869.22
							03/26/87	12:00	10.64	8.01	4868.18
							05/08/87	12:55	9.15	6.52	4869.67
							08/14/92	18:05	9.83	7.20	4868.99
							11/24/92	10:50	9.45	6.82	4869.37
							02/18/93	09:35	8.82	6.19	4870.00
							06/29/93	16:00	9.26	6.63	4869.56
							12/09/93	14:54	9.31	6.68	4869.51
							04/21/94	13:22	8.99	6.36	4869.83
							12/07/94	14:58	9.33	6.70	4869.49
							04/19/95	11:33	8.94	6.31	4869.88
0659	59069.8	88670.3	SR	D	4863.63	4860.84	10/19/85	12:00	36.45	33.66	4827.18

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
O - ON-SITE
N - UNKNOWN

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0659	59069.8	88670.3	SR	D	4863.63	4860.84	04/27/86	15:35	35.33	32.54	4828.30
							10/09/86	17:15	35.43	32.64	4828.20
							03/26/87	12:00	35.71	32.92	4827.92
							05/08/87	11:05	34.96	32.17	4828.67
							04/25/88	11:30	34.83	32.04	4828.80
							06/22/89	16:30	35.00	32.21	4828.63
							12/02/89	14:00	36.18	33.39	4827.45
							06/20/90	14:00	36.30	33.51	4827.33
							01/28/91	10:30	35.10	32.31	4828.53
							06/04/91	17:11	35.20	32.41	4828.43
							02/20/92	14:35	35.28	32.49	4828.35
							08/13/92	17:23	35.22	32.43	4828.41
							11/18/92	10:17	35.20	32.41	4828.43
							11/24/92	09:30	34.73	31.94	4828.90
							02/18/93	12:24	34.93	32.14	4828.70
							06/29/93	17:33	34.74	31.95	4828.89
							12/09/93	14:16	35.32	32.53	4828.31
							04/20/94	09:45	34.95	32.16	4828.68
							12/08/94	15:12	35.01	32.22	4828.62
							12/14/94	10:29	35.30	32.51	4828.33
							04/19/95	11:59	34.89	32.10	4828.74
0660	61303.4	89584.3	SR	D	4834.16	4831.38	10/19/85	12:00	33.25	30.47	4800.91
							04/28/86	14:25	31.35	28.57	4802.81
							10/09/86	16:45	31.54	28.76	4802.62
							03/26/87	12:00	32.28	29.50	4801.88
							05/08/87	11:20	31.30	28.52	4802.86
							04/20/88	13:45	31.04	28.26	4803.12
							06/22/89	10:30	31.15	28.37	4803.01
							12/01/89	09:30	32.09	29.31	4802.07
							06/23/90	09:30	31.30	28.52	4802.86
							01/26/91	09:30	31.17	28.39	4802.99
							08/13/92	16:48	31.43	28.65	4802.73
							11/19/92	10:43	31.40	28.62	4802.76
							02/18/93	11:22	31.30	28.52	4802.86
							06/29/93	17:45	31.26	28.48	4802.90
							12/09/93	17:04	31.20	28.42	4802.96
							04/20/94	11:15	30.83	28.05	4803.33
							12/08/94	13:00	30.94	28.16	4803.22
							12/14/94	10:02	31.30	28.52	4802.86
							04/19/95	09:44	30.93	28.15	4803.23
0661	56366.1	85447.7	DC	N	5059.99	5057.34	10/19/85	12:00	164.20	161.55	4895.79

FORMATION OF COMPLETION CODE:
SR - SHINARUMP MEMBER OF THE CHINLE FORMATION
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT
N - UNKNOWN

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0661	56366.1	85447.7	DC	N	5059.99	5057.34	04/29/86	14:00	162.75	160.10	4897.24
							10/09/86	14:40	162.18	159.53	4897.81
							03/26/87	12:00	163.67	161.02	4896.32
							05/08/87	14:40	163.57	160.92	4896.42
							02/18/93	09:04	163.74	161.09	4896.25
							12/09/93	13:51	163.31	160.66	4896.68
							04/20/94	10:50	163.33	160.68	4896.66
							12/12/94	16:17	164.14	161.49	4895.85
							12/14/94	11:28	163.31	160.66	4896.68
							04/19/95	13:06	163.20	160.55	4896.79
0662	59236.5	87577.5	AL	D	4879.81	4877.07	10/19/85	12:00	51.50	48.76	4828.31
							04/28/86	11:35	50.97	48.23	4828.84
							10/09/86	16:25	50.52	47.78	4829.29
							03/26/87	12:00	51.75	49.01	4828.06
							05/08/87	09:55	50.82	48.08	4828.99
							06/21/89	14:00	50.75	48.01	4829.06
							06/05/91	15:36	51.00	48.26	4828.81
							02/26/92	09:30	50.85	48.11	4828.96
							11/23/92	09:35	40.57	37.83	4839.24
							06/29/93	09:30	53.28	50.54	4826.53
							12/09/93	10:51	52.75	50.01	4827.06
							04/20/94	08:33	51.55	48.81	4828.26
							12/07/94	12:56	50.88	48.14	4828.93
							12/14/94	11:53	50.93	48.19	4828.88
							04/19/95	12:28	50.72	47.98	4829.09
0663	59069.6	88593.5	DC	D	4864.41	4861.56	10/19/85	12:00	33.15	30.30	4831.26
							04/27/86	11:49	32.56	29.71	4831.85
							10/09/86	17:08	32.03	29.18	4832.38
							03/26/87	12:00	32.70	29.85	4831.71
							05/08/87	11:00	32.18	29.33	4832.23
							04/24/88	08:45	31.93	29.08	4832.48
							06/23/89	13:30	32.10	29.25	4832.31
							12/02/89	08:30	33.33	30.48	4831.08
							06/22/90	09:15	32.80	29.95	4831.61
							01/25/91	09:30	32.20	29.35	4832.21
							06/04/91	13:19	32.58	29.73	4831.83
							02/20/92	10:15	32.32	29.47	4832.09
							08/15/92	09:55	32.42	29.57	4831.99
							11/20/92	10:08	31.37	28.52	4833.04
							02/18/93	12:14	32.78	29.93	4831.63

FORMATION OF COMPLETION CODE:
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
N - UNKNOWN
D - DOWN GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0663	59069.6	88593.5	DC	D	4864.41	4861.56	06/29/93	17:30	37.89	35.04	4826.52
							12/09/93	14:10	35.14	32.29	4829.27
							04/20/94	09:39	33.22	30.37	4831.19
							12/08/94	15:08	32.57	29.72	4831.84
							12/14/94	10:25	32.54	29.69	4831.87
							04/19/95	11:55	32.20	29.35	4832.21
0664	61255.9	89537.0	DC	D	4835.76	4832.84	10/19/85	12:00	30.75	27.83	4805.01
							04/28/86	14:25	30.22	27.30	4805.54
							10/09/86	16:30	30.27	27.35	4805.49
							03/26/87	12:00	31.60	28.68	4804.16
							05/08/87	11:25	30.23	27.31	4805.53
							08/13/92	16:51	30.10	27.18	4805.66
							11/19/92	10:47	30.17	27.25	4805.59
							02/18/93	11:26	32.60	29.68	4803.16
							06/29/93	17:44	34.32	31.40	4801.44
							12/09/93	16:59	34.72	31.80	4801.04
							04/20/94	11:13	21.09	18.17	4814.67
							12/08/94	13:08	29.20	26.28	4806.56
							12/14/94	10:00	29.24	26.32	4806.52
							04/19/95	09:47	29.05	26.13	4806.71
0668	60171.4	88287.0	DC	D	4866.71	4864.27	10/19/85	12:00	41.30	38.86	4825.41
							04/29/86	09:30	40.04	37.60	4826.67
							10/09/86	16:10	39.55	37.11	4827.16
							03/26/87	12:00	40.28	37.84	4826.43
							05/08/87	14:10	39.63	37.19	4827.08
							06/24/89	09:45	39.70	37.26	4827.01
							08/13/92	16:37	39.94	37.50	4826.77
							11/24/92	12:26	39.40	36.96	4827.31
							02/18/93	12:00	46.49	44.05	4820.22
							12/09/93	13:59	49.30	46.86	4817.41
							04/20/94	09:28	49.98	47.54	4816.73
							12/07/94	13:46	40.22	37.78	4826.49
							12/14/94	09:55	40.25	37.81	4826.46
							04/19/95	09:32	39.91	37.47	4826.80
0669	60146.3	88247.8	AL	D	4865.78	4863.19	10/19/85	12:37	49.30	46.71	4816.48
							04/28/86	13:00	49.03	46.44	4816.75
							10/09/86	16:10	49.21	46.62	4816.57
							03/26/87	12:00	49.41	46.82	4816.37
							05/08/87	14:12	48.85	46.26	4816.93

FORMATION OF COMPLETION CODE:
DC - DECHELLEY MEMBER OF THE CUTLER FORMATION
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0669	60146.3	88247.8	AL	D	4865.78	4863.19	06/24/89	11:00	48.80	46.21	4816.98
							02/24/92	08:50	49.07	46.48	4816.71
							08/13/92	16:33	49.10	46.51	4816.68
							11/24/92	12:24	48.89	46.30	4816.89
							02/18/93	11:52	48.67	46.08	4817.11
							06/29/93	14:08	48.90	46.31	4816.88
							12/09/93	13:56	49.39	46.80	4816.39
							04/20/94	09:23	49.08	46.49	4816.70
							12/07/94	13:45	48.84	46.25	4816.94
							12/14/94	09:57	48.86	46.27	4816.92
							04/19/95	09:34	48.76	46.17	4817.02

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT

DATA FILE: \DART\MON01\GWL10005.DAT

FIELDS DISPLAYED WITH A DASH INDICATE THE DATA IS UNAVAILABLE

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOMP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	0804	04/27/86	0001	TA	O	MG/L CACO3		35.		-	-
	0805	04/27/86	0001	TA	O			44.		-	-
	0814	04/27/86	0001	TA	O			2.		-	-
	0816	04/27/86	0001	TA	O			0.		-	-
ALUMINUM	0804	10/28/85	0001	TA	O	MG/L		0.3		0.1	-
	0804	04/27/86	0001	TA	O			0.9		0.1	-
	0805	10/28/85	0001	TA	O			0.4		0.1	-
	0805	04/27/86	0001	TA	O			0.6		0.1	-
	0814	04/27/86	0001	TA	O			1.2		0.1	-
	0815	10/28/85	0001	TA	O			0.4		0.1	-
	0815	04/27/86	0001	TA	O			5.5		0.1	-
	0816	10/28/85	0001	TA	O			0.3		0.1	-
	0816	04/27/86	0001	TA	O			3.9		0.1	-
	0817	10/28/85	0001	TA	O			0.4		0.1	-
AMMONIUM	0804	10/28/85	0001	TA	O	MG/L		47.		0.1	-
	0804	04/27/86	0001	TA	O			17.		0.1	-
	0805	10/28/85	0001	TA	O			12.		0.1	-
	0815	10/28/85	0001	TA	O			1.5		0.1	-
	0816	10/28/85	0001	TA	O			200.		0.1	-
	0817	10/28/85	0001	TA	O			1200.		0.1	-
ANTIMONY	0804	10/28/85	0001	TA	O	MG/L	<	0.003		0.003	-
	0804	04/27/86	0001	TA	O		<	0.003		0.003	-
	0805	10/28/85	0001	TA	O		<	0.003		0.003	-
	0805	04/27/86	0001	TA	O		<	0.003		0.003	-
	0814	04/27/86	0001	TA	O		<	0.003		0.003	-
	0815	10/28/85	0001	TA	O		<	0.003		0.003	-
	0815	04/27/86	0001	TA	O		<	0.003		0.003	-
	0816	10/28/85	0001	TA	O		<	0.003		0.003	-
	0816	04/27/86	0001	TA	O		<	0.003		0.003	-
	0817	10/28/85	0001	TA	O		<	0.003		0.003	-
ARSENIC	0804	10/28/85	0001	TA	O	MG/L	<	0.01		0.01	-
	0804	04/27/86	0001	TA	O		<	0.01		0.01	-
	0805	10/28/85	0001	TA	O		<	0.01		0.01	-
	0805	04/27/86	0001	TA	O		<	0.01		0.01	-
	0814	10/28/85	0001	TA	O		<	0.01		0.01	-
	0814	04/27/86	0001	TA	O		<	0.01		0.01	-
	0815	10/28/85	0001	TA	O		<	0.01		0.01	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOMP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	0815	04/27/86	0001	TA	O	MG/L	<	0.01		0.01	-
	0816	10/28/85	0001	TA	O		<	0.01		0.01	-
	0816	04/27/86	0001	TA	O		<	0.01		0.01	-
	0817	10/28/85	0001	TA	O		<	0.01		0.01	-
BARIUM	0804	10/28/85	0001	TA	O	MG/L		0.3		0.1	-
	0804	04/27/86	0001	TA	O			0.1		0.1	-
	0805	10/28/85	0001	TA	O			0.5		0.1	-
	0805	04/27/86	0001	TA	O			0.2		0.1	-
	0814	04/27/86	0001	TA	O		<	0.1		0.1	-
	0815	10/28/85	0001	TA	O			0.3		0.1	-
	0815	04/27/86	0001	TA	O			0.1		0.1	-
	0816	10/28/85	0001	TA	O			0.3		0.1	-
	0816	04/27/86	0001	TA	O			0.1		0.1	-
	0817	10/28/85	0001	TA	O			0.3		0.1	-
BORON	0804	04/27/86	0001	TA	O	MG/L	<	0.1		0.1	-
	0805	04/27/86	0001	TA	O		<	0.1		0.1	-
	0814	04/27/86	0001	TA	O		<	0.1		0.1	-
	0815	04/27/86	0001	TA	O		<	0.1		0.1	-
	0816	04/27/86	0001	TA	O		<	0.1		0.1	-
CADMIUM	0804	10/28/85	0001	TA	O	MG/L	<	0.001		0.001	-
	0804	04/27/86	0001	TA	O		<	0.001		0.001	-
	0805	10/28/85	0001	TA	O		<	0.001		0.001	-
	0805	04/27/86	0001	TA	O		<	0.001		0.001	-
	0814	04/27/86	0001	TA	O		<	0.001		0.001	-
	0815	10/28/85	0001	TA	O		<	0.001		0.001	-
	0815	04/27/86	0001	TA	O		<	0.001		0.001	-
	0816	10/28/85	0001	TA	O		<	0.001		0.001	-
	0816	04/27/86	0001	TA	O		<	0.001		0.001	-
	0817	10/28/85	0001	TA	O		<	0.001		0.001	-
CALCIUM	0804	10/28/85	0001	TA	O	MG/L		36.9		0.01	-
	0804	04/27/86	0001	TA	O			39.4		0.01	-
	0805	10/28/85	0001	TA	O			425.		0.01	-
	0805	04/27/86	0001	TA	O			198.		0.01	-
	0814	10/28/85	0001	TA	O			585.		0.01	-
	0814	04/27/86	0001	TA	O			534.		0.01	-
	0815	10/28/85	0001	TA	O			544.		0.01	-
	0815	04/27/86	0001	TA	O			510.		0.01	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	0816	10/28/85	0001	TA	O	MG/L		626.		0.01	-
	0816	04/27/86	0001	TA	O			457.		0.01	-
	0817	10/28/85	0001	TA	O			555.		0.01	-
CHLORIDE	0804	10/28/85	0001	TA	O	MG/L		26.		1.	-
	0804	04/27/86	0001	TA	O			33.		1.	-
	0805	10/28/85	0001	TA	O			41.		1.	-
	0805	04/27/86	0001	TA	O			45.		1.	-
	0814	10/28/85	0001	TA	O			5.		1.	-
	0815	10/28/85	0001	TA	O			7.		1.	-
	0816	10/28/85	0001	TA	O			15.	R	1.	-
	0817	10/28/85	0001	TA	O			20.		1.	-
CHROMIUM	0804	10/28/85	0001	TA	O	MG/L		0.02		0.01	-
	0804	04/27/86	0001	TA	O		<	0.01		0.01	-
	0805	10/28/85	0001	TA	O			0.03		0.01	-
	0805	04/27/86	0001	TA	O			0.03		0.01	-
	0814	04/27/86	0001	TA	O			0.03		0.01	-
	0815	10/28/85	0001	TA	O			0.02		0.01	-
	0815	04/27/86	0001	TA	O			0.05		0.01	-
	0816	10/28/85	0001	TA	O			0.04		0.01	-
	0816	04/27/86	0001	TA	O			0.05		0.01	-
	0817	10/28/85	0001	TA	O			0.02		0.01	-
COBALT	0804	10/28/85	0001	TA	O	MG/L	<	0.05		0.05	-
	0804	04/27/86	0001	TA	O			0.07		0.05	-
	0805	10/28/85	0001	TA	O			0.05		0.05	-
	0805	04/27/86	0001	TA	O			0.11		0.05	-
	0814	04/27/86	0001	TA	O			0.34		0.05	-
	0815	10/28/85	0001	TA	O			0.61		0.05	-
	0815	04/27/86	0001	TA	O			0.87		0.05	-
	0816	10/28/85	0001	TA	O			0.65		0.05	-
	0816	04/27/86	0001	TA	O			1.41		0.05	-
	0817	10/28/85	0001	TA	O			0.99		0.05	-
COPPER	0804	10/28/85	0001	TA	O	MG/L	<	0.02		0.02	-
	0804	04/27/86	0001	TA	O			0.03		0.02	-
	0805	10/28/85	0001	TA	O			0.04		0.02	-
	0805	04/27/86	0001	TA	O			0.04		0.02	-
	0814	04/27/86	0001	TA	O			0.04		0.02	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COPPER	0815	10/28/85	0001	TA	O	MG/L		0.04		0.02	-
	0815	04/27/86	0001	TA	O			0.11		0.02	-
	0816	10/28/85	0001	TA	O			0.03		0.02	-
	0816	04/27/86	0001	TA	O			0.14		0.02	-
	0817	10/28/85	0001	TA	O			0.04		0.02	-
FLUORIDE	0804	04/27/86	0001	TA	O	MG/L		1.7		0.1	-
IRON	0804	10/28/85	0001	TA	O	MG/L		0.03		0.03	-
	0804	04/27/86	0001	TA	O		<	0.03		0.03	-
	0805	10/28/85	0001	TA	O			0.04		0.03	-
	0805	04/27/86	0001	TA	O			0.04		0.03	-
	0814	04/27/86	0001	TA	O			0.1		0.03	-
	0815	10/28/85	0001	TA	O			0.03		0.03	-
	0815	04/27/86	0001	TA	O			0.11		0.03	-
	0816	10/28/85	0001	TA	O			0.29		0.03	-
	0816	04/27/86	0001	TA	O			0.16		0.03	-
	0817	10/28/85	0001	TA	O			1.86		0.03	-
LEAD	0804	04/27/86	0001	TA	O	MG/L	<	0.01		0.01	-
	0805	04/27/86	0001	TA	O		<	0.01		0.01	-
	0814	04/27/86	0001	TA	O		<	0.01		0.01	-
	0815	04/27/86	0001	TA	O		<	0.01		0.01	-
	0816	04/27/86	0001	TA	O		<	0.01		0.01	-
MAGNESIUM	0804	10/28/85	0001	TA	O	MG/L		18.3		0.001	-
	0804	04/27/86	0001	TA	O			17.6		0.001	-
	0805	10/28/85	0001	TA	O			135.		0.001	-
	0805	04/27/86	0001	TA	O			90.		0.001	-
	0814	10/28/85	0001	TA	O			3.94		0.001	-
	0814	04/27/86	0001	TA	O			3.02		0.001	-
	0815	10/28/85	0001	TA	O			6.3		0.001	-
	0815	04/27/86	0001	TA	O			5.26		0.001	-
	0816	10/28/85	0001	TA	O			31.8		0.001	-
	0816	04/27/86	0001	TA	O			35.		0.001	-
	0817	10/28/85	0001	TA	O			78.3		0.001	-
MANGANESE	0804	10/28/85	0001	TA	O	MG/L		0.37		0.01	-
	0804	04/27/86	0001	TA	O			0.17		0.01	-
	0805	10/28/85	0001	TA	O			0.67		0.01	-
	0805	04/27/86	0001	TA	O			0.77		0.01	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	0814	04/27/86	0001	TA	O	MG/L		0.92		0.01	-
	0815	10/28/85	0001	TA	O			2.25		0.01	-
	0815	04/27/86	0001	TA	O			2.82		0.01	-
	0816	10/28/85	0001	TA	O			2.77		0.01	-
	0816	04/27/86	0001	TA	O			3.94		0.01	-
	0817	10/28/85	0001	TA	O			2.97		0.01	-
MERCURY	0804	10/28/85	0001	TA	O	MG/L	<	0.0002		0.0002	-
	0805	10/28/85	0001	TA	O		<	0.0002		0.0002	-
	0814	10/28/85	0001	TA	O		<	0.0002		0.0002	-
	0815	10/28/85	0001	TA	O		<	0.0002		0.0002	-
	0816	10/28/85	0001	TA	O		<	0.0002		0.0002	-
	0817	10/28/85	0001	TA	O		<	0.0002		0.0002	-
MOLYBDENUM	0804	10/28/85	0001	TA	O	MG/L		0.17		0.01	-
	0804	04/27/86	0001	TA	O			0.21		0.01	-
	0805	10/28/85	0001	TA	O			0.2		0.01	-
	0805	04/27/86	0001	TA	O			0.24		0.01	-
	0814	04/27/86	0001	TA	O			0.23		0.01	-
	0815	10/28/85	0001	TA	O			0.25		0.01	-
	0815	04/27/86	0001	TA	O			0.19		0.01	-
	0816	10/28/85	0001	TA	O			0.26		0.01	-
	0816	04/27/86	0001	TA	O			0.15		0.01	-
	0817	10/28/85	0001	TA	O			0.32		0.01	-
NICKEL	0804	10/28/85	0001	TA	O	MG/L		0.06		0.04	-
	0804	04/27/86	0001	TA	O			0.05	G	0.04	-
	0805	10/28/85	0001	TA	O			0.15		0.04	-
	0805	04/27/86	0001	TA	O			0.09		0.04	-
	0814	04/27/86	0001	TA	O			0.31		0.04	-
	0815	10/28/85	0001	TA	O			0.54		0.04	-
	0815	04/27/86	0001	TA	O			0.57		0.04	-
	0816	10/28/85	0001	TA	O			0.53		0.04	-
	0816	04/27/86	0001	TA	O			0.66		0.04	-
	0817	10/28/85	0001	TA	O			1.1		0.04	-
NITRATE	0804	10/28/85	0001	TA	O	MG/L		25.		1.	-
	0804	04/27/86	0001	TA	O			32.		1.	-
	0805	10/28/85	0001	TA	O			570.		1.	-
	0805	04/27/86	0001	TA	O			83.		1.	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	0814	10/28/85	0001	TA	O	MG/L		14.		1.	-
	0815	10/28/85	0001	TA	O			18.		1.	-
	0816	10/28/85	0001	TA	O			27.		1.	-
	0817	10/28/85	0001	TA	O			530.		1.	-
PH	0804	10/28/85	0001	TA	O	SU		7.63		-	-
	0804	04/27/86	0001	TA	O			6.72		-	-
	0805	10/28/85	0001	TA	O			7.24		-	-
	0805	04/27/86	0001	TA	O			7.19		-	-
	0814	10/28/85	0001	TA	O			6.64		-	-
	0814	04/27/86	0001	TA	O			5.82		-	-
	0815	10/28/85	0001	TA	O			6.23		-	-
	0815	04/27/86	0001	TA	O			4.56		-	-
	0816	10/28/85	0001	TA	O			6.32		-	-
	0816	04/27/86	0001	TA	O			4.3		-	-
	0817	10/28/85	0001	TA	O			6.16		-	-
POTASSIUM	0804	10/28/85	0001	TA	O	MG/L		4.81		0.01	-
	0804	04/27/86	0001	TA	O			3.27		0.01	-
	0805	10/28/85	0001	TA	O			5.21		0.01	-
	0805	04/27/86	0001	TA	O			3.25		0.01	-
	0814	10/28/85	0001	TA	O			3.79		0.01	-
	0814	04/27/86	0001	TA	O			2.24		0.01	-
	0815	10/28/85	0001	TA	O			3.83		0.01	-
	0815	04/27/86	0001	TA	O			3.13		0.01	-
	0816	10/28/85	0001	TA	O			8.91		0.01	-
	0816	04/27/86	0001	TA	O			6.07		0.01	-
	0817	10/28/85	0001	TA	O			21.9		0.01	-
RADIUM-226	0804	10/28/85	0001	TA	O	PCI/L		2.9		1.	2.1
	0805	10/28/85	0001	TA	O			4.7		1.	2.1
	0815	10/28/85	0001	TA	O			8.1		1.	3.3
	0816	10/28/85	0001	TA	O			13.		1.	4.
	0817	10/28/85	0001	TA	O			3.8		1.	2.3
SELENIUM	0804	10/28/85	0001	TA	O	MG/L	<	0.005		0.005	-
	0804	04/27/86	0001	TA	O		<	0.005		0.005	-
	0805	10/28/85	0001	TA	O		<	0.005		0.005	-
	0805	04/27/86	0001	TA	O		<	0.005		0.005	-
	0814	10/28/85	0001	TA	O		<	0.005		0.005	-
	0814	04/27/86	0001	TA	O		<	0.005		0.005	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	0815	10/28/85	0001	TA	O	MG/L	<	0.005		0.005	-
	0815	04/27/86	0001	TA	O		<	0.005		0.005	-
	0816	10/28/85	0001	TA	O		<	0.005		0.005	-
	0816	04/27/86	0001	TA	O		<	0.005		0.005	-
	0817	10/28/85	0001	TA	O		<	0.005		0.005	-
SILVER	0804	10/28/85	0001	TA	O	MG/L	<	0.01		0.01	-
	0804	04/27/86	0001	TA	O		<	0.01		0.01	-
	0805	10/28/85	0001	TA	O		<	0.01		0.01	-
	0805	04/27/86	0001	TA	O		<	0.01		0.01	-
	0814	04/27/86	0001	TA	O		<	0.01		0.01	-
	0815	10/28/85	0001	TA	O		<	0.01		0.01	-
	0815	04/27/86	0001	TA	O		<	0.01		0.01	-
	0816	10/28/85	0001	TA	O		<	0.01		0.01	-
	0816	04/27/86	0001	TA	O		<	0.01		0.01	-
	0817	10/28/85	0001	TA	O		<	0.01		0.01	-
SODIUM	0804	10/28/85	0001	TA	O	MG/L		107.		0.002	-
	0804	04/27/86	0001	TA	O			171.		0.002	-
	0805	10/28/85	0001	TA	O			362.		0.002	-
	0805	04/27/86	0001	TA	O			232.		0.002	-
	0814	10/28/85	0001	TA	O			18.1		0.002	-
	0814	04/27/86	0001	TA	O			3.75		0.002	-
	0815	10/28/85	0001	TA	O			9.51		0.002	-
	0815	04/27/86	0001	TA	O			3.57		0.002	-
	0816	10/28/85	0001	TA	O			22.6		0.002	-
	0816	04/27/86	0001	TA	O			8.36		0.002	-
	0817	10/28/85	0001	TA	O			70.7		0.002	-
SPECIFIC CONDUCTANCE	0804	04/27/86	0001	TA	O	UMHO/CM		435.		-	-
	0805	04/27/86	0001	TA	O			850.		-	-
	0814	04/27/86	0001	TA	O			800.		-	-
	0815	04/27/86	0001	TA	O			850.		-	-
	0816	04/27/86	0001	TA	O			1200.		-	-
STRONTIUM	0804	10/28/85	0001	TA	O	MG/L		0.2		0.1	-
	0804	04/27/86	0001	TA	O			0.1		0.1	-
	0805	10/28/85	0001	TA	O			1.6		0.1	-
	0805	04/27/86	0001	TA	O			1.3		0.1	-
	0814	04/27/86	0001	TA	O			0.7		0.1	-
	0815	10/28/85	0001	TA	O			0.7		0.1	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM	0815	04/27/86	0001	TA	O	MG/L		0.7		0.1	-
	0816	10/28/85	0001	TA	O			0.7		0.1	-
	0816	04/27/86	0001	TA	O			0.7		0.1	-
	0817	10/28/85	0001	TA	O			0.7		0.1	-
SULFATE	0804	10/28/85	0001	TA	O	MG/L		212.		0.1	-
	0804	04/27/86	0001	TA	O			286.		0.1	-
	0805	10/28/85	0001	TA	O			1610.		0.1	-
	0805	04/27/86	0001	TA	O			738.		0.1	-
	0814	10/28/85	0001	TA	O			1420.		0.1	-
	0815	10/28/85	0001	TA	O			1310.		0.1	-
	0816	10/28/85	0001	TA	O			2050.		0.1	-
	0817	10/28/85	0001	TA	O			4510.		0.1	-
TEMPERATURE	0804	04/27/86	0001	TA	O	C - DEGREE		16.		-	-
	0805	04/27/86	0001	TA	O			15.5		-	-
	0814	04/27/86	0001	TA	O			16.		-	-
	0815	04/27/86	0001	TA	O			16.		-	-
	0816	04/27/86	0001	TA	O			16.		-	-
TIN	0804	10/28/85	0001	TA	O	MG/L	<	0.005		0.005	-
	0804	04/27/86	0001	TA	O		<	0.005		0.005	-
	0805	10/28/85	0001	TA	O		<	0.005		0.005	-
	0805	04/27/86	0001	TA	O		<	0.005		0.005	-
	0814	04/27/86	0001	TA	O		<	0.005		0.005	-
	0815	10/28/85	0001	TA	O		<	0.005		0.005	-
	0815	04/27/86	0001	TA	O		<	0.005		0.005	-
	0816	10/28/85	0001	TA	O		<	0.005		0.005	-
	0816	04/27/86	0001	TA	O		<	0.005		0.005	-
	0817	10/28/85	0001	TA	O		<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	0804	10/28/85	0001	TA	O	MG/L		703.		10.	-
	0805	10/28/85	0001	TA	O			2900.		10.	-
	0814	10/28/85	0001	TA	O			2220.		10.	-
	0815	10/28/85	0001	TA	O			2080.		10.	-
	0816	10/28/85	0001	TA	O			3140.		10.	-
	0817	10/28/85	0001	TA	O			6850.		10.	-
URANIUM	0804	10/28/85	0001	TA	O	MG/L		0.0201		0.003	-
	0804	04/27/86	0001	TA	O			0.0205		0.003	-
	0805	10/28/85	0001	TA	O			0.78		0.003	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

LYSIMETER WATER QUALITY DATA BY PARAMETER
SOMP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
10/28/85 TO 04/27/86
REPORT DATE: 06/22/95

PARAMETER NAME	LOCATION ID	LOG DATE	SAMPLE ID	MAT. SAMP	FLOW REL.	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	0805	04/27/86	0001	TA	O	MG/L		1.08		0.003	-
	0814	10/28/85	0001	TA	O			0.0033		0.003	-
	0814	04/27/86	0001	TA	O			0.0006	J	0.003	-
	0815	10/28/85	0001	TA	O			0.036		0.003	-
	0815	04/27/86	0001	TA	O			0.0064		0.003	-
	0816	10/28/85	0001	TA	O			0.0753		0.003	-
	0816	04/27/86	0001	TA	O			0.054		0.003	-
	0817	10/28/85	0001	TA	O			0.0008	J	0.003	-
VANADIUM	0804	10/28/85	0001	TA	O	MG/L		0.3		0.01	-
	0804	04/27/86	0001	TA	O			0.69		0.01	-
	0805	10/28/85	0001	TA	O			0.62		0.01	-
	0805	04/27/86	0001	TA	O			0.91		0.01	-
	0814	04/27/86	0001	TA	O			1.08		0.01	-
	0815	10/28/85	0001	TA	O			0.48		0.01	-
	0815	04/27/86	0001	TA	O			0.89		0.01	-
	0816	10/28/85	0001	TA	O			0.26		0.01	-
	0816	04/27/86	0001	TA	O			0.97		0.01	-
	0817	10/28/85	0001	TA	O			0.25		0.01	-
ZINC	0804	10/28/85	0001	TA	O	MG/L		0.06		0.005	-
	0804	04/27/86	0001	TA	O			0.129		0.005	-
	0805	10/28/85	0001	TA	O			0.129		0.005	-
	0805	04/27/86	0001	TA	O			0.107		0.005	-
	0814	04/27/86	0001	TA	O			1.41		0.005	-
	0815	10/28/85	0001	TA	O			1.82		0.005	-
	0815	04/27/86	0001	TA	O			0.912		0.005	-
	0816	10/28/85	0001	TA	O			3.86		0.005	-
	0816	04/27/86	0001	TA	O			0.86		0.005	-
	0817	10/28/85	0001	TA	O			2.09		0.005	-

MATERIAL OF SAMPLING CODE:
TA - URANIUM MILL TAILINGS

FLOW RELATIONSHIP CODE:
O - ON-SITE

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

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

DATA FILE NAME: \DART\MON01\LYS10000.DAT

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0620
NORTH COORDINATE: 70685.0 FT
EAST COORDINATE: 90918.8 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/27/93	N001	MG/L CACO3		352		-	-
AMMONIUM (TOTAL)	06/27/93	N001	MG/L		0.2		0.1	-
ARSENIC (TOTAL)	06/27/93	N001	MG/L		0.019		0.005	-
BARIUM (TOTAL)	06/27/93	N001	MG/L		0.4		0.1	-
CALCIUM (TOTAL)	06/27/93	N001	MG/L		46.7		0.5	-
CHLORIDE (TOTAL)	06/27/93	N001	MG/L		14.5		0.5	-
GROSS ALPHA (TOTAL)	06/27/93	N001	PCI/L		39		5	13
GROSS BETA (TOTAL)	06/27/93	N001	PCI/L		28		5	6
IRON (TOTAL)	06/27/93	N001	MG/L		14.5		0.03	-
MAGNESIUM (TOTAL)	06/27/93	N001	MG/L		27.2		0.1	-
MANGANESE (TOTAL)	06/27/93	N001	MG/L		1.53		0.01	-
MOLYBDENUM (TOTAL)	06/27/93	N001	MG/L		0.03		0.01	-
NET GROSS ALPHA (TOTAL) **	06/27/93	N001	PCI/L		19.79		-	-
NITRATE (TOTAL)	06/27/93	N001	MG/L	<	1		1	-
PH	06/27/93	N001	SU		8.03		-	-
PHOSPHATE (TOTAL)	06/27/93	N001	MG/L		1.4		0.1	-
POTASSIUM (TOTAL)	06/27/93	N001	MG/L		7.3		0.1	-
SILICA - SIO2 (TOTAL)	06/27/93	N001	MG/L		32.1	H	0.5	-
SODIUM (TOTAL)	06/27/93	N001	MG/L		112		1	-
SPECIFIC CONDUCTANCE	06/27/93	N001	UMHO/CM		831		-	-
STRONTIUM (TOTAL)	06/27/93	N001	MG/L		0.42		0.01	-
SULFATE (TOTAL)	06/27/93	N001	MG/L		84		1	-
TEMPERATURE	06/27/93	N001	C - DEGREE		27.0		-	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/27/93	N001	MG/L		490		10	-
URANIUM (TOTAL)	06/27/93	N001	MG/L		0.028		0.001	-
VANADIUM (TOTAL)	06/27/93	N001	MG/L		0.04		0.01	-
ZINC (TOTAL)	06/27/93	N001	MG/L		0.033	J	0.005	-

** NET GROSS ALPHA (TOTAL) (TOTAL GROSS ALPHA - TOTAL URANIUM)

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0620
NORTH COORDINATE: 70685.0 FT
EAST COORDINATE: 90918.8 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

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:

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0621
NORTH COORDINATE: 57935.9 FT
EAST COORDINATE: 90924.4 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/09/89	0001	MG/L CACO3		201.	J	-	-
	06/01/91	0001			237.		-	-
	02/21/92	0001			278		-	-
	08/14/92	0001			194		-	-
	11/22/92	N001			361		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1	J	0.1	-
	06/01/91	0001		<	0.05		0.05	-
	02/21/92	0001		<	0.05		0.05	-
	08/14/92	0001		<	0.2		0.2	-
AMMONIUM	06/09/89	0001	MG/L	<	0.1	J	0.1	-
	06/01/91	0001			2.1		0.1	-
	02/21/92	0001		<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003	J	0.003	-
	06/01/91	0001			0.003		0.003	-
	02/21/92	0001		<	0.003		0.003	-
	08/14/92	0001		<	0.06	W	0.06	-
ARSENIC	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001			0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/14/92	0001			0.01		0.01	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
BARIUM	06/09/89	0001	MG/L		0.2	J	0.1	-
	06/01/91	0001			0.18		0.01	-
	02/21/92	0001			0.19		0.01	-
	08/14/92	0001			0.22		0.2	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.15		0.0015	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.005		0.005	-
BORON	06/09/89	0001	MG/L	<	0.1	J	0.1	-
	06/01/91	0001			0.08		0.05	-
BROMIDE	06/01/91	0001	MG/L	<	0.1		0.1	-
CADMIUM	06/09/89	0001	MG/L	<	0.001	J	0.001	-
	06/01/91	0001		<	0.001		0.001	-
	02/21/92	0001		<	0.0005		0.0005	-
	08/14/92	0001		<	0.005	E	0.005	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.00013	NW	0.00013	-
CALCIUM	06/09/89	0001	MG/L		43.7	J	0.01	-
	06/01/91	0001			33.5		0.5	-
	02/21/92	0001			39.7		0.5	-

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
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:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0621
NORTH COORDINATE: 57935.9 FT
EAST COORDINATE: 90924.4 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	08/14/92	0001	MG/L		38		5	-
CHLORIDE	06/09/89	0001	MG/L		4.9	J	1.	-
	06/01/91	0001			8.0		0.5	-
	02/21/92	0001			11.1		0.5	-
	08/14/92	0001			5.3		0.016	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.01		0.01	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05	J	0.05	-
	06/01/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02	J	0.02	-
	06/01/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01	J	0.01	-
FLUORIDE	06/09/89	0001	MG/L		0.4	J	0.1	-
	06/01/91	0001			0.2		0.1	-
GROSS ALPHA	06/01/91	0001	PCI/L		41.6		1.	8.4
	02/21/92	0001			19.7		1.0	6.7
	08/14/92	0001			13		5	5
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		2.1	N	8.8	5.5
GROSS BETA	06/01/91	0001	PCI/L		17.6		0.5	3.6
	02/21/92	0001			13.8		0.5	3.3
	08/14/92	0001			7.4		4.2	3.0
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		8.4	N	6.5	4.3
IRON	06/09/89	0001	MG/L	<	0.03	J	0.03	-
	06/01/91	0001			0.03		0.03	-
	02/21/92	0001		<	0.03		0.03	-
	08/14/92	0001		<	0.1		0.1	-
LEAD	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.005		0.005	-
LEAD (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		5.6		0.3	0.9
MAGNESIUM	06/09/89	0001	MG/L		30.3	J	0.001	-
	06/01/91	0001			20.4		0.1	-
	02/21/92	0001			31.7		0.1	-
	08/14/92	0001			20		5	-
MANGANESE	06/09/89	0001	MG/L		0.06	J	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0621
NORTH COORDINATE: 57935.9 FT
EAST COORDINATE: 90924.4 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	06/01/91	0001	MG/L		0.13		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/14/92	0001			0.11		0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L		0.0050		0.0015	-
MERCURY	06/09/89	0001	MG/L	<	0.0002	J	0.0002	-
MOLYBDENUM	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.007		0.007	-
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L	<	0.0049	N	0.0049	-
NET GROSS ALPHA *	06/01/91	0001	PCI/L		11.42		-	-
	02/21/92	0001			-2.94		-	-
	08/14/92	0001			6.83		-	-
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-7.50		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04	J	0.04	-
	06/01/91	0001		<	0.04		0.04	-
NITRATE	06/09/89	0001	MG/L		5.3	J	1.	-
	06/01/91	0001			2.9		1.	-
	02/21/92	0001		<	1.0		1.0	-
	08/14/92	0001			4.3		0.075	-
	11/22/92	N001			0.071		0.044	-
NITRITE AND NITRATE	06/01/91	0001	MG/L		0.65		0.05	-
PH	06/09/89	0001	SU		8.86		-	-
	06/01/91	0001			7.90		-	-
	02/21/92	0001			8.47		-	-
	08/14/92	0001			7.54		-	-
	11/22/92	N001			9.25		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6	J	0.1	-
POTASSIUM	06/09/89	0001	MG/L		1.3	J	0.01	-
	06/01/91	0001			5.4		0.01	-
	02/21/92	0001			6.04		0.01	-
	08/14/92	0001			5.1		0.575	-
RADIUM-226	06/09/89	0001	PCI/L		0.0	J	1.	0.1
	06/01/91	0001			6.8		1.	1.1
	02/21/92	0001			3.8		1.0	0.9
	08/14/92	0001			0.0		0.4	0.1
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.2		0.3	0.2

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0621
NORTH COORDINATE: 57935.9 FT
EAST COORDINATE: 90924.4 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.00		-	-
	06/01/91	0001			8.60		-	-
	02/21/92	0001			3.80		-	-
	08/14/92	0001			0.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.00		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.0	J	1.	0.9
	06/01/91	0001			1.8		1.	1.5
	02/21/92	0001			0.0		1.0	1.5
	08/14/92	0001			0		2	1
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		2.8		1.9	1.4
SELENIUM	06/09/89	0001	MG/L	<	0.005	J	0.005	-
	06/01/91	0001		<	0.005	J	0.005	-
	02/21/92	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.005	W	0.005	-
SELENIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0015	W	0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		11.	J	2.	-
	06/01/91	0001			8.2		0.1	-
SILVER	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.01		0.01	-
SODIUM	06/09/89	0001	MG/L		44.7	J	0.002	-
	06/01/91	0001			41.		1.	-
	02/21/92	0001			43.		1.	-
	08/14/92	0001			30		5	-
SPECIFIC CONDUCTANCE	06/09/89	0001	UMHO/CM		377.		-	-
	06/01/91	0001			460.		-	-
	02/21/92	0001			402		-	-
	08/14/92	0001			422		-	-
	11/22/92	N001			570		-	-
STRONTIUM	06/01/91	0001	MG/L		0.42		0.01	-
	02/21/92	0001			0.55		0.01	-
	08/14/92	0001			0.49		0.2	-
STRONTIUM (TOTAL)	11/22/92	N001	MG/L		0.55	+	0.00035	-
SULFATE	06/09/89	0001	MG/L		35.	J	0.1	-
	06/01/91	0001			14.		0.1	-
	02/21/92	0001			32.		10.	-
	08/14/92	0001			10		0.059	-
SULFATE (TOTAL)	11/22/92	N001	MG/L		50		1.0	-
SULFIDE	06/09/89	0001	MG/L	<	0.1	J	0.1	-
	06/01/91	0001			1.10	J	1.	-
TEMPERATURE	06/09/89	0001	C - DEGREE		25.5		-	-

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

OTHER PARAMETER VALUE FLAGS:
+ - CORRELATION COEFFICIENT FOR MSA < 0.995
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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0621
NORTH COORDINATE: 57935.9 FT
EAST COORDINATE: 90924.4 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	06/01/91	0001	C - DEGREE		14.4		-	-
	02/21/92	0001			9.6		-	-
	08/14/92	0001			20.1		-	-
	11/22/92	N001			12.3		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.01		0.01	-
THORIUM-230	06/01/91	0001	PCI/L		0.4		1.	0.6
TIN	06/09/89	0001	MG/L	<	0.005	J	0.005	-
	06/01/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	06/09/89	0001	MG/L		297.	J	10.	-
	06/01/91	0001			262.		10.	-
	02/21/92	0001			350.		10.	-
	08/14/92	0001			270		42	-
TOTAL ORGANIC CARBON	06/01/91	0001	MG/L		5.		1.	-
	02/21/92	0001			4.		1.	-
	08/14/92	0001			5.1		1.0	-
URANIUM	06/09/89	0001	MG/L		0.0005	J	0.003	-
	06/01/91	0001			0.044		0.001	-
	02/21/92	0001			0.033		0.001	-
	08/14/92	0001			0.009		0.001	-
URANIUM (TOTAL)	11/22/92	N001	MG/L		0.014		0.001	-
VANADIUM	06/09/89	0001	MG/L	<	0.01	J	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.05	*	0.05	-
VANADIUM (TOTAL)	11/22/92	N001	MG/L		0.0030		0.0019	-
ZINC	06/09/89	0001	MG/L	<	0.005	J	0.005	-
	06/01/91	0001			0.005		0.005	-
	02/21/92	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.02		0.02	-
ZINC (TOTAL)	11/22/92	N001	MG/L		0.0050		0.0010	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0622
NORTH COORDINATE: 56576.1 FT
EAST COORDINATE: 89945.2 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/09/89	0001	MG/L CACO3		486.		-	-
	06/01/91	0001			248.		-	-
	02/23/92	0001			254		-	-
	08/14/92	0001			218		-	-
	11/24/92	N001			244		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	06/01/91	0001		<	0.05		0.05	-
	02/23/92	0001		<	0.05		0.05	-
	08/14/92	0001		<	0.2		0.2	-
AMMONIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	06/01/91	0001			0.1		0.1	-
	02/23/92	0001		<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.0003	J	0.003	-
	06/01/91	0001		<	0.003		0.003	-
	02/23/92	0001		<	0.003		0.003	-
	08/14/92	0001		<	0.06	W	0.06	-
ARSENIC	06/09/89	0001	MG/L		1.0		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.01	W	0.01	-
ARSENIC (TOTAL)	11/24/92	N001	MG/L	<	0.0015		0.0015	-
BARIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	06/01/91	0001			0.17		0.01	-
	02/23/92	0001			0.20		0.01	-
	08/14/92	0001		<	0.2		0.2	-
BARIUM (TOTAL)	11/24/92	N001	MG/L		0.20		0.0015	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/01/91	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.005		0.005	-
BORON	06/09/89	0001	MG/L		0.4		0.1	-
	06/01/91	0001			0.06		0.05	-
BROMIDE	06/01/91	0001	MG/L		0.1		0.1	-
CADMIUM	06/09/89	0001	MG/L	<	0.001		0.001	-
	06/01/91	0001		<	0.001		0.001	-
	02/23/92	0001		<	0.0005		0.0005	-
	08/14/92	0001		<	0.005	E	0.005	-
CADMIUM (TOTAL)	11/24/92	N001	MG/L	<	0.00013	N	0.00013	-
CALCIUM	06/09/89	0001	MG/L		32.3		0.01	-
	06/01/91	0001			40.9		0.5	-
	02/23/92	0001			41.6		0.5	-

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
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:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0622
NORTH COORDINATE: 56576.1 FT
EAST COORDINATE: 89945.2 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	08/14/92	0001	MG/L		37		5	-
CHLORIDE	06/09/89	0001	MG/L		110.		1.	-
	06/01/91	0001			7.2		0.5	-
	02/23/92	0001			9.2		0.5	-
	08/14/92	0001			8.2		0.016	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.01		0.01	-
CHROMIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
	06/01/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
	06/01/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
FLUORIDE	06/09/89	0001	MG/L		0.6		0.1	-
	06/01/91	0001			0.2		0.1	-
GROSS ALPHA	06/01/91	0001	PCI/L		5.7		1.	5.5
	02/24/92	0001			0.0		1.0	3.7
	08/14/92	0001			0.0		5.5	2.3
GROSS ALPHA (TOTAL)	11/24/92	N001	PCI/L		0.0	N	6.7	3.3
GROSS BETA	06/01/91	0001	PCI/L		4.5		0.5	3.1
	02/24/92	0001			2.7		0.5	2.3
	08/14/92	0001			4.3		5.0	3.2
GROSS BETA (TOTAL)	11/24/92	N001	PCI/L		9.5	N	5.1	3.4
IRON	06/09/89	0001	MG/L	<	0.03		0.03	-
	06/01/91	0001		<	0.03		0.03	-
	02/23/92	0001		<	0.03		0.03	-
	08/14/92	0001		<	0.1		0.1	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/01/91	0001		<	0.005		0.005	-
LEAD (TOTAL)	11/24/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210 (TOTAL)	11/24/92	N001	PCI/L		4.8		0.3	0.8
MAGNESIUM	06/09/89	0001	MG/L		57.4		0.001	-
	06/01/91	0001			27.1		0.1	-
	02/23/92	0001			24.6		0.1	-
	08/14/92	0001			28		5	-
MANGANESE	06/09/89	0001	MG/L		0.07		0.01	-
	06/01/91	0001			0.04		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0622
NORTH COORDINATE: 56576.1 FT
EAST COORDINATE: 89945.2 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	02/23/92	0001	MG/L		0.02		0.01	-
	08/14/92	0001			0.048		0.01	-
MANGANESE (TOTAL)	11/24/92	N001	MG/L		0.0090		0.0015	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/09/89	0001	MG/L		0.09		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.007		0.007	-
MOLYBDENUM (TOTAL)	11/24/92	N001	MG/L	<	0.0049	N	0.0049	-
NET GROSS ALPHA *	06/01/91	0001	PCI/L		5.36		-	-
	02/24/92	0001			-2.06		-	-
	08/14/92	0001			-0.34		-	-
NET GROSS ALPHA (TOTAL) **	11/24/92	N001	PCI/L		-0.34		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
	06/01/91	0001		<	0.04		0.04	-
NITRATE	06/09/89	0001	MG/L		4.8		1.	-
	06/01/91	0001			2.7		1.	-
	02/23/92	0001		<	1.0		1.0	-
	08/14/92	0001			2.3		0.075	-
	11/24/92	N001			0.48		0.044	-
NITRITE AND NITRATE	06/01/91	0001	MG/L		0.61		0.05	-
PH	06/09/89	0001	SU		8.61		-	-
	06/01/91	0001			8.25		-	-
	02/23/92	0001			8.19		-	-
	08/14/92	0001			8.32		-	-
	11/24/92	N001			8.14		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6		0.1	-
POTASSIUM	06/09/89	0001	MG/L		5.0		0.01	-
	06/01/91	0001			2.5		0.01	-
	02/23/92	0001			4.30		0.01	-
	08/14/92	0001			3.7		0.575	-
RADIUM-226	06/09/89	0001	PCI/L		0.1		1.	0.2
	06/01/91	0001			0.3		1.	0.3
	02/24/92	0001			0.1		1.0	0.3
	08/14/92	0001			0.2		0.6	0.1
RADIUM-226 (TOTAL)	11/24/92	N001	PCI/L		2.1		0.3	0.5
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.50		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0622
NORTH COORDINATE: 56576.1 FT
EAST COORDINATE: 89945.2 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228	06/01/91	0001	PCI/L		1.40		-	-
	02/24/92	0001			0.80		-	-
	08/14/92	0001			0.40		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/24/92	N001	PCI/L		6.50		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.4		1.	1.0
	06/01/91	0001			1.1		1.	1.5
	02/24/92	0001			0.7		1.0	1.7
	08/14/92	0001			0.2		1.8	0.9
RADIUM-228 (TOTAL)	11/24/92	N001	PCI/L		4.4		2.0	1.6
SELENIUM	06/09/89	0001	MG/L		0.012		0.005	-
	06/01/91	0001		<	0.005	J	0.005	-
	02/23/92	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.005	W	0.005	-
SELENIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0015	W	0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		52.		2.	-
	06/01/91	0001			11.4		0.1	-
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
SODIUM	06/09/89	0001	MG/L		337.		0.002	-
	06/01/91	0001			39.		1.	-
	02/23/92	0001			36.		1.	-
	08/14/92	0001			43		5	-
SPECIFIC CONDUCTANCE	06/09/89	0001	UMHO/CM		1850.		-	-
	06/01/91	0001			530.		-	-
	02/23/92	0001			404		-	-
	08/14/92	0001			577		-	-
	11/24/92	N001			310		-	-
STRONTIUM	06/01/91	0001	MG/L		0.52		0.01	-
	02/23/92	0001			0.49		0.01	-
	08/14/92	0001			0.52		0.2	-
STRONTIUM (TOTAL)	11/24/92	N001	MG/L		0.61		0.00035	-
SULFATE	06/09/89	0001	MG/L		452.		0.1	-
	06/01/91	0001			31.		0.1	-
	02/23/92	0001			36.		10.	-
	08/14/92	0001			32		0.059	-
SULFATE (TOTAL)	11/24/92	N001	MG/L		37		1.0	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
	06/01/91	0001			1.31	J	1.	-
TEMPERATURE	06/09/89	0001	C - DEGREE		27.5		-	-
	06/01/91	0001			16.2		-	-

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0622
NORTH COORDINATE: 56576.1 FT
EAST COORDINATE: 89945.2 FT
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	02/23/92	0001	C - DEGREE		12.3		-	-
	08/14/92	0001			30.2		-	-
	11/24/92	N001			5.6		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/01/91	0001		<	0.01		0.01	-
THORIUM-230	06/01/91	0001	PCI/L		0.5		1.	0.4
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-
	06/01/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	06/09/89	0001	MG/L		1300.		10.	-
	06/01/91	0001			307.		10.	-
	02/23/92	0001			311.		10.	-
	08/14/92	0001			310		42	-
TOTAL ORGANIC CARBON	06/01/91	0001	MG/L		4.		1.	-
	02/23/92	0001			3.		1.	-
	08/14/92	0001			8.3		1.0	-
URANIUM	06/09/89	0001	MG/L		0.015		0.003	-
	06/01/91	0001		<	0.001		0.001	-
	02/24/92	0001			0.003		0.001	-
	08/14/92	0001		<	0.001		0.001	-
URANIUM (TOTAL)	11/24/92	N001	MG/L	<	0.001		0.001	-
VANADIUM	06/09/89	0001	MG/L		0.03		0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.05	*	0.05	-
VANADIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0019		0.0019	-
ZINC	06/09/89	0001	MG/L		0.006		0.005	-
	06/01/91	0001		<	0.005		0.005	-
	02/23/92	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.02		0.02	-
ZINC (TOTAL)	11/24/92	N001	MG/L		0.0050		0.0010	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0623 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/28/93	N001	MG/L CACO3		284	RX	-	-
	12/15/93	N001			213	RX	-	-
	04/21/94	N001			268	RX	-	-
	12/14/94	N001			371	RX	10	-
AMMONIUM	12/15/93	0001	MG/L	<	0.1	RX	0.1	-
AMMONIUM (TOTAL)	06/28/93	N001	MG/L	<	0.1	RX	0.1	-
	04/21/94	N001		<	0.1	RX	0.1	-
	12/14/94	N001			0.1	RX	0.1	-
ARSENIC (TOTAL)	06/28/93	N001	MG/L	<	0.005	RX	0.005	-
CALCIUM	12/15/93	0001	MG/L		41.3	RX	0.5	-
	04/21/94	0001			49.4	RX	0.5	-
	12/14/94	0001			45.7	RX	0.5	-
CALCIUM (TOTAL)	12/15/93	N001	MG/L		43.9	RX	0.5	-
	04/21/94	N001			51.8	RX	0.5	-
	12/14/94	N001			171	RX	0.5	-
CHLORIDE	12/15/93	0001	MG/L		8.0	RX	0.5	-
	04/21/94	0001			15.0	RX	0.5	-
CHLORIDE (TOTAL)	12/14/94	N001	MG/L		9	RX	0.5	-
IRON	12/14/94	0001	MG/L	<	0.03	RX	0.03	-
IRON (TOTAL)	12/14/94	N001	MG/L		33.1	RX	0.03	-
MAGNESIUM	12/15/93	0001	MG/L		22.6	RX	0.1	-
	04/21/94	0001			28.8	RX	0.1	-
	12/14/94	0001			28.7	RX	0.1	-
MAGNESIUM (TOTAL)	12/15/93	N001	MG/L		22.8	RX	0.1	-
	04/21/94	N001			28.0	RX	0.1	-
	12/14/94	N001			76.1	RX	0.1	-
MANGANESE	12/15/93	0001	MG/L		0.07	RX	0.01	-
	04/21/94	0001			0.16	RX	0.01	-
	12/14/94	0001			0.02	RX	0.01	-
MANGANESE (TOTAL)	12/15/93	N001	MG/L		0.08	RX	0.01	-
	04/21/94	N001			0.17	RX	0.01	-
	12/14/94	N001			0.99	RX	0.01	-
MOLYBDENUM	12/14/94	0001	MG/L	<	0.01	RX	0.01	-
MOLYBDENUM (TOTAL)	12/14/94	N001	MG/L	<	0.01	RX	0.01	-
NITRATE	12/15/93	0001	MG/L	<	1	RX	1	-
NITRATE (TOTAL)	06/28/93	N001	MG/L		1	RX	1	-
	04/21/94	N001		<	1	RX	1	-
	12/14/94	N001		<	1	RX	1	-
PH	06/28/93	N001	SU		7.51	RX	-	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0623 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	12/15/93	N001	SU		7.42	RX	-	-
	04/21/94	N001			7.71	RX	-	-
	12/14/94	N001			8.13	RX	0.10	-
PHOSPHATE (TOTAL)	12/14/94	N001	MG/L		0.48	RX	0.1	-
POTASSIUM	12/15/93	0001	MG/L		2.2	RX	0.1	-
	04/21/94	0001			2.9	RX	0.1	-
	12/14/94	0001			8.6	RX	0.1	-
POTASSIUM (TOTAL)	12/15/93	N001	MG/L		2.2	RX	0.1	-
	04/21/94	N001			2.9	RX	0.1	-
	12/14/94	N001			29.7	RX	0.1	-
REDOX POTENTIAL	12/14/94	N001	mVOLTS		438	RX	-	-
SILICA - SIO2	12/15/93	0001	MG/L		19.3	RX	0.1	-
	12/14/94	0001			16.6	RX	0.1	-
SILICA - SIO2 (TOTAL)	12/15/93	N001	MG/L		18.8	RX	0.1	-
	12/14/94	N001			295	RX	0.1	-
SODIUM	12/15/93	0001	MG/L		35	RX	1	-
	04/21/94	0001			53	RX	1	-
	12/14/94	0001			54.5	RX	1	-
SODIUM (TOTAL)	12/15/93	N001	MG/L		36	RX	1	-
	04/21/94	N001			48	RX	1	-
	12/14/94	N001			53	RX	1	-
SPECIFIC CONDUCTANCE	06/28/93	N001	UMHO/CM		806	RX	-	-
	12/15/93	N001			400	RX	-	-
	04/21/94	N001			630	RX	-	-
	12/14/94	N001			350	RX	1	-
STRONTIUM	12/15/93	0001	MG/L		0.48	RX	0.01	-
	04/21/94	0001			0.64	RX	0.01	-
	12/14/94	0001			0.58	JRX	0.01	-
STRONTIUM (TOTAL)	06/28/93	N001	MG/L		0.65	RX	0.01	-
	12/15/93	N001			0.48	RX	0.01	-
	04/21/94	N001			0.59	RX	0.01	-
	12/14/94	N001			1.35	JRX	0.01	-
SULFATE	12/15/93	0001	MG/L		36	RX	1	-
	04/21/94	0001			70	RX	1	-
	12/14/94	0001			29	RX	1	-
SULFATE (TOTAL)	06/28/93	N001	MG/L		55	RX	1	-
	12/14/94	N001			34	RX	1	-
TEMPERATURE	06/28/93	N001	C - DEGREE		33.5	RX	-	-
	12/15/93	N001			6.8	RX	-	-
	04/21/94	N001			22.0	RX	-	-
	12/14/94	N001			1.3	RX	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0623 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	12/15/93	0001	MG/L		300	RX	10	-
	04/21/94	0001			420	RX	10	-
	12/14/94	0001			348	RX	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/28/93	N001	MG/L		400	HRX	10	-
URANIUM	12/15/93	0001	MG/L		0.004	RX	0.001	-
	04/21/94	0001			0.002	RX	0.001	-
URANIUM (TOTAL)	06/28/93	N001	MG/L	<	0.001	RX	0.001	-
	12/15/93	N001			0.004	RX	0.001	-
	04/21/94	N001			0.002	RX	0.001	-
	12/14/94	N001			0.006	RX	0.001	-
VANADIUM	12/15/93	0001	MG/L	<	0.01	RX	0.01	-
	04/21/94	0001		<	0.01	RX	0.01	-
	12/14/94	0001		<	0.01	RX	0.01	-
VANADIUM (TOTAL)	06/28/93	N001	MG/L	<	0.01	RX	0.01	-
	12/15/93	N001		<	0.01	RX	0.01	-
	04/21/94	N001		<	0.01	RX	0.01	-
	12/14/94	N001			0.06	RX	0.01	-
ZINC	12/14/94	0001	MG/L	<	0.05	RX	0.05	-
ZINC (TOTAL)	06/28/93	N001	MG/L		0.213	JRX	0.005	-
	12/14/94	N001			0.11	RX	0.05	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0624 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	12/15/93	N001	MG/L CACO3		598	RX	-	-
	04/21/94	N001			275	RX	-	-
	12/13/94	N001			349	RX	10	-
AMMONIUM	12/15/93	0001	MG/L	<	0.1	RX	0.1	-
AMMONIUM (TOTAL)	04/21/94	N001	MG/L	<	0.1	RX	0.1	-
	12/13/94	N001			0.12	RX	0.1	-
CALCIUM	12/15/93	0001	MG/L		29.3	RX	0.5	-
	04/21/94	0001			19.3	RX	0.5	-
	12/13/94	0001			41.5	RX	0.5	-
CALCIUM (TOTAL)	12/15/93	N001	MG/L		38.3	RX	0.5	-
	04/21/94	N001			23.1	RX	0.5	-
	12/13/94	N001			43.4	RX	0.5	-
CHLORIDE	12/15/93	0001	MG/L		33.3	RX	0.5	-
	04/21/94	0001			15.0	RX	0.5	-
CHLORIDE (TOTAL)	12/13/94	N001	MG/L		17	RX	0.5	-
IRON	12/13/94	0001	MG/L	<	0.03	RX	0.03	-
IRON (TOTAL)	12/13/94	N001	MG/L		1.09	RX	0.03	-
MAGNESIUM	12/15/93	0001	MG/L		67.1	RX	0.1	-
	04/21/94	0001			35.6	RX	0.1	-
	12/13/94	0001			38.2	RX	0.1	-
MAGNESIUM (TOTAL)	12/15/93	N001	MG/L		72.0	RX	0.1	-
	04/21/94	N001			36.0	RX	0.1	-
	12/13/94	N001			38.1	RX	0.1	-
MANGANESE	12/15/93	0001	MG/L		0.01	RX	0.01	-
	04/21/94	0001		<	0.01	RX	0.01	-
	12/13/94	0001		<	0.01	RX	0.01	-
MANGANESE (TOTAL)	12/15/93	N001	MG/L		0.14	RX	0.01	-
	04/21/94	N001			0.05	RX	0.01	-
	12/13/94	N001			0.04	RX	0.01	-
MOLYBDENUM	12/13/94	0001	MG/L	<	0.01	RX	0.01	-
MOLYBDENUM (TOTAL)	12/13/94	N001	MG/L	<	0.01	RX	0.01	-
NITRATE	12/15/93	0001	MG/L	<	1	RX	1	-
NITRATE (TOTAL)	04/21/94	N001	MG/L	<	1	RX	1	-
	12/13/94	N001		<	1	RX	1	-
PH	12/15/93	N001	SU		8.63	RX	-	-
	04/21/94	N001			9.10	RX	-	-
	12/13/94	N001			8.92	RX	0.10	-
PHOSPHATE (TOTAL)	12/13/94	N001	MG/L		0.24	RX	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0624 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	12/15/93	0001	MG/L		21.4	RX	0.1	-
	04/21/94	0001			9.7	RX	0.1	-
	12/13/94	0001			13.6	RX	0.1	-
POTASSIUM (TOTAL)	12/15/93	N001	MG/L		23.7	RX	0.1	-
	04/21/94	N001			10.3	RX	0.1	-
	12/13/94	N001			13.6	RX	0.1	-
REDOX POTENTIAL	12/13/94	N001	mVOLTS		365	RX	-	-
SILICA - SIO2	12/15/93	0001	MG/L		1.5	RX	0.1	-
	12/13/94	0001			16.6	RX	0.1	-
SILICA - SIO2 (TOTAL)	12/15/93	N001	MG/L		27.8	RX	0.1	-
	12/13/94	N001			28.7	RX	0.1	-
SODIUM	12/15/93	0001	MG/L		148	RX	1	-
	04/21/94	0001			68	RX	1	-
	12/13/94	0001			92.5	RX	1	-
SODIUM (TOTAL)	12/15/93	N001	MG/L		154	RX	1	-
	04/21/94	N001			61	RX	1	-
	12/13/94	N001			89.1	RX	1	-
SPECIFIC CONDUCTANCE	12/15/93	N001	UMHO/CM		714	RX	-	-
	04/21/94	N001			647	RX	-	-
	12/13/94	N001			496	RX	1	-
STRONTIUM	12/15/93	0001	MG/L		0.72	RX	0.01	-
	04/21/94	0001			0.55	RX	0.01	-
	12/13/94	0001			0.65	JRX	0.01	-
STRONTIUM (TOTAL)	12/15/93	N001	MG/L		0.78	RX	0.01	-
	04/21/94	N001			0.53	RX	0.01	-
	12/13/94	N001			0.6	JRX	0.01	-
SULFATE	12/15/93	0001	MG/L		63	RX	1	-
	04/21/94	0001			53	RX	1	-
	12/13/94	0001			58	RX	1	-
SULFATE (TOTAL)	12/13/94	N001	MG/L		63	RX	1	-
TEMPERATURE	12/15/93	N001	C - DEGREE		1.9	RX	-	-
	04/21/94	N001			26.7	RX	-	-
	12/13/94	N001			4.7	RX	0.1	-
TOTAL DISSOLVED SOLIDS	12/15/93	0001	MG/L		790	RX	10	-
	04/21/94	0001			400	RX	10	-
	12/13/94	0001			282	RX	10	-
URANIUM	12/15/93	0001	MG/L		0.124	RX	0.001	-
	04/21/94	0001			0.025	RX	0.001	-
URANIUM (TOTAL)	12/15/93	N001	MG/L		0.123	RX	0.001	-
	04/21/94	N001			0.025	RX	0.001	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0624 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM (TOTAL)	12/13/94	N001	MG/L		0.019	RX	0.001	-
VANADIUM	12/15/93	0001	MG/L	<	0.01	RX	0.01	-
	04/21/94	0001			0.01	RX	0.01	-
	12/13/94	0001		<	0.01	RX	0.01	-
VANADIUM (TOTAL)	12/15/93	N001	MG/L		0.02	RX	0.01	-
	04/21/94	N001			0.02	RX	0.01	-
	12/13/94	N001		<	0.01	RX	0.01	-
ZINC	12/13/94	0001	MG/L	<	0.05	RX	0.05	-
ZINC (TOTAL)	12/13/94	N001	MG/L	<	0.05	RX	0.05	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0626 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/22/94	N001	MG/L CACO3		946	RX	-	-
AMMONIUM (TOTAL)	04/22/94	N001	MG/L	<	0.1	RX	0.1	-
CALCIUM	04/22/94	0001	MG/L		23.5	RX	0.5	-
CALCIUM (TOTAL)	04/22/94	N001	MG/L		35.0	RX	0.5	-
CHLORIDE	04/22/94	0001	MG/L		78.3	RX	0.5	-
MAGNESIUM	04/22/94	0001	MG/L		63.0	RX	0.1	-
MAGNESIUM (TOTAL)	04/22/94	N001	MG/L		66.9	RX	0.1	-
MANGANESE	04/22/94	0001	MG/L		0.05	RX	0.01	-
MANGANESE (TOTAL)	04/22/94	N001	MG/L		0.30	RX	0.01	-
NITRATE (TOTAL)	04/22/94	N001	MG/L	<	1	RX	1	-
PH	04/22/94	N001	SU		8.62	RX	-	-
POTASSIUM	04/22/94	0001	MG/L		19.2	RX	0.1	-
POTASSIUM (TOTAL)	04/22/94	N001	MG/L		22.1	RX	0.1	-
SODIUM	04/22/94	0001	MG/L		445	RX	1	-
SODIUM (TOTAL)	04/22/94	N001	MG/L		420	RX	1	-
SPECIFIC CONDUCTANCE	04/22/94	N001	UMHO/CM		1980	RX	-	-
STRONTIUM	04/22/94	0001	MG/L		0.71	RX	0.01	-
STRONTIUM (TOTAL)	04/22/94	N001	MG/L		0.77	RX	0.01	-
SULFATE	04/22/94	0001	MG/L		224	RX	1	-
TEMPERATURE	04/22/94	N001	C - DEGREE		17.1	RX	-	-
TOTAL DISSOLVED SOLIDS	04/22/94	0001	MG/L		1570	RX	10	-
URANIUM	04/22/94	0001	MG/L		0.040	RX	0.001	-
URANIUM (TOTAL)	04/22/94	N001	MG/L		0.041	RX	0.001	-
VANADIUM	04/22/94	0001	MG/L		0.01	RX	0.01	-
VANADIUM (TOTAL)	04/22/94	N001	MG/L		0.02	RX	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0627 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	07/01/93	N001	MG/L CACO3		3520	RX	-	-
	12/14/93	N001			15106	RX	-	-
	04/22/94	N001			3450	RX	-	-
	12/11/94	N001			725	JRX	10	-
AMMONIUM	12/27/93	0001	MG/L		1.6	RX	0.1	-
AMMONIUM (TOTAL)	07/01/93	N001	MG/L		0.5	RX	0.1	-
	04/22/94	N001			1.0	RX	0.1	-
	12/11/94	N001			2.3	RX	0.1	-
ARSENIC (TOTAL)	07/01/93	N001	MG/L		0.036	RSX	0.005	-
CALCIUM	12/14/93	0001	MG/L		9.5	RX	0.5	-
	04/22/94	0001			8.9	RX	0.5	-
	12/11/94	0001		<	10	IRX	10	-
CALCIUM (TOTAL)	12/14/93	N001	MG/L		30.5	RX	0.5	-
	04/22/94	N001			22.6	RX	0.5	-
	12/11/94	N001			45.8	IRX	5	-
CHLORIDE	12/27/93	0001	MG/L		938	RX	0.5	-
	04/22/94	0001			568	RX	0.5	-
CHLORIDE (TOTAL)	12/11/94	N001	MG/L		746	RX	0.5	-
IRON	12/11/94	0001	MG/L		0.64	IRX	0.2	-
IRON (TOTAL)	12/11/94	N001	MG/L		23.9	IRX	0.1	-
MAGNESIUM	12/14/93	0001	MG/L		82.0	RX	0.1	-
	04/22/94	0001			58.2	RX	0.1	-
	12/11/94	0001			50	IRX	4	-
MAGNESIUM (TOTAL)	12/14/93	N001	MG/L		70.4	RX	0.1	-
	04/22/94	N001			63.4	RX	0.1	-
	12/11/94	N001			76	IRX	2	-
MANGANESE	12/14/93	0001	MG/L		0.17	RX	0.01	-
	04/22/94	0001			0.06	RX	0.01	-
	12/11/94	0001		<	0.2	IRX	0.2	-
MANGANESE (TOTAL)	12/14/93	N001	MG/L		0.62	RX	0.01	-
	04/22/94	N001			0.34	RX	0.01	-
	12/11/94	N001			0.7	IRX	0.01	-
MOLYBDENUM	12/11/94	0001	MG/L	<	0.2	IRX	0.2	-
MOLYBDENUM (TOTAL)	12/11/94	N001	MG/L		0.12	IRX	0.1	-
NITRATE	12/27/93	0001	MG/L	<	1	RX	1	-
NITRATE (TOTAL)	07/01/93	N001	MG/L	<	1	RX	1	-

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
R - UNUSABLE DATA POINT
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
X - LOCATION UNDEFINED

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0627 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE (TOTAL)	04/22/94	N001	MG/L	<	1	RX	1	-
	12/11/94	N001			4.4	RX	1	-
PH	07/01/93	N001	SU		10.34	GRX	-	-
	12/14/93	N001			10.10	GRX	-	-
	12/11/94	N001			7.87	RX	0.10	-
PHOSPHATE (TOTAL)	12/11/94	N001	MG/L		24.1	RX	0.1	-
POTASSIUM	12/14/93	0001	MG/L		72.8	RX	0.1	-
	04/22/94	0001			47.0	RX	0.1	-
	12/11/94	0001			47	IRX	6	-
POTASSIUM (TOTAL)	12/14/93	N001	MG/L		59.6	RX	0.1	-
	04/22/94	N001			51.7	RX	0.1	-
	12/11/94	N001			62.3	IRX	3	-
REDOX POTENTIAL	12/11/94	N001	mVOLTS		606	RX	-	-
SILICA - SIO2	12/14/93	0001	MG/L		4.4	RX	0.1	-
	12/11/94	0001			1.7	JRX	0.1	-
SILICA - SIO2 (TOTAL)	12/14/93	N001	MG/L		133	RX	0.1	-
	12/11/94	N001			191	RX	0.1	-
SODIUM	12/14/93	0001	MG/L		9850	RX	1	-
	04/22/94	0001			2930	RX	1	-
	12/11/94	0001			5580	IRX	6	-
SODIUM (TOTAL)	12/14/93	N001	MG/L		7150	RX	1	-
	04/22/94	N001			2750	RX	1	-
	12/11/94	N001			5705	IRX	10	-
SPECIFIC CONDUCTANCE	07/01/93	N001	UMHO/CM		8670	RX	-	-
	12/14/93	N001			15730	RX	-	-
	04/22/94	N001			9660	RX	-	-
	12/11/94	N001			16670	JRX	1	-
STRONTIUM	12/14/93	0001	MG/L		0.28	RX	0.01	-
	04/22/94	0001			0.33	RX	0.01	-
	12/11/94	0001		<	0.2	IJRX	0.2	-
STRONTIUM (TOTAL)	07/01/93	N001	MG/L		0.43	RX	0.01	-
	12/14/93	N001			0.39	RX	0.01	-
	04/22/94	N001			0.39	RX	0.01	-
	12/11/94	N001			0.53	IJRX	0.1	-
SULFATE	12/27/93	0001	MG/L		5990	RX	1	-
	04/22/94	0001			2020	RX	1	-
	12/11/94	0001			3280	RX	1	-
SULFATE (TOTAL)	07/01/93	N001	MG/L		1120	RX	1	-
	12/11/94	N001			3330	RX	1	-

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
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0627 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	07/01/93	N001	C - DEGREE		26.7	RX	-	-
	12/14/93	N001			2.8	RX	-	-
	04/22/94	N001			18.9	RX	-	-
	12/11/94	N001			6.3	RX	0.1	-
TOTAL DISSOLVED SOLIDS	12/27/93	0001	MG/L		26600	RX	10	-
	04/22/94	0001			8420	RX	10	-
	12/11/94	0001			16480	RX	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	07/01/93	N001	MG/L		5670	RX	10	-
URANIUM	12/14/93	0001	MG/L		0.217	RX	0.001	-
	04/22/94	0001			0.087	RX	0.001	-
URANIUM (TOTAL)	07/01/93	N001	MG/L		0.043	RX	0.001	-
	12/14/93	N001			0.157	RX	0.001	-
	04/22/94	N001			0.095	RX	0.001	-
	12/11/94	N001			0.022	RX	0.001	-
VANADIUM	12/14/93	0001	MG/L		0.31	RX	0.01	-
	04/22/94	0001			0.07	RX	0.01	-
	12/11/94	0001		<	0.2	IRX	0.2	-
VANADIUM (TOTAL)	07/01/93	N001	MG/L		0.10	RX	0.01	-
	12/14/93	N001			0.25	RX	0.01	-
	04/22/94	N001			0.09	RX	0.01	-
	12/11/94	N001			0.17	IRX	0.1	-
ZINC	12/11/94	0001	MG/L	<	1	IRX	1	-
ZINC (TOTAL)	07/01/93	N001	MG/L		0.081	JRX	0.005	-
	12/11/94	N001			0.17	IRX	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

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

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0976 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM	05/22/91	00AK	MG/L		0.72	RX	0.05	-
	05/22/91	00DK			0.72	RX	0.05	-
	05/22/91	00TK			0.700	RX	-	-
AMMONIUM	05/22/91	00AK	MG/L		0.6	RX	0.1	-
	05/22/91	00DK			0.6	RX	0.1	-
	05/22/91	00TK			0.580	RX	-	-
ANTIMONY	05/22/91	00AK	MG/L		0.036	RX	0.003	-
	05/22/91	00DK			0.043	RX	0.003	-
	05/22/91	00TK			0.054	RX	-	-
ARSENIC	05/22/91	00AK	MG/L		0.14	RX	0.01	-
	05/22/91	00DK			0.15	RX	0.01	-
	05/22/91	00TK			0.175	RX	-	-
BARIUM	05/22/91	00AK	MG/L		0.67	RX	0.01	-
	05/22/91	00DK			0.68	RX	0.01	-
	05/22/91	00TK			0.700	RX	-	-
BERYLLIUM	05/22/91	00AK	MG/L		0.179	RX	0.005	-
	05/22/91	00DK			0.181	RX	0.005	-
	05/22/91	00TK			0.175	RX	-	-
BORON	05/22/91	00AK	MG/L		0.57	RX	0.05	-
	05/22/91	00DK			0.57	RX	0.05	-
	05/22/91	00TK			0.600	RX	-	-
BROMIDE	05/22/91	00AK	MG/L		1.1	RX	0.1	-
	05/22/91	00DK			1.1	RX	0.1	-
	05/22/91	00TK			1.10	RX	-	-
CADMIUM	05/22/91	00AK	MG/L		0.171	RX	0.005	-
	05/22/91	00DK			0.172	RX	0.005	-
	05/22/91	00TK			0.175	RX	-	-
CALCIUM	05/22/91	00AK	MG/L		20.0	RX	0.1	-
	05/22/91	00DK			21.6	RX	0.5	-
	05/22/91	00TK			20.0	RX	-	-
CHLORIDE	05/22/91	00AK	MG/L		12.0	RX	0.5	-
	05/22/91	00DK			11.9	RX	0.5	-
	05/22/91	00TK			11.3	RX	-	-
CHROMIUM	05/22/91	00AK	MG/L		0.34	RX	0.01	-
	05/22/91	00DK			0.35	RX	0.01	-
	05/22/91	00TK			0.350	RX	-	-
COBALT	05/22/91	00AK	MG/L		0.31	RX	0.03	-
	05/22/91	00DK			0.32	RX	0.03	-
	05/22/91	00TK			0.315	RX	-	-
COPPER	05/22/91	00AK	MG/L		0.21	RX	0.01	-
	05/22/91	00DK			0.21	RX	0.01	-
	05/22/91	00TK			0.210	RX	-	-
DISSOLVED ORGANIC CARBON	05/22/91	00TK	MG/L		4.50	RX	-	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0976 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
FLUORIDE	05/22/91	00AK	MG/L		5.6	RX	0.1	-
	05/22/91	00DK			6.2	RX	0.1	-
	05/22/91	00TK			5.73	RX	-	-
GROSS ALPHA	05/22/91	00AK	PCI/L		32.5	RX	1.	6.7
	05/22/91	00DK			27.8	RX	1.	6.3
	05/22/91	00TK			20.3	RX	-	-
GROSS BETA	05/22/91	00AK	PCI/L		13.5	RX	0.5	2.6
	05/22/91	00DK			4.51	RX	0.5	2.6
	05/22/91	00TK			16.2	RX	-	-
IRON	05/22/91	00AK	MG/L		0.53	RX	0.03	-
	05/22/91	00DK			0.54	RX	0.03	-
	05/22/91	00TK			0.525	RX	-	-
LEAD	05/22/91	00AK	MG/L		0.16	RX	0.005	-
	05/22/91	00DK			0.16	RX	0.005	-
	05/22/91	00TK			0.175	RX	-	-
MAGNESIUM	05/22/91	00AK	MG/L		20.2	RX	0.1	-
	05/22/91	00DK			20.4	RX	0.1	-
	05/22/91	00TK			20.0	RX	-	-
MANGANESE	05/22/91	00AK	MG/L		0.34	RX	0.01	-
	05/22/91	00DK			0.35	RX	0.01	-
	05/22/91	00TK			0.350	RX	-	-
MOLYBDENUM	05/22/91	00AK	MG/L		0.16	RX	0.01	-
	05/22/91	00DK			0.15	RX	0.01	-
	05/22/91	00TK			0.153	RX	-	-
NET GROSS ALPHA *	05/22/91	00AK	PCI/L		-95.78		-	-
	05/22/91	00DK			-97.05		-	-
	05/22/91	00TK			-99.75		-	-
NICKEL	05/22/91	00AK	MG/L		0.28	RX	0.04	-
	05/22/91	00DK			0.28	RX	0.04	-
	05/22/91	00TK			0.280	RX	-	-
NITRATE	05/22/91	00AK	MG/L		3.6	RX	1.	-
	05/22/91	00DK			3.5	RX	1.	-
	05/22/91	00TK			4.21	RX	-	-
NITRITE AND NITRATE	05/22/91	00AK	MG/L		0.81	RX	0.05	-
	05/22/91	00DK			0.80	RX	0.05	-
	05/22/91	00TK			0.950	RX	-	-
POTASSIUM	05/22/91	00AK	MG/L		5.4	RX	0.01	-
	05/22/91	00DK			5.4	RX	0.01	-
	05/22/91	00TK			5.00	RX	-	-
RADIUM-226	05/22/91	00AK	PCI/L		9.4	RX	1.	0.2
	05/22/91	00DK			9.3	RX	1.	0.2

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

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0976 WOD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	05/22/91	00TK	PCI/L		10.1	RX	-	-
RADIUM-226 + RADIUM-228	05/22/91	00AK	PCI/L		13.20		-	-
	05/22/91	00DK			14.00		-	-
	05/22/91	00TK			15.23		-	-
RADIUM-228	05/22/91	00AK	PCI/L		3.8	RX	1.	2.8
	05/22/91	00DK			4.7	RX	1.	2.9
	05/22/91	00TK			5.13	RX	-	-
SELENIUM	05/22/91	00AK	MG/L		0.210	JRX	0.005	-
	05/22/91	00DK			0.230	JRX	0.005	-
	05/22/91	00TK			0.350	JRX	-	-
SILICA - SIO2	05/22/91	00AK	MG/L		2.4	RX	0.1	-
	05/22/91	00DK			2.4	RX	0.1	-
	05/22/91	00TK			2.35	RX	-	-
SILVER	05/22/91	00AK	MG/L		0.17	RX	0.01	-
	05/22/91	00DK			0.17	RX	0.01	-
	05/22/91	00TK			0.175	RX	-	-
SODIUM	05/22/91	00AK	MG/L		36.	RX	1.	-
	05/22/91	00DK			36.	RX	1.	-
	05/22/91	00TK			36.0	RX	-	-
STRONTIUM	05/22/91	00AK	MG/L		0.68	RX	0.01	-
	05/22/91	00DK			0.69	RX	0.01	-
	05/22/91	00TK			0.700	RX	-	-
SULFATE	05/22/91	00AK	MG/L		192.	RX	0.1	-
	05/22/91	00DK			197.	RX	0.1	-
	05/22/91	00TK			213.	RX	-	-
SULFIDE	05/22/91	00AK	MG/L		6.9	JRX	1.	-
	05/22/91	00DK			7.3	JRX	1.	-
	05/22/91	00TK			5.28	JRX	-	-
THALLIUM	05/22/91	00AK	MG/L		0.16	RX	0.01	-
	05/22/91	00DK			0.16	RX	0.01	-
	05/22/91	00TK			0.175	RX	-	-
THORIUM-230	05/22/91	00AK	PCI/L		2.8	RX	1.	0.7
	05/22/91	00DK			3.0	RX	1.	0.7
	05/22/91	00TK			3.71	RX	-	-
TIN	05/22/91	00AK	MG/L		0.27	RX	0.01	-
	05/22/91	00DK			0.24	RX	0.01	-
	05/22/91	00TK			0.315	RX	-	-
TOTAL DISSOLVED SOLIDS	05/22/91	00AK	MG/L		418.	RX	10.	-
	05/22/91	00DK			420.	RX	10.	-
	05/22/91	00TK			424.	RX	-	-
TOTAL ORGANIC CARBON	05/22/91	00AK	MG/L		4.	RX	1.	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0976 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	05/22/91	00DK	MG/L		4.	RX	1.	-
	05/22/91	00TK			4.50	RX	-	-
URANIUM	05/22/91	00AK	MG/L		0.187	RX	0.001	-
	05/22/91	00DK			0.182	RX	0.001	-
	05/22/91	00TK			0.175	RX	-	-
VANADIUM	05/22/91	00AK	MG/L		0.32	RX	0.01	-
	05/22/91	00DK			0.32	RX	0.01	-
	05/22/91	00TK			0.350	RX	-	-
ZINC	05/22/91	00AK	MG/L		0.280	RX	0.005	-
	05/22/91	00DK			0.283	RX	0.005	-
	05/22/91	00TK			0.280	RX	-	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM	06/14/89	00TK	MG/L		0.254		0.1	-
	06/15/89	00AK			0.3		0.1	-
	12/10/89	00AK			0.7		0.1	-
	12/11/89	00TK			0.700		0.1	-
	07/03/90	00TK			0.312		0.1	-
	07/05/90	00AK			0.42		0.1	-
	01/18/91	00TK			0.454		-	-
	01/21/91	00AK			0.50		0.1	-
	01/21/91	00DK			0.50		0.1	-
AMMONIUM	04/11/88	00AK	MG/L		54.		0.1	-
	04/11/88	00TK			53.2		0.1	-
	06/14/89	00TK			0.644		0.1	-
	06/15/89	00AK			0.5		0.1	-
	12/10/89	00AK			12.7		0.1	-
	12/11/89	00TK			12.9		0.1	-
	07/05/90	00AK		<	0.1		0.1	-
	01/18/91	00TK			1.16		-	-
	01/21/91	00AK			1.3		0.1	-
	01/21/91	00DK			1.1		0.1	-
ANTIMONY	06/14/89	00TK	MG/L		0.102	J	0.003	-
	06/15/89	00AK			0.365	J	0.003	-
	12/10/89	00AK			0.15		0.003	-
	12/11/89	00TK			0.192		0.003	-
	07/03/90	00TK			0.374		0.003	-
	07/05/90	00AK			0.405		0.003	-
	01/18/91	00TK			0.120		-	-
	01/21/91	00AK			0.125		0.003	-
	01/21/91	00DK			0.130		0.003	-
ARSENIC	04/11/88	00AK	MG/L		0.881		0.01	-
	04/11/88	00TK			1.01		0.01	-
	06/14/89	00TK			0.215		0.01	-
	06/15/89	00AK			0.23		0.01	-
	12/10/89	00AK			0.30		0.01	-
	12/11/89	00TK			0.350		0.01	-
	07/03/90	00TK			0.156		0.01	-
	07/05/90	00AK			0.17		0.01	-
	01/18/91	00TK			0.227		-	-
	01/21/91	00AK			0.27		0.01	-
	01/21/91	00DK			0.27		0.01	-
BARIUM	06/14/89	00TK	MG/L		0.153		0.1	-
	06/15/89	00AK			0.15		0.1	-
	12/10/89	00AK			0.7		0.1	-
	12/11/89	00TK			0.700		0.1	-
	07/03/90	00TK			0.312		0.1	-
	07/05/90	00AK			0.34		0.1	-
	01/18/91	00TK			0.454		-	-
	01/21/91	00AK			0.46		0.1	-
	01/21/91	00DK			0.47		0.1	-
BERYLLIUM	06/14/89	00TK	MG/L		0.070		0.01	-
	06/15/89	00AK			0.06		0.01	-
	12/10/89	00AK			0.183		0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BERYLLIUM	12/11/89	00TK	MG/L		0.175		0.01	-
	07/03/90	00TK			0.078		0.01	-
	07/05/90	00AK			0.08		0.01	-
	01/18/91	00TK			0.102		-	-
	01/21/91	00AK			0.10		0.01	-
	01/21/91	00DK			0.11		0.01	-
BORON	06/14/89	00TK	MG/L		1.50		0.1	-
	06/15/89	00AK			1.5		0.1	-
	12/10/89	00AK			2.3		0.1	-
	12/11/89	00TK			2.50		0.1	-
	07/03/90	00TK			5.00		0.1	-
	07/05/90	00AK			5.08		0.1	-
	01/18/91	00TK			0.625		-	-
	01/21/91	00AK			0.62		0.1	-
	01/21/91	00DK			0.65		0.1	-
BROMIDE	01/18/91	00TK	MG/L		1.02		-	-
	01/21/91	00AK			1.1		0.1	-
	01/21/91	00DK			1.0		0.1	-
CADMIUM	04/11/88	00AK	MG/L		0.109		0.001	-
	04/11/88	00TK			0.075		0.001	-
	06/14/89	00TK			0.102		0.001	-
	06/15/89	00AK			0.105		0.001	-
	12/10/89	00AK			0.177		0.001	-
	12/11/89	00TK			0.175		0.001	-
	07/03/90	00TK			0.078		0.001	-
	07/05/90	00AK			0.081		0.001	-
	01/18/91	00TK			0.102		-	-
	01/21/91	00AK			0.109		0.001	-
	01/21/91	00DK			0.094		0.001	-
CALCIUM	04/11/88	00AK	MG/L		180.		0.01	-
	04/11/88	00TK			179.		0.01	-
	06/14/89	00TK			26.0		0.01	-
	06/15/89	00AK			25.5		0.01	-
	12/10/89	00AK			36.		0.01	-
	12/11/89	00TK			34.0		0.01	-
	07/03/90	00TK			26.2		0.01	-
	07/05/90	00AK			27.2	R	0.01	-
	01/18/91	00TK			18.2		-	-
	01/21/91	00AK			18.0		0.01	-
	01/21/91	00DK			19.2		0.01	-
CHLORIDE	04/11/88	00AK	MG/L		40.		1.	-
	04/11/88	00TK			37.5		1.	-
	06/14/89	00TK			75.0		1.	-
	06/15/89	00AK			76.		1.	-
	12/10/89	00AK			55.		1.	-
	12/11/89	00TK			55.0		1.	-
	07/03/90	00TK			100.		1.	-
	07/05/90	00AK			98.		1.	-
	01/18/91	00TK			10.2		-	-
	01/21/91	00AK			8.		1.	-
	01/21/91	00DK			8.		1.	-

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

OTHER PARAMETER VALUE FLAGS:
R - UNUSABLE DATA POINT

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHROMIUM	06/14/89	00TK	MG/L		0.102		0.01	-
	06/15/89	00AK			0.10		0.01	-
	12/10/89	00AK			0.35		0.01	-
	12/11/89	00TK			0.350		0.01	-
	07/03/90	00TK			0.156		0.01	-
	07/05/90	00AK			0.16		0.01	-
	01/18/91	00TK			0.204		-	-
	01/21/91	00AK			0.20		0.01	-
	01/21/91	00DK			0.21		0.01	-
COBALT	06/14/89	00TK	MG/L		0.136		0.05	-
	06/15/89	00AK			0.14		0.05	-
	12/10/89	00AK			0.33		0.05	-
	12/11/89	00TK			0.315		0.05	-
	07/03/90	00TK			0.140		0.05	-
	07/05/90	00AK			0.14		0.05	-
	01/18/91	00TK			0.184		-	-
	01/21/91	00AK			0.18		0.05	-
	01/21/91	00DK			0.19		0.05	-
COPPER	06/14/89	00TK	MG/L		0.136		0.02	-
	06/15/89	00AK			0.14		0.02	-
	12/10/89	00AK			0.30		0.02	-
	12/11/89	00TK			0.280		0.02	-
	07/03/90	00TK			0.125		0.02	-
	07/05/90	00AK			0.13		0.02	-
	01/18/91	00TK			0.163		-	-
	01/21/91	00AK			0.17		0.02	-
	01/21/91	00DK			0.17		0.02	-
CYANIDE	06/14/89	00TK	MG/L		0.236		0.01	-
	06/15/89	00AK			0.21		0.01	-
	12/10/89	00AK			4.8		0.01	-
	12/11/89	00TK			4.72		0.01	-
DISSOLVED ORGANIC CARBON	01/18/91	00TK	MG/L		6.20		-	-
FLUORIDE	06/14/89	00TK	MG/L		6.06		0.1	-
	06/15/89	00AK			6.1		0.1	-
	12/10/89	00AK			10.0		0.1	-
	12/11/89	00TK			10.1		0.1	-
	07/03/90	00TK			20.1	L	0.1	-
	07/05/90	00AK			19.8		0.1	-
	01/18/91	00TK			6.11		-	-
	01/21/91	00AK			6.3		0.1	-
	01/21/91	00DK			6.5		0.1	-
GROSS ALPHA	04/11/88	00AK	PCI/L		240.		0.2	10.
	04/11/88	00TK			232.		0.2	-
	01/18/91	00TK			19.3		-	-
	01/21/91	00AK			12.		1.	4.
	01/21/91	00DK			13.		1.	4.
GROSS BETA	04/11/88	00AK	PCI/L		210.		1.	10.
	04/11/88	00TK			200.		1.	-
	01/18/91	00TK			15.4		-	-

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	01/21/91	00AK	PCI/L		16.		0.5	3.
	01/21/91	00DK			14.		0.5	3.
IRON	06/14/89	00TK	MG/L		0.278		0.03	-
	06/15/89	00AK			0.28		0.03	-
	12/10/89	00AK			0.55		0.03	-
	12/11/89	00TK			0.525		0.03	-
	07/03/90	00TK			0.234		0.03	-
	07/05/90	00AK			0.26		0.03	-
	01/18/91	00TK			0.329		-	-
	01/21/91	00AK			0.34		0.03	-
	01/21/91	00DK			0.35		0.03	-
LEAD	06/14/89	00TK	MG/L		0.119		0.01	-
	06/15/89	00AK			0.12		0.01	-
	12/10/89	00AK			0.16		0.01	-
	12/11/89	00TK			0.175		0.01	-
	07/03/90	00TK			0.078		0.01	-
	07/05/90	00AK			0.078		0.01	-
	01/18/91	00TK			0.102		-	-
	01/21/91	00AK			0.091		0.01	-
	01/21/91	00DK			0.090		0.01	-
MAGNESIUM	04/11/88	00AK	MG/L		51.5		0.001	-
	04/11/88	00TK			53.6		0.001	-
	06/14/89	00TK			20.8		0.001	-
	06/15/89	00AK			21.2		0.001	-
	12/10/89	00AK			36.		0.001	-
	12/11/89	00TK			34.0		0.001	-
	07/03/90	00TK			26.2		0.001	-
	07/05/90	00AK			26.7		0.001	-
	01/18/91	00TK			18.2		-	-
	01/21/91	00AK			17.9		0.001	-
	01/21/91	00DK			21.8		0.001	-
MANGANESE	06/14/89	00TK	MG/L		0.290		0.01	-
	06/15/89	00AK			0.30		0.01	-
	12/10/89	00AK			0.37		0.01	-
	12/11/89	00TK			0.350		0.01	-
	07/03/90	00TK			0.156		0.01	-
	07/05/90	00AK			0.16		0.01	-
	01/18/91	00TK			0.227		-	-
	01/21/91	00AK			0.23		0.01	-
	01/21/91	00DK			0.23		0.01	-
MERCURY	06/14/89	00TK	MG/L		0.102		0.0002	-
	06/15/89	00AK			0.091		0.0002	-
	12/10/89	00AK			0.220		0.0002	-
	12/11/89	00TK			0.210		0.0002	-
	07/03/90	00TK			0.094		0.0002	-
	07/05/90	00AK			0.103		0.0002	-
MOLYBDENUM	04/11/88	00AK	MG/L		0.89		0.01	-
	04/11/88	00TK			0.900		0.01	-
	06/14/89	00TK			0.340	HJL	0.01	-
	06/15/89	00AK			0.31		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WOD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	12/10/89	00AK	MG/L		0.63		0.01	-
	12/11/89	00TK			0.640		0.01	-
	07/03/90	00TK			1.25		0.01	-
	07/05/90	00AK			1.21		0.01	-
	01/18/91	00TK			0.400		-	-
	01/21/91	00AK			0.40		0.01	-
	01/21/91	00DK			0.39		0.01	-
NET GROSS ALPHA *	04/11/88	00AK	PCI/L		-433.65		-	-
	04/11/88	00TK			-444.40		-	-
	01/18/91	00TK			-184.44		-	-
	01/21/91	00AK			-199.29		-	-
	01/21/91	00DK			-203.78		-	-
NICKEL	06/14/89	00TK	MG/L		0.136		0.04	-
	06/15/89	00AK			0.14		0.04	-
	12/10/89	00AK			0.28		0.04	-
	12/11/89	00TK			0.280		0.04	-
	07/03/90	00TK			0.125		0.04	-
	07/05/90	00AK			0.13		0.04	-
	01/18/91	00TK			0.163		-	-
	01/21/91	00AK			0.17		0.04	-
	01/21/91	00DK			0.18		0.04	-
NITRATE	04/11/88	00AK	MG/L		0.9	J	1.	-
	04/11/88	00TK			1.11		1.	-
	06/14/89	00TK			8.85		1.	-
	06/15/89	00AK			8.6		1.	-
	12/10/89	00AK			44.3		1.	-
	12/11/89	00TK			44.3		1.	-
	07/03/90	00TK			11.5		1.	-
	07/05/90	00AK			12.0		1.	-
	01/18/91	00TK			3.98		-	-
	01/21/91	00AK			4.		1.	-
	01/21/91	00DK			4.		1.	-
NITRITE AND NITRATE	01/18/91	00TK	MG/L		0.900		-	-
	01/21/91	00AK			4.		1.	-
	01/21/91	00DK			4.	J	1.	-
PHOSPHATE	06/14/89	00TK	MG/L		2.30		0.1	-
	06/15/89	00AK			2.0		0.1	-
	12/10/89	00AK			4.7		0.1	-
	12/11/89	00TK			4.60		0.1	-
	07/03/90	00TK			7.66		0.1	-
	07/05/90	00AK			9.0		0.1	-
POTASSIUM	04/11/88	00AK	MG/L		9.13		0.01	-
	04/11/88	00TK			8.94		0.01	-
	06/14/89	00TK			5.20		0.01	-
	06/15/89	00AK			5.4		0.01	-
	12/10/89	00AK			7.9		0.01	-
	12/11/89	00TK			8.50		0.01	-
	07/03/90	00TK			6.56		0.01	-

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

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	07/05/90	00AK	MG/L		6.9		0.01	-
	01/18/91	00TK			4.54		-	-
	01/21/91	00AK			4.3		0.01	-
	01/21/91	00DK			4.4		0.01	-
RADIUM-226	06/14/89	00TK	PCI/L		21.3		1.	-
	06/15/89	00AK			23.		1.	2.
	12/10/89	00AK			51.9		1.	3.5
	12/11/89	00TK			53.0		1.	-
	07/03/90	00TK			33.2		1.	-
	07/05/90	00AK			34.		1.	3.
	01/18/91	00TK			6.92		-	-
	01/21/91	00AK			13.		1.	4.
	01/21/91	00DK			7.5		1.	1.2
RADIUM-226 + RADIUM-228	06/14/89	00TK	PCI/L		38.30		-	-
	06/15/89	00AK			41.00		-	-
	12/10/89	00AK			63.80		-	-
	12/11/89	00TK			66.60		-	-
	07/03/90	00TK			49.20		-	-
	07/05/90	00AK			53.00		-	-
	01/18/91	00TK			15.75		-	-
	01/21/91	00AK			21.50		-	-
	01/21/91	00DK			18.50		-	-
RADIUM-228	06/14/89	00TK	PCI/L		17.0		1.	-
	06/15/89	00AK			18.		1.	2.
	12/10/89	00AK			11.9		1.	3.2
	12/11/89	00TK			13.6		1.	-
	07/03/90	00TK			16.0		1.	-
	07/05/90	00AK			19.		1.	2.
	01/18/91	00TK			8.83		-	-
	01/21/91	00AK			8.5		1.	1.5
	01/21/91	00DK			11.		1.	2.
SELENIUM	04/11/88	00AK	MG/L		0.573		0.005	-
	04/11/88	00TK			0.683		0.005	-
	06/14/89	00TK			0.174		0.005	-
	06/15/89	00AK			0.159		0.005	-
	12/10/89	00AK			0.30		0.005	-
	12/11/89	00TK			0.350		0.005	-
	07/03/90	00TK			0.156		0.005	-
	07/05/90	00AK			0.163		0.005	-
	01/18/91	00TK			0.227		-	-
	01/21/91	00AK			0.271		0.005	-
	01/21/91	00DK			0.25		0.005	-
SILICA - SIO2	06/14/89	00TK	MG/L		3.20		2.	-
	06/15/89	00AK			3.		2.	-
	12/10/89	00AK			5.3		2.	-
	12/11/89	00TK			5.34		2.	-
	07/03/90	00TK			10.7		2.	-
	07/05/90	00AK			11.3		2.	-
	01/18/91	00TK			3.25		-	-
	01/21/91	00AK			3.4		2.	-
	01/21/91	00DK			3.5		2.	-
SILVER	06/14/89	00TK	MG/L		0.102		0.01	-

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

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00DK - DUPLICATE KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WOD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILVER	06/15/89	00AK	MG/L		0.09		0.01	-
	12/10/89	00AK			0.21		0.01	-
	12/11/89	00TK			0.210		0.01	-
	07/03/90	00TK			0.094		0.01	-
	07/05/90	00AK			0.09		0.01	-
	01/18/91	00TK			0.122		-	-
	01/21/91	00AK			0.11		0.01	-
	01/21/91	00DK			0.11		0.01	-
SODIUM	04/11/88	00AK	MG/L		325.		0.002	-
	04/11/88	00TK			358.		0.002	-
	06/14/89	00TK			52.0		0.002	-
	06/15/89	00AK			49.8		0.002	-
	12/10/89	00AK			66.		0.002	-
	12/11/89	00TK			68.0		0.002	-
	07/03/90	00TK			52.5		0.002	-
	07/05/90	00AK			52.5		0.002	-
	01/18/91	00TK			36.3		-	-
	01/21/91	00AK			32.5		0.002	-
	01/21/91	00DK			33.2		0.002	-
STRONTIUM	12/11/89	00TK	MG/L		0.700		0.1	-
	07/03/90	00TK			0.312		0.1	-
	07/05/90	00AK			0.29		0.1	-
	01/18/91	00TK			0.454		-	-
	01/21/91	00AK			0.45		0.1	-
	01/21/91	00DK			0.45		0.1	-
SULFATE	04/11/88	00AK	MG/L		1690.		0.1	-
	04/11/88	00TK			1650.		0.1	-
	06/14/89	00TK			3260.		0.1	-
	06/15/89	00AK			3450.		0.1	-
	12/10/89	00AK			2790.		0.1	-
	12/11/89	00TK			2700.		0.1	-
	07/03/90	00TK			2590.		0.1	-
	07/05/90	00AK			2692.9		0.1	-
	01/18/91	00TK			128.		-	-
	01/21/91	00AK			135.		0.1	-
	01/21/91	00DK			131.		0.1	-
SULFIDE	06/14/89	00TK	MG/L		15.8		0.1	-
	06/15/89	00AK			19.		0.1	-
	12/10/89	00AK			16.1		0.1	-
	12/11/89	00TK			15.6		0.1	-
	01/18/91	00TK			2.95		-	-
	01/21/91	00AK			6.4		0.1	-
	01/21/91	00DK			7.5	J	0.1	-
THALLIUM	06/14/89	00TK	MG/L		0.070		0.01	-
	06/15/89	00AK			0.08		0.01	-
	12/10/89	00AK			0.2		0.1	-
	12/11/89	00TK			0.175		0.01	-
	07/03/90	00TK			0.078		0.01	-
	07/05/90	00AK			0.09		0.01	-
	01/18/91	00TK			0.102		-	-
	01/21/91	00AK			0.14		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
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00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
THALLIUM	01/21/91	00DK	MG/L		0.120		0.01	-
THORIUM-230	01/18/91	00TK	PCI/L		3.71		-	-
	01/21/91	00AK			2.6		1.	1.3
	01/21/91	00DK			2.5		1.	1.2
TIN	06/14/89	00TK	MG/L		0.510		0.005	-
	06/15/89	00AK			0.785		0.005	-
	12/10/89	00AK			1.02		0.005	-
	12/11/89	00TK			0.960		0.005	-
	07/03/90	00TK			1.87		0.005	-
	07/05/90	00AK			1.808		0.005	-
	01/18/91	00TK			0.600		-	-
	01/21/91	00AK			0.59		0.005	-
	01/21/91	00DK			0.55		0.005	-
TOTAL DISSOLVED SOLIDS	04/11/88	00AK	MG/L		3060.		10.	-
	04/11/88	00TK			3060.		10.	-
	06/14/89	00TK			6060.		10.	-
	06/15/89	00AK			6020.		10.	-
	12/10/89	00AK			4970.		10.	-
	12/11/89	00TK			5030.		10.	-
	07/03/90	00TK			4970.		10.	-
	07/05/90	00AK			4880.		10.	-
	01/18/91	00TK			270.		-	-
	01/21/91	00AK			292.		10.	-
	01/21/91	00DK			250.		10.	-
TOTAL ORGANIC CARBON	04/11/88	00AK	MG/L		18.5		1.	-
	04/11/88	00TK			15.3		1.	-
	01/18/91	00TK			6.20		-	-
	01/21/91	00AK		<	1.		1.	-
	01/21/91	00DK		<	1.	J	1.	-
URANIUM	04/11/88	00AK	MG/L		0.982		0.003	-
	04/11/88	00TK			0.986		0.003	-
	06/14/89	00TK			0.198		0.003	-
	06/15/89	00AK			0.202		0.003	-
	12/10/89	00AK			0.421		0.003	-
	12/11/89	00TK			0.455		0.003	-
	07/03/90	00TK			0.203		0.003	-
	07/05/90	00AK			0.203		0.003	-
	01/18/91	00TK			0.297		-	-
	01/21/91	00AK			0.308		0.0003	-
	01/21/91	00DK			0.316		0.0003	-
VANADIUM	06/14/89	00TK	MG/L		0.203		0.01	-
	06/15/89	00AK			0.22		0.01	-
	12/10/89	00AK			0.48		0.01	-
	12/11/89	00TK			0.490		0.01	-
	07/03/90	00TK			0.218		0.01	-
	07/05/90	00AK			0.24		0.01	-
	01/18/91	00TK			0.318		-	-
	01/21/91	00AK			0.32		0.01	-
	01/21/91	00DK			0.32		0.01	-
ZINC	06/14/89	00TK	MG/L		0.136		0.005	-

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

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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0980 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	06/15/89	00AK	MG/L		0.154		0.005	-
	12/10/89	00AK			0.29		0.005	-
	12/11/89	00TK			0.280		0.005	-
	07/03/90	00TK			0.125		0.005	-
	07/05/90	00AK			0.137		0.005	-
	01/18/91	00TK			0.163		-	-
	01/21/91	00AK			0.161		0.005	-
	01/21/91	00DK			0.162		0.005	-

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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0981 WOD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM	06/14/89	00TK	MG/L		0.520		0.1	-
	06/15/89	00AK			0.5		0.1	-
AMMONIUM	06/14/89	00TK	MG/L		2.58		0.1	-
	06/15/89	00AK			2.8		0.1	-
ANTIMONY	06/14/89	00TK	MG/L		0.600		0.003	-
	06/15/89	00AK			0.610		0.003	-
ARSENIC	06/14/89	00TK	MG/L		0.490		0.01	-
	06/15/89	00AK			0.46		0.01	-
BARIUM	06/14/89	00TK	MG/L		0.270		0.1	-
	06/15/89	00AK			0.3		0.1	-
BERYLLIUM	06/14/89	00TK	MG/L		0.250		0.01	-
	06/15/89	00AK			0.26		0.01	-
BORON	06/14/89	00TK	MG/L		1.00		0.1	-
	06/15/89	00AK			1.0		0.1	-
CADMIUM	06/14/89	00TK	MG/L		0.165		0.001	-
	06/15/89	00AK			0.177		0.001	-
CALCIUM	06/14/89	00TK	MG/L		62.5		0.01	-
	06/15/89	00AK			64.2		0.01	-
CHLORIDE	06/14/89	00TK	MG/L		50.0		1.	-
	06/15/89	00AK			51.		1.	-
CHROMIUM	06/14/89	00TK	MG/L		0.180		0.01	-
	06/15/89	00AK			0.18		0.01	-
COBALT	06/14/89	00TK	MG/L		0.220		0.05	-
	06/15/89	00AK			0.22		0.05	-
COPPER	06/14/89	00TK	MG/L		0.220		0.02	-
	06/15/89	00AK			0.23		0.02	-
CYANIDE	06/14/89	00TK	MG/L		2.48		0.01	-
	06/15/89	00AK			2.22		0.01	-
FLUORIDE	06/14/89	00TK	MG/L		11.3		0.1	-
	06/15/89	00AK			11.4		0.1	-
IRON	06/14/89	00TK	MG/L		0.590		0.03	-
	06/15/89	00AK			0.61		0.03	-
LEAD	06/14/89	00TK	MG/L		0.192		0.01	-
	06/15/89	00AK			0.20		0.01	-
MAGNESIUM	06/14/89	00TK	MG/L		50.0		0.001	-
	06/15/89	00AK			51.9		0.001	-
MANGANESE	06/14/89	00TK	MG/L		0.625		0.01	-

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SAMPLE ID CODES:
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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0981 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	06/15/89	00AK	MG/L		0.64		0.01	-
MERCURY	06/14/89	00TK	MG/L		0.165		0.0002	-
	06/15/89	00AK			0.155		0.0002	-
MOLYBDENUM	06/14/89	00TK	MG/L		2.00		0.01	-
	06/15/89	00AK			1.98		0.01	-
NICKEL	06/14/89	00TK	MG/L		0.240		0.04	-
	06/15/89	00AK			0.25		0.04	-
NITRATE	06/14/89	00TK	MG/L		2.21		1.	-
	06/15/89	00AK			2.1		1.	-
PHOSPHATE	06/14/89	00TK	MG/L		3.83		0.1	-
	06/15/89	00AK			3.1		0.1	-
POTASSIUM	06/14/89	00TK	MG/L		12.5		0.01	-
	06/15/89	00AK			13.4		0.01	-
RADIUM-226	06/14/89	00TK	PCI/L		10.7		1.	-
	06/15/89	00AK			10.		1.	1.
RADIUM-226 + RADIUM-228	06/14/89	00TK	PCI/L		33.30		-	-
	06/15/89	00AK			32.00		-	-
RADIUM-228	06/14/89	00TK	PCI/L		22.6		1.	-
	06/15/89	00AK			22.		1.	2.
SELENIUM	06/14/89	00TK	MG/L		0.375		0.005	-
	06/15/89	00AK			0.415		0.005	-
SILICA - SIO2	06/14/89	00TK	MG/L		5.98		2.	-
	06/15/89	00AK			6.		2.	-
SILVER	06/14/89	00TK	MG/L		0.165		0.01	-
	06/15/89	00AK			0.14		0.01	-
SODIUM	06/14/89	00TK	MG/L		125.		0.002	-
	06/15/89	00AK			124.		0.002	-
SULFATE	06/14/89	00TK	MG/L		1070.		0.1	-
	06/15/89	00AK			1150.		0.1	-
SULFIDE	06/14/89	00TK	MG/L		19.8		0.1	-
	06/15/89	00AK			24.		0.1	-
THALLIUM	06/14/89	00TK	MG/L		0.250		0.01	-
	06/15/89	00AK			0.28		0.01	-
TIN	06/14/89	00TK	MG/L		3.00		0.005	-
	06/15/89	00AK			2.72		0.005	-
TOTAL DISSOLVED SOLIDS	06/14/89	00TK	MG/L		2070.		10.	-
	06/15/89	00AK			2050.		10.	-

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

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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0981 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	06/14/89	00TK	MG/L		0.460		0.003	-
	06/15/89	00AK			0.522		0.003	-
VANADIUM	06/14/89	00TK	MG/L		0.455		0.01	-
	06/15/89	00AK			0.47		0.01	-
ZINC	06/14/89	00TK	MG/L		0.240		0.005	-
	06/15/89	00AK			0.241		0.005	-

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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALUMINUM	06/14/89	00TK	MG/L		0.875		0.1	-
	06/15/89	00AK			0.9		0.1	-
	12/10/89	00AK			0.4		0.1	-
	12/11/89	00TK			0.375		0.1	-
	07/03/90	00TK			0.350		0.1	-
	07/05/90	00AK			0.41		0.1	-
AMMONIUM	04/11/88	00AK	MG/L		15.		0.1	-
	04/11/88	00TK			14.6		0.1	-
	06/14/89	00TK			7.73		0.1	-
	06/15/89	00AK			7.8		0.1	-
	12/10/89	00AK			50.4		0.1	-
	12/11/89	00TK			51.5		0.1	-
	07/05/90	00AK		<	0.1		0.1	-
ANTIMONY	06/14/89	00TK	MG/L		0.048		0.003	-
	06/15/89	00AK			0.045		0.003	-
	12/10/89	00AK			0.045		0.003	-
	12/11/89	00TK			0.072		0.003	-
	07/03/90	00TK			0.120		0.003	-
	07/05/90	00AK			0.134		0.003	-
ARSENIC	04/11/88	00AK	MG/L		0.675		0.01	-
	04/11/88	00TK			0.690		0.01	-
	06/14/89	00TK			0.750		0.01	-
	06/15/89	00AK			0.75		0.01	-
	12/10/89	00AK			0.23		0.01	-
	12/11/89	00TK			0.250		0.01	-
	07/03/90	00TK			0.203		0.01	-
	07/05/90	00AK			0.22		0.01	-
BARIUM	06/14/89	00TK	MG/L		0.450		0.1	-
	06/15/89	00AK			0.5		0.1	-
	12/10/89	00AK			0.5		0.1	-
	12/11/89	00TK			0.500		0.1	-
	07/03/90	00TK			0.406		0.1	-
	07/05/90	00AK			0.44		0.1	-
BERYLLIUM	06/14/89	00TK	MG/L		0.150		0.01	-
	06/15/89	00AK			0.15		0.001	-
	12/10/89	00AK			0.129		0.005	-
	12/11/89	00TK			0.125		0.01	-
	07/03/90	00TK			0.078		0.01	-
	07/05/90	00AK			0.09		0.01	-
BORON	06/14/89	00TK	MG/L		2.80		0.1	-
	06/15/89	00AK			2.8		0.1	-
	12/10/89	00AK			0.3		0.1	-
	12/11/89	00TK			0.300		0.1	-
	07/03/90	00TK			0.400		0.1	-
	07/05/90	00AK			0.42		0.1	-
CADMIUM	04/11/88	00AK	MG/L		0.753		0.001	-
	04/11/88	00TK			0.690		0.001	-
	06/14/89	00TK			0.315		0.001	-

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

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	06/15/89	00AK	MG/L		0.332		0.001	-
	12/10/89	00AK			0.064		0.001	-
	12/11/89	00TK			0.063		0.001	-
	07/03/90	00TK			0.050		0.001	-
	07/05/90	00AK			0.053		0.001	-
CALCIUM	04/11/88	00AK	MG/L		112.		0.01	-
	04/11/88	00TK			115.		0.01	-
	06/14/89	00TK			75.0		0.01	-
	06/15/89	00AK			74.6		0.01	-
	12/10/89	00AK			42.		0.01	-
	12/11/89	00TK			40.0		0.01	-
	07/03/90	00TK			16.2		0.01	-
	07/05/90	00AK			17.2		0.01	-
CHLORIDE	04/11/88	00AK	MG/L		28.		1.	-
	04/11/88	00TK			26.6		1.	-
	06/14/89	00TK			27.5		1.	-
	06/15/89	00AK			28.		1.	-
	12/10/89	00AK			25.9		1.	-
	12/11/89	00TK			26.5		1.	-
	07/03/90	00TK			20.3	L	1.	-
	07/05/90	00AK			21.		1.	-
CHROMIUM	06/14/89	00TK	MG/L		0.300		0.01	-
	06/15/89	00AK			0.29		0.01	-
	12/10/89	00AK			0.25		0.01	-
	12/11/89	00TK			0.250		0.01	-
	07/03/90	00TK			0.156		0.01	-
	07/05/90	00AK			0.16		0.01	-
COBALT	06/14/89	00TK	MG/L		0.420		0.05	-
	06/15/89	00AK			0.42		0.05	-
	12/10/89	00AK			0.12		0.05	-
	12/11/89	00TK			0.112		0.05	-
	07/03/90	00TK			0.090		0.05	-
	07/05/90	00AK			0.10		0.05	-
COPPER	06/14/89	00TK	MG/L		0.420		0.02	-
	06/15/89	00AK			0.44		0.02	-
	12/10/89	00AK			0.11		0.02	-
	12/11/89	00TK			0.100		0.02	-
	07/03/90	00TK			0.080		0.02	-
	07/05/90	00AK			0.09		0.02	-
CYANIDE	06/14/89	00TK	MG/L		0.591		0.01	-
	06/15/89	00AK			0.53		0.01	-
	12/10/89	00AK			0.76		0.01	-
	12/11/89	00TK			0.756		0.01	-
FLUORIDE	06/14/89	00TK	MG/L		4.04		0.1	-
	06/15/89	00AK			3.9		0.1	-
	12/10/89	00AK			4.5		0.1	-
	12/11/89	00TK			4.45		0.1	-
	07/03/90	00TK			6.27		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI VALUE FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
FLUORIDE	07/05/90	00AK	MG/L	6.6	0.1	-
GROSS ALPHA	04/11/88	00AK	PCI/L	66.	0.2	8.
	04/11/88	00TK		77.0	0.2	-
GROSS BETA	04/11/88	00AK	PCI/L	68.	1.	5.
	04/11/88	00TK		66.4	1.	-
IRON	06/14/89	00TK	MG/L	0.975	0.03	-
	06/15/89	00AK		1.00	0.03	-
	12/10/89	00AK		0.26	0.03	-
	12/11/89	00TK		0.250	0.03	-
	07/03/90	00TK		0.225	0.03	-
	07/05/90	00AK		0.25	0.03	-
LEAD	06/14/89	00TK	MG/L	0.368	0.01	-
	06/15/89	00AK		0.38	0.01	-
	12/10/89	00AK		0.06	0.01	-
	12/11/89	00TK		0.063	0.01	-
	07/03/90	00TK		0.050	0.01	-
	07/05/90	00AK		0.05	0.01	-
MAGNESIUM	04/11/88	00AK	MG/L	32.3	0.001	-
	04/11/88	00TK		34.4	0.001	-
	06/14/89	00TK		60.0	0.001	-
	06/15/89	00AK		60.3	0.001	-
	12/10/89	00AK		42.	0.001	-
	12/11/89	00TK		40.0	0.001	-
	07/03/90	00TK		16.2	0.001	-
	07/05/90	00AK		17.3	0.001	-
MANGANESE	06/14/89	00TK	MG/L	1.02	0.01	-
	06/15/89	00AK		1.03	0.01	-
	12/10/89	00AK		0.20	0.01	-
	12/11/89	00TK		0.188	0.01	-
	07/03/90	00TK		0.175	0.01	-
	07/05/90	00AK		0.19	0.01	-
MERCURY	06/14/89	00TK	MG/L	0.315	0.0002	-
	06/15/89	00AK		0.275	0.0002	-
	12/10/89	00AK		0.076	0.0002	-
	12/11/89	00TK		0.075	0.0002	-
	07/03/90	00TK		0.060	0.0002	-
	07/05/90	00AK		0.063	0.0002	-
MOLYBDENUM	04/11/88	00AK	MG/L	0.34	0.01	-
	04/11/88	00TK		0.340	0.01	-
	06/14/89	00TK		0.160	0.01	-
	06/15/89	00AK		0.15	0.01	-
	12/10/89	00AK		0.24	0.01	-
	12/11/89	00TK		0.240	0.01	-
	07/03/90	00TK		0.400	0.01	-
	07/05/90	00AK		0.42	0.01	-
NET GROSS ALPHA *	04/11/88	00AK	PCI/L	-449.19	-	-

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

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

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00AK - ANALYTICAL KNOWN SAMPLE
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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WOD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	04/11/88	00TK	PCI/L		-372.33		-	-
NICKEL	06/14/89	00TK	MG/L		0.400		0.04	-
	06/15/89	00AK			0.40		0.04	-
	12/10/89	00AK			0.20		0.04	-
	12/11/89	00TK			0.200		0.04	-
	07/03/90	00TK			0.125		0.04	-
	07/05/90	00AK			0.14		0.04	-
NITRATE	04/11/88	00AK	MG/L		47.		1.	-
	04/11/88	00TK			46.5		1.	-
	06/14/89	00TK			26.6		1.	-
	06/15/89	00AK			26.		1.	-
	12/10/89	00AK			2.2		1.	-
	12/11/89	00TK			2.21		1.	-
	07/03/90	00TK			71.9		1.	-
	07/05/90	00AK			79.0		1.	-
PHOSPHATE	06/14/89	00TK	MG/L		1.99		0.1	-
	06/15/89	00AK			1.9		0.1	-
	12/10/89	00AK			0.5		0.1	-
	12/11/89	00TK			0.460		0.1	-
	07/03/90	00TK			0.613		0.1	-
	07/05/90	00AK			0.8		0.1	-
POTASSIUM	04/11/88	00AK	MG/L		5.22		0.01	-
	04/11/88	00TK			5.73		0.01	-
	06/14/89	00TK			15.0		0.01	-
	06/15/89	00AK			15.5		0.01	-
	12/10/89	00AK			9.6		0.01	-
	12/11/89	00TK			10.0		0.01	-
	07/03/90	00TK			4.06		0.01	-
	07/05/90	00AK			4.2		0.01	-
RADIUM-226	06/14/89	00TK	PCI/L		53.0		1.	-
	06/15/89	00AK			50.		1.	3.
	12/10/89	00AK			6.0		1.	0.6
	12/11/89	00TK			12.8		1.	-
	07/03/90	00TK			16.0		1.	-
	07/05/90	00AK			17.		1.	2.
RADIUM-226 + RADIUM-228	06/14/89	00TK	PCI/L		104.00		-	-
	06/15/89	00AK			103.00		-	-
	12/10/89	00AK			18.70		-	-
	12/11/89	00TK			32.60		-	-
	07/03/90	00TK			49.40		-	-
	07/05/90	00AK			53.00		-	-
RADIUM-228	06/14/89	00TK	PCI/L		51.0		1.	-
	06/15/89	00AK			53.		1.	3.
	12/10/89	00AK			12.7		1.	2.7
	12/11/89	00TK			19.8		1.	-
	07/03/90	00TK			33.4		1.	-

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

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

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI VALUE FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	07/05/90	00AK	PCI/L	36.	1.	3.
SELENIUM	04/11/88	00AK	MG/L	0.865	0.005	-
	04/11/88	00TK		1.03	0.005	-
	06/14/89	00TK		0.615	0.005	-
	06/15/89	00AK		0.493	0.005	-
	12/10/89	00AK		0.17	0.005	-
	12/11/89	00TK		0.188	0.005	-
	07/03/90	00TK		0.175	0.005	-
	07/05/90	00AK		0.174	0.005	-
SILICA - SIO2	06/14/89	00TK	MG/L	2.13	2.	-
	06/15/89	00AK		2.	2.	-
	12/10/89	00AK		2.4	2.	-
	12/11/89	00TK		2.35	2.	-
	07/03/90	00TK		3.33	2.	-
	07/05/90	00AK		3.5	2.	-
SILVER	06/14/89	00TK	MG/L	0.315	0.01	-
	06/15/89	00AK		0.31	0.01	-
	12/10/89	00AK		0.07	0.01	-
	12/11/89	00TK		0.075	0.01	-
	07/03/90	00TK		0.060	0.01	-
	07/05/90	00AK		0.08	0.01	-
SODIUM	04/11/88	00AK	MG/L	215.	0.002	-
	04/11/88	00TK		229.	0.002	-
	06/14/89	00TK		150.	0.002	-
	06/15/89	00AK		144.	0.002	-
	12/10/89	00AK		71.	0.002	-
	12/11/89	00TK		80.0	0.002	-
	07/03/90	00TK		32.5	0.002	-
	07/05/90	00AK		33.4	0.002	-
STRONTIUM	12/11/89	00TK	MG/L	0.500	0.1	-
	07/03/90	00TK		0.406	0.1	-
	07/05/90	00AK		0.41	0.1	-
SULFATE	04/11/88	00AK	MG/L	316.	0.1	-
	04/11/88	00TK		304.	0.1	-
	06/14/89	00TK		510.	0.1	-
	06/15/89	00AK		550.	0.1	-
	12/10/89	00AK		249.	0.1	-
	12/11/89	00TK		242.	0.1	-
	07/03/90	00TK		503.	0.1	-
	07/05/90	00AK		521.0	0.1	-
SULFIDE	06/14/89	00TK	MG/L	2.64	0.1	-
	06/15/89	00AK		3.	0.1	-
	12/10/89	00AK		26.8	0.1	-
	12/11/89	00TK		25.9	0.1	-
THALLIUM	06/14/89	00TK	MG/L	0.150	0.01	-
	06/15/89	00AK		0.16	0.01	-
	12/10/89	00AK		0.1	0.1	-

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

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0990 WQD KNOWNS
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI VALUE FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
THALLIUM	12/11/89	00TK	MG/L	0.063	0.01	-
	07/03/90	00TK		0.050	0.01	-
	07/05/90	00AK		0.06	0.01	-
TIN	06/14/89	00TK	MG/L	0.240	0.005	-
	06/15/89	00AK		0.351	0.005	-
	12/10/89	00AK		0.37	0.005	-
	12/11/89	00TK		0.360	0.005	-
	07/03/90	00TK		0.600	0.005	-
	07/05/90	00AK		0.561	0.005	-
TOTAL DISSOLVED SOLIDS	04/11/88	00AK	MG/L	655.	10.	-
	04/11/88	00TK		659.	10.	-
	06/14/89	00TK		1000.	10.	-
	06/15/89	00AK		979.	10.	-
	12/10/89	00AK		482.	10.	-
	12/11/89	00TK		498.	10.	-
	07/03/90	00TK		967.	10.	-
	07/05/90	00AK		968.	10.	-
TOTAL ORGANIC CARBON	04/11/88	00AK	MG/L	3.0	1.	-
	04/11/88	00TK		2.50	1.	-
URANIUM	04/11/88	00AK	MG/L	0.751	0.003	-
	04/11/88	00TK		0.655	0.003	-
	06/14/89	00TK		0.700	0.003	-
	06/15/89	00AK		0.840	0.003	-
	12/10/89	00AK		0.299	0.003	-
	12/11/89	00TK		0.325	0.003	-
	07/03/90	00TK		0.269	0.003	-
	07/05/90	00AK		0.287	0.003	-
VANADIUM	06/14/89	00TK	MG/L	0.700	0.01	-
	06/15/89	00AK		0.70	0.01	-
	12/10/89	00AK		0.35	0.01	-
	12/11/89	00TK		0.350	0.01	-
	07/03/90	00TK		0.284	0.01	-
	07/05/90	00AK		0.30	0.01	-
ZINC	06/14/89	00TK	MG/L	0.400	0.005	-
	06/15/89	00AK		0.416	0.005	-
	12/10/89	00AK		0.21	0.005	-
	12/11/89	00TK		0.200	0.005	-
	07/03/90	00TK		0.125	0.005	-
	07/05/90	00AK		0.140	0.005	-

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

SAMPLE ID CODES:
00AK - ANALYTICAL KNOWN SAMPLE
00TK - THEORETICAL KNOWN SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
AMMONIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-
	06/30/93	N003		<	0.1		0.1	-
	06/30/93	N004		<	0.1		0.1	-
	12/12/93	N001		<	0.1		0.1	-
	12/12/93	N002		<	0.1		0.1	-
	04/24/94	N001		<	0.1		0.1	-
	04/24/94	N002		<	0.1		0.1	-
	04/29/94	N003		<	0.1		0.1	-
	04/29/94	N004		<	0.1		0.1	-
	12/11/94	N001		<	0.1	H	0.1	-
	12/11/94	N002		<	0.1	H	0.1	-
	12/13/94	N003		<	0.1		0.1	-
	12/13/94	N004		<	0.1		0.1	-
ARSENIC (TOTAL)	06/30/93	N001	MG/L	<	0.005		0.005	-
	06/30/93	N002		<	0.005		0.005	-
	06/30/93	N003		<	0.005		0.005	-
	06/30/93	N004		<	0.005		0.005	-
BARIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-
	06/30/93	N003		<	0.1		0.1	-
	06/30/93	N004		<	0.1		0.1	-
CALCIUM	02/02/93	0001	MG/L	<	0.5		0.5	-
	02/02/93	0002		<	0.5		0.5	-
	04/24/94	0001		<	0.5		0.5	-
	04/24/94	0002		<	0.5		0.5	-
	04/24/94	0003		<	0.5		0.5	-
	04/24/94	0004		<	0.5		0.5	-
	12/11/94	0001		<	0.5		0.5	-
	12/11/94	0002		<	0.5		0.5	-
	12/13/94	0003		<	0.5		0.5	-
	12/13/94	0004		<	0.5		0.5	-
CALCIUM (TOTAL)	06/30/93	N001	MG/L	<	0.5		0.5	-
	06/30/93	N002		<	0.5		0.5	-
	06/30/93	N003		<	0.5		0.5	-
	06/30/93	N004		<	0.5		0.5	-
	12/12/93	N001		<	0.5		0.5	-
	12/12/93	N002		<	0.5		0.5	-
CHLORIDE	02/02/93	0001	MG/L	<	0.5		0.5	-
	02/02/93	0002		<	0.5		0.5	-
	04/24/94	0001		<	0.5		0.5	-
	04/24/94	0002		<	0.5		0.5	-
	04/24/94	0003		<	0.5		0.5	-
	04/24/94	0004		<	0.5		0.5	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT

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
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	12/11/94	0001	MG/L	<	0.5		0.5	-
	12/11/94	0002		<	0.5		0.5	-
CHLORIDE (TOTAL)	06/30/93	N001	MG/L	<	0.5		0.5	-
	06/30/93	N002		<	0.5		0.5	-
	06/30/93	N003		<	0.5		0.5	-
	06/30/93	N004		<	0.5		0.5	-
	12/12/93	N001		<	0.5		0.5	-
	12/12/93	N002		<	0.5		0.5	-
GROSS ALPHA	02/02/93	0001	PCI/L		0		3	3
	02/02/93	0002			0		3	2
GROSS ALPHA (TOTAL)	06/30/93	N001	PCI/L		0		1	2
	06/30/93	N002			0		1	1
	06/30/93	N003			0		1	1
	06/30/93	N004			0		1	1
GROSS BETA	02/02/93	0001	PCI/L		0		10	4
	02/02/93	0002			0		10	4
GROSS BETA (TOTAL)	06/30/93	N001	PCI/L		0		4	4
	06/30/93	N002			0		4	3
	06/30/93	N003			0		4	3
	06/30/93	N004			0		4	4
IRON	02/02/93	0001	MG/L	<	0.03		0.03	-
	02/02/93	0002		<	0.03		0.03	-
	12/13/94	0003		<	0.03		0.03	-
	12/13/94	0004		<	0.03		0.03	-
IRON (TOTAL)	06/30/93	N001	MG/L	<	0.03		0.03	-
	06/30/93	N002		<	0.03		0.03	-
	06/30/93	N003			0.04		0.03	-
	06/30/93	N004		<	0.03		0.03	-
MAGNESIUM	02/02/93	0001	MG/L	<	0.1		0.1	-
	02/02/93	0002		<	0.1		0.1	-
	04/24/94	0001		<	0.1		0.1	-
	04/24/94	0002		<	0.1		0.1	-
	04/24/94	0003		<	0.1		0.1	-
	04/24/94	0004		<	0.1		0.1	-
	12/11/94	0001		<	0.1		0.1	-
	12/11/94	0002		<	0.1		0.1	-
	12/13/94	0003		<	0.1		0.1	-
	12/13/94	0004		<	0.1		0.1	-
MAGNESIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-

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

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N004 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM (TOTAL)	06/30/93	N003	MG/L	<	0.1		0.1	-
	06/30/93	N004		<	0.1		0.1	-
	12/12/93	N001		<	0.1		0.1	-
	12/12/93	N002		<	0.1		0.1	-
MANGANESE	02/02/93	0001	MG/L	<	0.01		0.01	-
	02/02/93	0002		<	0.01		0.01	-
	04/24/94	0001		<	0.01		0.01	-
	04/24/94	0002		<	0.01		0.01	-
	04/24/94	0003		<	0.01		0.01	-
	04/24/94	0004		<	0.01		0.01	-
	12/11/94	0001		<	0.01		0.01	-
	12/11/94	0002		<	0.01		0.01	-
	12/13/94	0003		<	0.01		0.01	-
	12/13/94	0004		<	0.01		0.01	-
MANGANESE (TOTAL)	06/30/93	N001	MG/L	<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	06/30/93	N003		<	0.01		0.01	-
	06/30/93	N004		<	0.01		0.01	-
	12/12/93	N001		<	0.01		0.01	-
	12/12/93	N002		<	0.01		0.01	-
MOLYBDENUM	12/11/94	0001	MG/L	<	0.01		0.01	-
	12/11/94	0002		<	0.01		0.01	-
	12/13/94	0003		<	0.01		0.01	-
	12/13/94	0004		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/30/93	N001	MG/L	<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	06/30/93	N003		<	0.01		0.01	-
	06/30/93	N004		<	0.01		0.01	-
NET GROSS ALPHA *	02/02/93	0001	PCI/L		-0.34		-	-
	02/02/93	0002			-0.34		-	-
NET GROSS ALPHA (TOTAL) **	06/30/93	N001	PCI/L		-0.34		-	-
	06/30/93	N002			-0.34		-	-
	06/30/93	N003			-0.34		-	-
	06/30/93	N004			-0.34		-	-
NITRATE	02/02/93	0001	MG/L	<	1		1	-
	02/02/93	0002		<	1		1	-
NITRATE (TOTAL)	06/30/93	N001	MG/L	<	1		1	-

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

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

SAMPLE ID CODES:
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N004 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE (TOTAL)	06/30/93	N002	MG/L	<	1		1	-
	06/30/93	N003		<	1		1	-
	06/30/93	N004		<	1		1	-
	12/12/93	N001		<	1		1	-
	12/12/93	N002		<	1		1	-
	04/24/94	N001		<	1		1	-
	04/24/94	N002		<	1		1	-
	04/29/94	N003		<	1		1	-
	04/29/94	N004		<	1		1	-
	12/11/94	N001		<	1	HJN	1	-
	12/11/94	N002		<	1	HJN	1	-
	12/13/94	N003		<	1		1	-
	12/13/94	N004		<	1		1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-
	06/30/93	N003		<	0.1		0.1	-
	06/30/93	N004		<	0.1		0.1	-
	12/13/94	N003		<	0.1		0.1	-
POTASSIUM	02/02/93	0001	MG/L	<	0.1		0.1	-
	02/02/93	0002		<	0.1		0.1	-
	04/24/94	0001		<	0.1		0.1	-
	04/24/94	0002		<	0.1		0.1	-
	04/24/94	0003		<	0.1		0.1	-
	04/24/94	0004		<	0.1		0.1	-
	12/11/94	0001		<	0.1		0.1	-
	12/11/94	0002		<	0.1		0.1	-
	12/13/94	0003			0.1		0.1	-
	12/13/94	0004		<	0.1		0.1	-
POTASSIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-
	06/30/93	N003		<	0.1		0.1	-
	06/30/93	N004		<	0.1		0.1	-
	12/12/93	N001		<	0.1		0.1	-
	12/12/93	N002		<	0.1		0.1	-
SILICA - SIO2	12/11/94	0001	MG/L	<	0.1		0.1	-
	12/11/94	0002			0.2		0.1	-
	12/13/94	0003		<	0.1		0.1	-
	12/13/94	0004		<	0.1		0.1	-
SILICA - SIO2 (TOTAL)	06/30/93	N001	MG/L	<	0.5	H	0.5	-
	06/30/93	N002		<	0.5	H	0.5	-
	06/30/93	N003		<	0.5	H	0.5	-
	06/30/93	N004		<	0.5	H	0.5	-
	12/12/93	N001		<	0.1		0.1	-
	12/12/93	N002			0.1		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	02/02/93	0001	MG/L	<	0.1		0.1	-
	02/02/93	0002		<	0.1		0.1	-
	04/24/94	0001		<	1		1	-
	04/24/94	0002		<	1		1	-
	04/24/94	0003		<	1		1	-
	04/24/94	0004		<	1		1	-
	12/11/94	0001		<	1		1	-
	12/11/94	0002		<	1		1	-
	12/13/94	0003		<	1		1	-
	12/13/94	0004		<	1		1	-
SODIUM (TOTAL)	06/30/93	N001	MG/L	<	1		1	-
	06/30/93	N002		<	1		1	-
	06/30/93	N003		<	1		1	-
	06/30/93	N004		<	1		1	-
	12/12/93	N001		<	1		1	-
	12/12/93	N002		<	1		1	-
STRONTIUM	04/24/94	0001	MG/L	<	0.01		0.01	-
	04/24/94	0002		<	0.01		0.01	-
	04/24/94	0003		<	0.01		0.01	-
	04/24/94	0004		<	0.01		0.01	-
	12/11/94	0001		<	0.01		0.01	-
	12/11/94	0002			0.21		0.01	-
	12/13/94	0003			0.08		0.01	-
	12/13/94	0004		<	0.01		0.01	-
STRONTIUM (TOTAL)	06/30/93	N001	MG/L	<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	06/30/93	N003		<	0.01		0.01	-
	06/30/93	N004		<	0.01		0.01	-
	12/12/93	N001		<	0.01		0.01	-
	12/12/93	N002		<	0.01		0.01	-
SULFATE	02/02/93	0001	MG/L	<	2		1	-
	02/02/93	0002			2		1	-
	04/24/94	0001		<	1		1	-
	04/24/94	0002		<	1		1	-
	04/24/94	0003		<	1		1	-
	04/24/94	0004		<	1		1	-
	12/11/94	0001		<	1		1	-
	12/11/94	0002		<	1		1	-
	12/13/94	0003		<	1		1	-
	12/13/94	0004		<	1		1	-
SULFATE (TOTAL)	06/30/93	N001	MG/L	<	1		1	-
	06/30/93	N002		<	1		1	-
	06/30/93	N003		<	1		1	-
	06/30/93	N004		<	1		1	-

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

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N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE

SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	12/12/93	N001	MG/L	<	1		1	-
	12/12/93	N002		<	1		1	-
TOTAL DISSOLVED SOLIDS	02/02/93	0001	MG/L	<	10		10	-
	02/02/93	0002		<	10		10	-
	04/24/94	0001		<	10		10	-
	04/24/94	0002		<	10		10	-
	04/24/94	0003		<	10		10	-
	04/24/94	0004		<	10		10	-
	12/11/94	0001		<	10		10	-
	12/11/94	0002			10		10	-
	12/13/94	0003		<	10		10	-
	12/13/94	0004		<	10		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/30/93	N001	MG/L	<	10	H	10	-
	06/30/93	N002		<	10	H	10	-
	06/30/93	N003		<	10	H	10	-
	06/30/93	N004		<	10	H	10	-
	12/12/93	N001		<	10		10	-
	12/12/93	N002		<	10		10	-
URANIUM	02/02/93	0001	MG/L	<	0.001		0.001	-
	02/02/93	0002		<	0.001		0.001	-
	04/24/94	0001		<	0.001		0.001	-
	04/24/94	0002		<	0.001		0.001	-
	04/24/94	0003		<	0.001		0.001	-
	04/24/94	0004		<	0.001		0.001	-
	12/11/94	0001		<	0.001		0.001	-
	12/11/94	0002		<	0.001		0.001	-
URANIUM (TOTAL)	06/30/93	N001	MG/L	<	0.001		0.001	-
	06/30/93	N002		<	0.001		0.001	-
	06/30/93	N003		<	0.001		0.001	-
	06/30/93	N004		<	0.001		0.001	-
	12/12/93	N001		<	0.001		0.001	-
	12/12/93	N002		<	0.001		0.001	-
VANADIUM	04/24/94	0001	MG/L	<	0.01		0.01	-
	04/24/94	0002		<	0.01		0.01	-
	04/24/94	0003		<	0.01		0.01	-
	04/24/94	0004		<	0.01		0.01	-
	12/11/94	0001		<	0.01		0.01	-
	12/11/94	0002		<	0.01		0.01	-
	12/13/94	0003		<	0.01		0.01	-
	12/13/94	0004		<	0.01		0.01	-
VANADIUM (TOTAL)	06/30/93	N001	MG/L	<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	06/30/93	N003		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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SURFACE WATER QUALITY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0999
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/11/88 TO 12/14/94
REPORT DATE: 06/22/95

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM (TOTAL)	06/30/93	N004	MG/L	<	0.01		0.01	-
	12/12/93	N001		<	0.01		0.01	-
	12/12/93	N002		<	0.01		0.01	-
ZINC	12/13/94	0003	MG/L	<	0.05		0.05	-
	12/13/94	0004		<	0.05		0.05	-
ZINC (TOTAL)	06/30/93	N001	MG/L		0.014		0.005	-
	06/30/93	N002			0.010		0.005	-
	06/30/93	N003			0.112		0.005	-
	06/30/93	N004			0.022		0.005	-

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

SAMPLE ID CODES:
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE
N003 - UNFILTERED REPLICATE SAMPLE
N004 - UNFILTERED REPLICATE SAMPLE

DATA FILE NAME: \DART\MON01\SWQ10002.DAT

SOIL CHEMISTRY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0620
NORTH COORDINATE: 70685.0 FT
EAST COORDINATE: 90918.8 FT
06/28/93 TO 07/01/93
REPORT DATE: 06/22/95

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	06/30/93	N001	-			%		66.9		0.1	-
ARSENIC (TOTAL)	06/30/93	N001	-			MG/KG		4.		2.	-
NITRATE (TOTAL)	06/30/93	N001	-			MG/KG		0.9		0.1	-
STRONTIUM (TOTAL)	06/30/93	N001	-			MG/KG		28.		1.	-
SULFATE (TOTAL)	06/30/93	N001	-			MG/KG		48.		10.	-
URANIUM (TOTAL)	06/30/93	N001	-			MG/KG		1.0		1.0	-
VANADIUM (TOTAL)	06/30/93	N001	-			MG/KG		9.		1.	-
ZINC (TOTAL)	06/30/93	N001	-			MG/KG		18.7		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SOMP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0623 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/28/93 TO 07/01/93
REPORT DATE: 06/22/95

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	06/28/93	N001	-			%		64.5		0.1	-
ARSENIC (TOTAL)	06/28/93	N001	-			MG/KG		0.9		0.5	-
NITRATE (TOTAL)	06/28/93	N001	-			MG/KG		1.8		0.1	-
STRONTIUM (TOTAL)	06/28/93	N001	-			MG/KG		116.		1.	-
SULFATE (TOTAL)	06/28/93	N001	-			MG/KG		771.		250.	-
URANIUM (TOTAL)	06/28/93	N001	-			MG/KG	<	1.0		1.0	-
VANADIUM (TOTAL)	06/28/93	N001	-			MG/KG		6.		1.	-
ZINC (TOTAL)	06/28/93	N001	-			MG/KG		10.7		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0626 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/28/93 TO 07/01/93
REPORT DATE: 06/22/95

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	06/28/93	N001	-			%		76.8		0.1	-
ARSENIC (TOTAL)	06/28/93	N001	-			MG/KG		0.8		0.5	-
NITRATE (TOTAL)	06/28/93	N001	-			MG/KG		0.4		0.1	-
STRONTIUM (TOTAL)	06/28/93	N001	-			MG/KG		26.		1.	-
SULFATE (TOTAL)	06/28/93	N001	-			MG/KG		42.		10.	-
URANIUM (TOTAL)	06/28/93	N001	-			MG/KG	<	1.0		1.0	-
VANADIUM (TOTAL)	06/28/93	N001	-			MG/KG		5.		1.	-
ZINC (TOTAL)	06/28/93	N001	-			MG/KG		6.8		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0624 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/28/93 TO 07/01/93
REPORT DATE: 06/22/95

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	06/28/93	N001	-			%		76.2		0.1	-
ARSENIC (TOTAL)	06/28/93	N001	-			MG/KG		0.6		0.5	-
NITRATE (TOTAL)	06/28/93	N001	-			MG/KG		3.8		0.1	-
STRONTIUM (TOTAL)	06/28/93	N001	-			MG/KG		46.		1.	-
SULFATE (TOTAL)	06/28/93	N001	-			MG/KG		935.		250.	-
URANIUM (TOTAL)	06/28/93	N001	-			MG/KG	<	1.0		1.0	-
VANADIUM (TOTAL)	06/28/93	N001	-			MG/KG		3.		1.	-
ZINC (TOTAL)	06/28/93	N001	-			MG/KG		10.8		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

SOIL CHEMISTRY DATA BY LOCATION
SOWP Rev. 0 data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0627 RESERVED FOR RPAPUSCH
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
06/28/93 TO 07/01/93
REPORT DATE: 06/22/95

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	07/01/93	N001	-			%		68.2		0.1	-
ARSENIC (TOTAL)	07/01/93	N001	-			MG/KG		0.9		0.5	-
NITRATE (TOTAL)	07/01/93	N001	-			MG/KG		0.9		0.1	-
STRONTIUM (TOTAL)	07/01/93	N001	-			MG/KG		54.		1.	-
SULFATE (TOTAL)	07/01/93	N001	-			MG/KG		35.		10.	-
URANIUM (TOTAL)	06/30/93	N001	-			MG/KG	<	1.0		1.0	-
VANADIUM (TOTAL)	07/01/93	N001	-			MG/KG		9.		1.	-
ZINC (TOTAL)	07/01/93	N001	-			MG/KG		29.2		0.5	-

PARAMETER VALUE INDICATOR (PVI): < - LESS THAN DETECTION LIMIT
SAMPLE DIGESTION TYPE CODES: -
SAMPLE DESCRIPTION CODES: -

DATA FILE NAME: \DART\MON01\SCI10000.DAT

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	05/31/91	0001	MG/L CACO3		280.	L	-	-
	08/11/92	0001			302		-	-
	11/22/92	0001			253		-	-
	06/29/93	N001			281		-	-
ALUMINUM	05/31/91	0001	MG/L	<	0.05	L	0.05	-
	02/23/92	0001			0.07		0.05	-
	08/11/92	0001		<	0.2	*	0.2	-
AMMONIUM	05/31/91	0001	MG/L		0.2	L	0.1	-
	02/23/92	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
ANTIMONY	05/31/91	0001	MG/L		0.003	L	0.003	-
	02/23/92	0001			0.004		0.003	-
	08/11/92	0001		<	0.06	W	0.06	-
ARSENIC	05/31/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01	W	0.01	-
	11/22/92	0001		<	0.0015		0.0015	-
	06/29/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
	06/29/93	N001			0.017	+	0.005	-
BARIUM	05/31/91	0001	MG/L		0.04	L	0.01	-
	02/23/92	0001			0.04		0.01	-
	08/11/92	0001		<	0.2		0.2	-
	11/22/92	0001			0.052		0.0015	-
	06/29/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.19		0.0015	-
	06/29/93	N001			2.0		0.1	-
BERYLLIUM	05/31/91	0001	MG/L	<	0.005	L	0.005	-
	08/11/92	0001		<	0.005		0.005	-
BORON	05/31/91	0001	MG/L		0.05	L	0.05	-
BROMIDE	05/31/91	0001	MG/L	<	0.1	L	0.1	-
CADMIUM	05/31/91	0001	MG/L	<	0.001	L	0.001	-
	02/23/92	0001		<	0.0005		0.0005	-
	08/11/92	0001		<	0.005	E	0.005	-
	11/22/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L		0.00030	N	0.00013	-
CALCIUM	05/31/91	0001	MG/L		29.9	L	0.5	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
+ - CORRELATION COEFFICIENT FOR MSA < 0.995
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	02/23/92	0001	MG/L		27.4		0.5	-
	08/11/92	0001			29		5	-
	06/29/93	0001			27.8		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		318		0.5	-
CHLORIDE	05/31/91	0001	MG/L		15.2	L	0.5	-
	02/23/92	0001			15.1		0.5	-
	08/11/92	0001			14		0.016	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		14.8		0.5	-
CHROMIUM	05/31/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01		0.01	-
	11/22/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	05/31/91	0001	MG/L	<	0.03	L	0.03	-
COPPER	05/31/91	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	11/22/92	0001	MG/L		0.7		-	-
FLUORIDE	05/31/91	0001	MG/L		0.2	L	0.1	-
GROSS ALPHA	05/31/91	0001	PCI/L		0.0	L	1.	5.3
	02/23/92	0001			0.6		1.0	4.3
	08/11/92	0001			7.1		5.7	4.7
	11/22/92	0001			3.7	N	3.2	2.7
	06/29/93	0001			11		3	6
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		0.0	N	9.2	5.4
	06/29/93	N001			415		44	118
GROSS BETA	05/31/91	0001	PCI/L		2.2	L	0.5	3.2
	02/23/92	0001			1.6		0.5	2.5
	08/11/92	0001			10		5	4
	11/22/92	0001			0.0	N	5.7	3.3
	06/29/93	0001			2		4	4
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		0.7	N	6.6	4.0
	06/29/93	N001			182		46	50
IRON	05/31/91	0001	MG/L	<	0.03	L	0.03	-
	02/23/92	0001		<	0.03		0.03	-
	08/11/92	0001		<	0.1		0.1	-
	06/29/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		107		0.03	-
LEAD	05/31/91	0001	MG/L	<	0.005	L	0.005	-
	11/22/92	0001		<	0.0015		0.0015	-

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOW01 MONUMENT VALLEY
LOCATION: 0601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD (TOTAL)	11/22/92	N001	MG/L		0.0041		0.0015	-
LEAD-210	11/22/92	0001	PCI/L		0.4		2.0	1.2
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		1.1		2.0	1.2
MAGNESIUM	05/31/91	0001	MG/L		18.4	L	0.1	-
	02/23/92	0001			18.1		0.1	-
	08/11/92	0001			18		5	-
	06/29/93	0001			17.8		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		47.1		0.1	-
MANGANESE	05/31/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01		0.01	-
	11/22/92	0001			0.0037		0.0015	-
	06/29/93	0001			0.27		0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L		0.16		0.0015	-
	06/29/93	N001			2.76		0.01	-
MOLYBDENUM	05/31/91	0001	MG/L		0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.007		0.007	-
	11/22/92	0001		<	0.0049	N	0.0049	-
	06/29/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/29/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	05/31/91	0001	PCI/L		-0.34		-	-
	02/23/92	0001			-3.52		-	-
	11/22/92	0001			-0.42		-	-
	06/29/93	0001			8.26		-	-
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-2.74		-	-
	06/29/93	N001			403.34		-	-
NICKEL	05/31/91	0001	MG/L	<	0.04	L	0.04	-
NITRATE	05/31/91	0001	MG/L		5.4	L	1.	-
	02/23/92	0001			2.7		1.0	-
	08/11/92	0001			4.2		0.075	-
	11/22/92	0001			4.3		0.044	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		3		1	-
NITRITE AND NITRATE	05/31/91	0001	MG/L		1.22	L	0.05	-
PH	05/31/91	0001	SU		7.85	L	-	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	02/23/92	0001	SU		7.79		-	-
	08/11/92	0001			7.77		-	-
	11/22/92	0001			7.94		-	-
	06/29/93	N001			7.46		-	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L		2.6		0.1	-
POTASSIUM	05/31/91	0001	MG/L		1.89	L	0.01	-
	02/23/92	0001			1.98		0.01	-
	08/11/92	0001			1.6	*	0.575	-
	06/29/93	0001			2.0		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		18.8		0.1	-
RADIUM-226	05/31/91	0001	PCI/L		0.1	L	1.	0.2
	02/23/92	0001			0.0		1.0	0.2
	08/11/92	0001			0.6		0.3	0.1
	11/22/92	0001			0.3		0.3	0.2
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.8		0.3	0.3
RADIUM-226 + RADIUM-228	05/31/91	0001	PCI/L		0.10		-	-
	02/23/92	0001			1.30		-	-
	08/11/92	0001			2.50		-	-
	11/22/92	0001			1.70		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.10		-	-
RADIUM-228	05/31/91	0001	PCI/L		0.0	JL	1.	2.0
	02/23/92	0001			1.3		1.0	1.6
	08/11/92	0001			1.9		2.6	1.4
	11/22/92	0001			1.4		2.7	1.7
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		2.3		2.4	1.7
REDOX POTENTIAL	11/22/92	0001	mVOLTS		434.5		-	-
	06/29/93	N001			450		-	-
SELENIUM	05/31/91	0001	MG/L		0.014	JL	0.005	-
	02/23/92	0001			0.007		0.005	-
	08/11/92	0001		<	0.005		0.005	-
	11/22/92	0001		<	0.0015	N	0.0015	-
SELENIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	05/31/91	0001	MG/L		14.0	L	0.1	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		33.5	H	0.5	-
SILVER	05/31/91	0001	MG/L	<	0.01	L	0.01	-
SODIUM	05/31/91	0001	MG/L		99.	L	1.	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: D601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	02/23/92	0001	MG/L		99.		1.	-
	08/11/92	0001			97		5	-
	06/29/93	0001			98		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		102		1	-
SPECIFIC CONDUCTANCE	05/31/91	0001	UMHO/CM		750.	L	-	-
	02/23/92	0001			515		-	-
	08/11/92	0001			553		-	-
	11/22/92	0001			581		-	-
	06/29/93	N001			532		-	-
STRONTIUM	05/31/91	0001	MG/L		0.28	L	0.01	-
	02/23/92	0001			0.28		0.01	-
	08/11/92	0001			0.30		0.2	-
	11/22/92	0001			0.32		0.00035	-
	06/29/93	0001			0.29		0.01	-
STRONTIUM (TOTAL)	11/22/92	N001	MG/L		0.36		0.00035	-
	06/29/93	N001			0.84		0.01	-
SULFATE	05/31/91	0001	MG/L		60.	L	0.1	-
	02/23/92	0001			131.		10.	-
	08/11/92	0001			120		0.059	-
	11/22/92	0001			130		1.0	-
SULFATE (TOTAL)	11/22/92	N001	MG/L		130		1.0	-
	06/29/93	N001			124		1	-
SULFIDE	05/31/91	0001	MG/L	<	1.	IJL	1.	-
TEMPERATURE	05/31/91	0001	C - DEGREE		15.0	L	-	-
	02/23/92	0001			15.0		-	-
	08/11/92	0001			17.7		-	-
	11/22/92	0001			16.8		-	-
	06/29/93	N001			16.4		-	-
THALLIUM	05/31/91	0001	MG/L	<	0.01	L	0.01	-
THORIUM-230	05/31/91	0001	PCI/L		0.5	L	1.	0.4
TIN	05/31/91	0001	MG/L	<	0.01	IL	0.01	-
TOTAL DISSOLVED SOLIDS	05/31/91	0001	MG/L		436.	L	10.	-
	02/23/92	0001			429.		10.	-
	08/11/92	0001			380		42	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		440	H	10	-
TOTAL ORGANIC CARBON	05/31/91	0001	MG/L	<	1.	L	1.	-
	02/23/92	0001			1.		1.	-
	08/11/92	0001		<	1.0		1.0	-
URANIUM	05/31/91	0001	MG/L	<	0.001	L	0.001	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0601
NORTH COORDINATE: 54980.4 FT
EAST COORDINATE: 88017.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: UPGRADIENT (U)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	02/23/92	0001	MG/L		0.006		0.001	-
	11/22/92	0001			0.006		0.001	-
	06/29/93	0001			0.004		0.001	-
URANIUM (TOTAL)	11/22/92	N001	MG/L		0.004		0.001	-
	06/29/93	N001			0.017		0.001	-
VANADIUM	05/31/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.05		0.05	-
	11/22/92	0001		<	0.0019		0.0019	-
	06/29/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/22/92	N001	MG/L		0.011		0.0019	-
	06/29/93	N001			0.14		0.01	-
ZINC	05/31/91	0001	MG/L	<	0.005	L	0.005	-
	02/23/92	0001		<	0.005		0.005	-
	08/11/92	0001		<	0.02		0.02	-
	11/22/92	0001		<	0.0010		0.0010	-
	06/29/93	0001			0.011	J	0.005	-
ZINC (TOTAL)	11/22/92	N001	MG/L		0.014		0.0010	-
	06/29/93	N001			0.271	J	0.005	-

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

DATA FILE NAME: \DART\MON01\GWQ10007.DAT

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/22/88	0001	MG/L CACO3		218.		-	-
	06/05/89	0001			219.		-	-
	05/30/91	0001			211.	L	-	-
	02/25/92	0001			218		-	-
	08/10/92	0001			213	L	-	-
	11/22/92	0001			216		-	-
	02/02/93	0001			231		-	-
	06/30/93	N001			199		-	-
ALUMINUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/30/91	0001		<	0.05	L	0.05	-
	02/25/92	0001		<	0.05		0.05	-
	08/10/92	0001		<	0.2	*L	0.2	-
AMMONIUM	04/22/88	0001	MG/L	<	0.1		0.1	-
	06/05/89	0001		<	0.1		0.1	-
	05/30/91	0001		<	0.1	L	0.1	-
	02/25/92	0001		<	0.1		0.1	-
	02/02/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
ANTIMONY	06/05/89	0001	MG/L	<	0.003		0.003	-
	05/30/91	0001		<	0.003	L	0.003	-
	02/25/92	0001		<	0.003		0.003	-
	08/10/92	0001		<	0.06	WL	0.06	-
ARSENIC	04/22/88	0001	MG/L	<	0.001	J	0.01	-
	06/05/89	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01	WL	0.01	-
	11/22/92	0001		<	0.0015		0.0015	-
	06/30/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L		0.0026		0.0015	-
	06/30/93	N001		<	0.005		0.005	-
BARIUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/30/91	0001			0.05	L	0.01	-
	02/25/92	0001			0.05		0.01	-
	08/10/92	0001		<	0.2	L	0.2	-
	11/22/92	0001			0.049		0.0015	-
	06/30/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.055		0.0015	-
	06/30/93	N001		<	0.1		0.1	-
BERYLLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.005	L	0.005	-
	08/10/92	0001		<	0.005	L	0.005	-
BORON	06/05/89	0001	MG/L	<	0.1		0.1	-

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

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OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BORON	05/30/91	0001	MG/L	<	0.05	L	0.05	-
BROMIDE	05/30/91	0001	MG/L		0.2	L	0.1	-
CADMIUM	04/22/88	0001	MG/L		0.005		0.001	-
	06/05/89	0001		<	0.001		0.001	-
	05/30/91	0001		<	0.001	L	0.001	-
	02/25/92	0001		<	0.0005		0.0005	-
	08/10/92	0001		<	0.005	EL	0.005	-
	11/22/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.00013	NW	0.00013	-
CALCIUM	04/22/88	0001	MG/L		28.2		0.01	-
	06/05/89	0001			28.7		0.01	-
	05/30/91	0001			29.4	L	0.5	-
	02/25/92	0001			27.4		0.5	-
	08/10/92	0001			27	L	5	-
	02/02/93	0001			26.5		0.5	-
	06/30/93	0001			27.9		0.5	-
CALCIUM (TOTAL)	06/30/93	N001	MG/L		27.5		0.5	-
CHLORIDE	04/22/88	0001	MG/L		17.		1.	-
	06/05/89	0001			15.		1.	-
	05/30/91	0001			15.5	L	0.5	-
	02/25/92	0001			15.9		0.5	-
	08/10/92	0001			14	L	0.016	-
	02/02/93	0001			15.3		0.5	-
CHLORIDE (TOTAL)	06/30/93	N001	MG/L		14.9		0.5	-
CHROMIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01	L	0.01	-
	11/22/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/05/89	0001	MG/L	<	0.05		0.05	-
	05/30/91	0001		<	0.03	L	0.03	-
COPPER	06/05/89	0001	MG/L	<	0.02		0.02	-
	05/30/91	0001		<	0.01	L	0.01	-
CYANIDE	06/05/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	11/22/92	0001	MG/L		2.2		-	-
	06/30/93	N001			3.6		-	-
FLUORIDE	06/05/89	0001	MG/L		0.3		0.1	-
	05/30/91	0001			0.1	L	0.1	-
GROSS ALPHA	04/22/88	0001	PCI/L		8.3		0.2	4.1

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	05/30/91	0001	PCI/L		0.4	L	1.	5.4
	02/25/92	0001			11.2		1.0	5.9
	08/10/92	0001			3.7	L	5.7	3.8
	11/22/92	0001			3.0	N	3.3	2.6
	02/02/93	0001			0		6	7
	06/30/93	0001			2		3	5
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		1.0	N	7.1	4.3
	06/30/93	N001			3		3	5
GROSS BETA	04/22/88	0001	PCI/L		3.1		1.	1.9
	05/30/91	0001			0.0	L	0.5	2.8
	02/25/92	0001			9.4		0.5	3.2
	08/10/92	0001			0.6	L	4.6	2.6
	11/22/92	0001			0.0	N	6.0	3.4
	02/02/93	0001			0		11	5
	06/30/93	0001			0		4	4
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		7.2	N	5.2	3.4
	06/30/93	N001			0		4	4
IRON	06/05/89	0001	MG/L	<	0.03		0.03	-
	05/30/91	0001		<	0.03	L	0.03	-
	02/25/92	0001		<	0.03		0.03	-
	08/10/92	0001		<	0.1	L	0.1	-
	02/02/93	0001		<	0.03		0.03	-
	06/30/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/30/93	N001	MG/L		0.15	J	0.03	-
LEAD	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.005	L	0.005	-
	11/22/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/22/92	0001	PCI/L		1.7		2.0	1.3
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		1.2		2.0	1.2
MAGNESIUM	04/22/88	0001	MG/L		18.0		0.001	-
	06/05/89	0001			19.5		0.001	-
	05/30/91	0001			19.4	L	0.1	-
	02/25/92	0001			18.5		0.1	-
	08/10/92	0001			18	L	5	-
	02/02/93	0001			18.2		0.1	-
	06/30/93	0001			18.5		0.1	-
MAGNESIUM (TOTAL)	06/30/93	N001	MG/L		19.5		0.1	-
MANGANESE	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01	L	0.01	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	11/22/92	0001	MG/L	<	0.0015		0.0015	-
	02/02/93	0001		<	0.01		0.01	-
	06/30/93	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
	06/30/93	N001		<	0.01		0.01	-
MERCURY	06/05/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	04/22/88	0001	MG/L		0.02		0.01	-
	06/05/89	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.007	L	0.007	-
	11/22/92	0001		<	0.0049	N	0.0049	-
	06/30/93	0001		<	0.01		0.01	
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L	<	0.0049	N	0.0049	
	06/30/93	N001		<	0.01		0.01	
NET GROSS ALPHA *	04/22/88	0001	PCI/L		5.28			
	05/30/91	0001			0.06			
	02/25/92	0001			7.77			
	11/22/92	0001			-0.43			
	02/02/93	0001			-2.74			
	06/30/93	0001			-0.74			
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-1.06			
	06/30/93	N001			0.26			
NICKEL	06/05/89	0001	MG/L	<	0.04		0.04	
	05/30/91	0001		<	0.04	L	0.04	
NITRATE	04/22/88	0001	MG/L		4.1		1.	
	06/05/89	0001			8.4		1.	
	05/30/91	0001			7.4	L	1.	
	02/25/92	0001			2.7		1.0	
	08/10/92	0001			5.8	L	0.075	
	11/22/92	0001			3.8		0.044	
	02/02/93	0001			4		1	
NITRATE (TOTAL)	06/30/93	N001	MG/L		2		1	
NITRITE AND NITRATE	05/30/91	0001	MG/L		1.68	L	0.05	
PH	04/22/88	0001	SU		7.83			
	06/05/89	0001			7.83			
	05/30/91	0001			7.91	L		
	02/25/92	0001			7.78			
	08/10/92	0001			7.88	L		
	11/22/92	0001			8.01			

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

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	02/02/93	0001	SU		7.80		-	-
	06/30/93	N001			7.39		-	-
PHOSPHATE	06/05/89	0001	MG/L		0.6		0.1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L		0.2		0.1	-
POTASSIUM	04/22/88	0001	MG/L		1.80		0.01	-
	06/05/89	0001			2.1		0.01	-
	05/30/91	0001			1.89	L	0.01	-
	02/25/92	0001			1.93		0.01	-
	08/10/92	0001			0.99	*L	0.575	-
	02/02/93	0001			1.9		0.1	-
	06/30/93	0001			1.9		0.1	-
POTASSIUM (TOTAL)	06/30/93	N001	MG/L		1.8		0.1	-
RADIUM-226	06/05/89	0001	PCI/L		0.5		1.	0.3
	05/30/91	0001			0.7	L	1.	0.2
	02/25/92	0001			1.0		1.0	0.5
	08/10/92	0001			0.6	L	0.3	0.1
	11/22/92	0001			0.8		0.3	0.3
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.8		0.3	0.3
RADIUM-226 + RADIUM-228	06/05/89	0001	PCI/L		0.50		-	-
	05/30/91	0001			0.70		-	-
	02/25/92	0001			2.20		-	-
	08/10/92	0001			3.00		-	-
	11/22/92	0001			1.20		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		4.00		-	-
RADIUM-228	06/05/89	0001	PCI/L		0.0		1.	0.9
	05/30/91	0001			0.0	JL	1.	1.9
	02/25/92	0001			1.2		1.0	1.7
	08/10/92	0001			2.4	L	5.0	2.7
	11/22/92	0001			0.4		2.7	1.6
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.2		2.4	1.7
REDOX POTENTIAL	11/22/92	0001	mVOLTS		458.0		-	-
	06/30/93	N001			424		-	-
SELENIUM	04/22/88	0001	MG/L		0.006		0.005	-
	06/05/89	0001		<	0.005		0.005	-
	05/30/91	0001			0.009	JL	0.005	-
	02/25/92	0001			0.006		0.005	-
	08/10/92	0001		<	0.005	L	0.005	-
	11/22/92	0001		<	0.0015	N	0.0015	-
SELENIUM (TOTAL)	11/22/92	N001	MG/L		0.0024		0.0015	-
SILICA - SIO2	06/05/89	0001	MG/L		14.		2.	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
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J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	05/30/91	0001	MG/L		13.6	L	0.1	
SILICA - SIO2 (TOTAL)	06/30/93	N001	MG/L		13.7	H	0.5	
SILVER	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
SODIUM	04/22/88	0001	MG/L		97.4		0.002	-
	06/05/89	0001			100.		0.002	-
	05/30/91	0001			112.	L	5.	-
	02/25/92	0001			109.		5.	-
	08/10/92	0001			99	L	5	-
	02/02/93	0001			101		0.1	-
	06/30/93	0001			99		1	-
SODIUM (TOTAL)	06/30/93	N001	MG/L		101		1	
SPECIFIC CONDUCTANCE	04/22/88	0001	UMHO/CM		525.			
	06/05/89	0001			470.			
	05/30/91	0001			722.	L		
	02/25/92	0001			568			
	08/10/92	0001			603	L		
	11/22/92	0001			580			
	02/02/93	0001			575			
	06/30/93	N001			382			
STRONTIUM	05/30/91	0001	MG/L		0.28	L	0.01	
	02/25/92	0001			0.27		0.01	
	08/10/92	0001			0.29	L	0.2	
	11/22/92	0001			0.36		0.00035	
	06/30/93	0001			0.28		0.01	
STRONTIUM (TOTAL)	11/22/92	N001	MG/L		0.34		0.00035	
	06/30/93	N001			0.29		0.01	
SULFATE	04/22/88	0001	MG/L		136.		0.1	
	06/05/89	0001			139.		0.1	
	05/30/91	0001			164.	L	0.1	
	02/25/92	0001			127.		20.	
	08/10/92	0001			120	L	0.059	
	11/22/92	0001			130		1.0	
	02/02/93	0001			126		1	
SULFATE (TOTAL)	11/22/92	N001	MG/L		130		1.0	
	06/30/93	N001			125		1	
SULFIDE	06/05/89	0001	MG/L	<	0.1		0.1	
	05/30/91	0001		<	1.	IJL	1.	
TEMPERATURE	04/22/88	0001	C - DEGREE		13.5		-	-
	06/05/89	0001			14.8		-	-
	05/30/91	0001			16.3	L	-	-
	02/25/92	0001			14.2		-	-
	08/10/92	0001			16.8	L	-	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	11/22/92	0001	C - DEGREE		16.0		-	-
	02/02/93	0001			14.8		-	-
	06/30/93	N001			15.9		-	-
THALLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
THORIUM-230	05/30/91	0001	PCI/L		1.0	L	1.	0.5
TIN	06/05/89	0001	MG/L	<	0.005		0.005	-
	05/30/91	0001		<	0.01	IL	0.01	-
TOTAL DISSOLVED SOLIDS	04/22/88	0001	MG/L		444.		10.	-
	06/05/89	0001			433.		10.	-
	05/30/91	0001			439.	L	10.	-
	02/25/92	0001			449.		10.	-
	08/10/92	0001			530	L	42	-
	02/02/93	0001			400		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/30/93	N001	MG/L		420	H	10	-
TOTAL ORGANIC CARBON	04/22/88	0001	MG/L		61.2		1.	-
	05/30/91	0001		<	1.	L	1.	-
	02/25/92	0001		<	1.		1.	-
	08/10/92	0001		<	1.0	L	1.0	-
URANIUM	04/22/88	0001	MG/L		0.0044		0.003	-
	06/05/89	0001			0.0035		0.003	-
	05/30/91	0001		<	0.001	L	0.001	-
	02/25/92	0001			0.005		0.001	-
	11/22/92	0001			0.005		0.001	-
	02/02/93	0001			0.004		0.001	-
	06/30/93	0001			0.004		0.001	-
URANIUM (TOTAL)	11/22/92	N001	MG/L		0.003		0.001	-
	06/30/93	N001			0.004		0.001	-
VANADIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.05	L	0.05	-
	11/22/92	0001		<	0.0019		0.0019	-
	06/30/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/22/92	N001	MG/L		0.0020		0.0019	-
	06/30/93	N001		<	0.01		0.01	-
ZINC	06/05/89	0001	MG/L	<	0.005		0.005	-
	05/30/91	0001		<	0.005	L	0.005	-
	02/25/92	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.02	L	0.02	-
	11/22/92	0001			0.0012		0.0010	-
	06/30/93	0001			0.019	J	0.005	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOH01 MONUMENT VALLEY
LOCATION: 0602
NORTH COORDINATE: 56377.4 FT
EAST COORDINATE: 88661.2 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC (TOTAL)	11/22/92	N001	MG/L		0.0050		0.0010	-
	06/30/93	N001			0.024	J	0.005	-

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

SAMPLE ID CODES:
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		200.	L	-	-
	06/05/89	0001			200.		-	-
	05/31/91	0001			205.		-	-
	02/22/92	0001			202		-	-
	08/10/92	0001			192		-	-
	11/21/92	0001			201		-	-
	06/29/93	N001			192		-	-
ALUMINUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001		<	0.05		0.05	-
	02/22/92	0001		<	0.05		0.05	-
	08/10/92	0001		<	0.2	*	0.2	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0001		<	0.1		0.1	-
	05/31/91	0001			0.6		0.1	-
	02/22/92	0001			0.5		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L		0.3		0.1	-
ANTIMONY	06/05/89	0001	MG/L	<	0.003		0.003	-
	05/31/91	0001		<	0.003		0.003	-
	02/22/92	0001		<	0.003		0.003	-
	08/10/92	0001		<	0.06	W	0.06	-
ARSENIC	04/26/88	0001	MG/L		0.001	JL	0.01	-
	06/05/89	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01	W	0.01	-
	11/21/92	0001			0.0029		0.0015	-
	06/29/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/21/92	N001	MG/L		0.0032		0.0015	-
	06/29/93	N001		<	0.005		0.005	-
BARIUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001			0.04		0.01	-
	02/22/92	0001			0.04		0.01	-
	08/10/92	0001		<	0.2		0.2	-
	11/21/92	0001			0.038		0.0015	-
	06/29/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/21/92	N001	MG/L		0.041		0.0015	-
	06/29/93	N001		<	0.1		0.1	-
BERYLLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.005		0.005	-
BORON	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001		<	0.05		0.05	-
BROMIDE	05/31/91	0001	MG/L		0.1		0.1	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	04/26/88	0001	MG/L		0.005	L	0.001	-
	06/05/89	0001		<	0.001		0.001	-
	05/31/91	0001		<	0.001		0.001	-
	02/22/92	0001		<	0.0005		0.0005	-
	08/10/92	0001		<	0.005	E	0.005	-
	11/21/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.00013	NW	0.00013	-
CALCIUM	04/26/88	0001	MG/L		19.3	L	0.01	-
	06/05/89	0001			19.5		0.01	-
	05/31/91	0001			19.0		0.1	-
	02/22/92	0001			17.9		0.1	-
	08/10/92	0001			20		5	-
	06/29/93	0001			19.4		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		17.9		0.5	-
CHLORIDE	04/26/88	0001	MG/L		13.	L	1.	-
	06/05/89	0001			11.		1.	-
	05/31/91	0001			12.6		0.5	-
	02/22/92	0001			11.9		0.5	-
	08/10/92	0001			11		0.016	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		12.9		0.5	-
CHROMIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01		0.01	-
	11/21/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/05/89	0001	MG/L	<	0.05		0.05	-
	05/31/91	0001		<	0.03		0.03	-
COPPER	06/05/89	0001	MG/L	<	0.02		0.02	-
	05/31/91	0001		<	0.01		0.01	-
CYANIDE	06/05/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	11/21/92	0001	MG/L		0.0		-	-
	06/29/93	N001			0.6		-	-
FLUORIDE	06/05/89	0001	MG/L		0.2		0.1	-
	05/31/91	0001			0.1		0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		5.9	L	0.2	3.3
	05/31/91	0001			0.0		1.	4.8
	02/22/92	0001			1.3		1.0	4.1
	08/10/92	0001			1.1	I	4.2	2.2
	11/21/92	0001			6.6	N	3.1	3.1

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOW01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	06/29/93	0001	PCI/L		9		3	6
GROSS ALPHA (TOTAL)	11/21/92	N001	PCI/L		0.7	N	6.7	4.1
	06/29/93	N001			5		3	5
GROSS BETA	04/26/88	0001	PCI/L		4.5	L	1.	1.7
	05/31/91	0001			3.1		0.5	2.9
	02/22/92	0001			2.2		0.5	2.3
	08/10/92	0001			5.6	I	4.4	2.9
	11/21/92	0001			0.0	N	5.6	3.2
	06/29/93	0001			4		4	4
GROSS BETA (TOTAL)	11/21/92	N001	PCI/L		4.0	N	4.9	3.1
	06/29/93	N001			5		4	4
IRON	06/05/89	0001	MG/L	<	0.03		0.03	-
	05/31/91	0001		<	0.03		0.03	-
	02/22/92	0001		<	0.03		0.03	-
	08/10/92	0001		<	0.01	J	0.1	-
	06/29/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.12	J	0.03	-
LEAD	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
	11/21/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/21/92	0001	PCI/L		0.0		2.0	1.2
LEAD-210 (TOTAL)	11/21/92	N001	PCI/L		1.2		2.0	1.2
MAGNESIUM	04/26/88	0001	MG/L		13.2	L	0.001	-
	06/05/89	0001			14.1		0.001	-
	05/31/91	0001			14.4		0.1	-
	02/22/92	0001			13.8		0.1	-
	08/10/92	0001			14		5	-
	06/29/93	0001			14.1		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		13.3		0.1	-
MANGANESE	06/05/89	0001	MG/L		0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01		0.01	-
	11/21/92	0001			0.0038		0.0015	-
	06/29/93	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/21/92	N001	MG/L		0.0040		0.0015	-
	06/29/93	N001		<	0.01		0.01	-
MERCURY	06/05/89	0001	MG/L		0.0002		0.0002	-

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

OTHER PARAMETER VALUE FLAGS:
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J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
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SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	04/26/88	0001	MG/L		0.02	L	0.01	-
	06/05/89	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.007		0.007	-
	11/21/92	0001		<	0.0049	N	0.0049	-
	06/29/93	0001			0.01		0.01	-
MOLYBDENUM (TOTAL)	11/21/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/29/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		3.84		-	-
	05/31/91	0001			-0.34		-	-
	02/22/92	0001			-0.76		-	-
	11/21/92	0001			3.17		-	-
	06/29/93	0001			6.94		-	-
NET GROSS ALPHA (TOTAL) **	11/21/92	N001	PCI/L		-1.36		-	-
	06/29/93	N001			3.63		-	-
NICKEL	06/05/89	0001	MG/L	<	0.04		0.04	-
	05/31/91	0001		<	0.04		0.04	-
NITRATE	04/26/88	0001	MG/L		2.0	L	1.	-
	06/05/89	0001			10.6		1.	-
	05/31/91	0001			4.0		1.	-
	02/22/92	0001			1.0		1.0	-
	08/10/92	0001			4.9		0.075	-
	11/21/92	0001			44		0.044	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		1		1	-
NITRITE AND NITRATE	05/31/91	0001	MG/L		0.90		0.05	-
PH	04/26/88	0001	SU		7.95	L	-	-
	06/05/89	0001			7.79		-	-
	05/31/91	0001			7.96		-	-
	02/22/92	0001			7.83		-	-
	08/10/92	0001			7.73		-	-
	11/21/92	0001			8.12		-	-
	06/29/93	N001			7.60		-	-
PHOSPHATE	06/05/89	0001	MG/L		0.6		0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L		0.3		0.1	-
POTASSIUM	04/26/88	0001	MG/L		2.40	L	0.01	-
	06/05/89	0001			2.3		0.01	-
	05/31/91	0001			2.6		0.01	-
	02/22/92	0001			2.57		0.01	-
	08/10/92	0001			1.9	*	0.575	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	06/29/93	0001	MG/L		2.5		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		2.3		0.1	-
RADIUM-226	06/05/89	0001	PCI/L		0.3		1.	0.2
	05/31/91	0001			0.3		1.	0.2
	02/22/92	0001			0.6		1.0	0.4
	08/10/92	0001			0.43		0.48	0.07
	11/21/92	0001			0.9		0.3	0.3
RADIUM-226 (TOTAL)	11/21/92	N001	PCI/L		1.2		0.3	0.4
RADIUM-226 + RADIUM-228	06/05/89	0001	PCI/L		0.30		-	-
	05/31/91	0001			0.30		-	-
	02/22/92	0001			2.60		-	-
	08/10/92	0001			0.73		-	-
	11/21/92	0001			1.20		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		6.00		-	-
RADIUM-228	06/05/89	0001	PCI/L		0.0		1.	0.9
	05/31/91	0001			0.0	J	1.	1.9
	02/22/92	0001			2.0		1.0	1.6
	08/10/92	0001			0.3		2.3	1.2
	11/21/92	0001			0.3		2.7	1.6
RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		4.8		2.4	1.9
REDOX POTENTIAL	11/21/92	0001	mVOLTS		437.4		-	-
	06/29/93	N001			462		-	-
SELENIUM	04/26/88	0001	MG/L	<	0.005	L	0.005	-
	06/05/89	0001		<	0.005		0.005	-
	05/31/91	0001			0.007	J	0.005	-
	02/22/92	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.005	W	0.005	-
	11/21/92	0001		<	0.0015	N	0.0015	-
SELENIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/05/89	0001	MG/L		12.		2.	-
	05/31/91	0001			12.5		0.1	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		13.1	H	0.5	-
SILVER	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
SODIUM	04/26/88	0001	MG/L		94.0	L	0.002	-
	06/05/89	0001			99.5		0.002	-
	05/31/91	0001			112.		5.	-
	02/22/92	0001			99.		1.	-

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	08/10/92	0001	MG/L		100.7		5	-
	06/29/93	0001			103		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		99		1	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		500.	L	-	-
	06/05/89	0001			415.		-	-
	05/31/91	0001			650.		-	-
	02/22/92	0001			528		-	-
	08/10/92	0001			534		-	-
	11/21/92	0001			528		-	-
	06/29/93	N001			528		-	-
STRONTIUM	05/31/91	0001	MG/L		0.23		0.01	-
	02/22/92	0001			0.22		0.01	-
	08/10/92	0001			0.24		0.2	-
	11/21/92	0001			0.28		0.00035	-
	06/29/93	0001			0.24		0.01	-
STRONTIUM (TOTAL)	11/21/92	N001	MG/L		0.26		0.00035	-
	06/29/93	N001			0.22		0.01	-
SULFATE	04/26/88	0001	MG/L		112.	L	0.1	-
	06/05/89	0001			117.		0.1	-
	05/31/91	0001			151.		0.1	-
	02/22/92	0001			101.		10.	-
	08/10/92	0001			100		0.059	-
	11/21/92	0001			120		1.0	-
SULFATE (TOTAL)	11/21/92	N001	MG/L		120		1.0	-
	06/29/93	N001			111		1	-
SULFIDE	06/05/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001		<	1.	IJ	1.	-
TEMPERATURE	04/26/88	0001	C - DEGREE		15.0	L	-	-
	06/05/89	0001			15.2		-	-
	05/31/91	0001			15.4		-	-
	02/22/92	0001			15.4		-	-
	08/10/92	0001			16.0		-	-
	11/21/92	0001			15.4		-	-
	06/29/93	N001			16.6		-	-
THALLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
THORIUM-230	05/31/91	0001	PCI/L		0.4		1.	0.4
TIN	06/05/89	0001	MG/L	<	0.005		0.005	-
	05/31/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		418.	L	10.	-
	06/05/89	0001			386.		10.	-
	05/31/91	0001			396.		10.	-
	02/22/92	0001			390.		10.	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0603
NORTH COORDINATE: 57812.7 FT
EAST COORDINATE: 89036.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	08/10/92	0001	MG/L		470		42	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		380	H	10	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		56.1	L	1.	-
	05/31/91	0001		<	1.		1.	-
	02/22/92	0001		<	1.		1.	-
	08/10/92	0001		<	1.0		1.0	-
URANIUM	04/26/88	0001	MG/L		0.0030	L	0.003	-
	06/05/89	0001			0.0023	J	0.003	-
	05/31/91	0001		<	0.001		0.001	-
	02/22/92	0001			0.003		0.001	-
	11/21/92	0001			0.005		0.001	-
	06/29/93	0001			0.003		0.001	-
URANIUM (TOTAL)	11/21/92	N001	MG/L		0.003		0.001	-
	06/29/93	N001			0.002		0.001	-
VANADIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.05		0.05	-
	11/21/92	0001		<	0.0019		0.0019	-
	06/29/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/21/92	N001	MG/L		0.0030		0.0019	-
	06/29/93	N001		<	0.01		0.01	-
ZINC	06/05/89	0001	MG/L	<	0.005		0.005	-
	05/31/91	0001			0.014		0.005	-
	02/22/92	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.02		0.02	-
	11/21/92	0001		<	0.0010		0.0010	-
	06/29/93	0001			0.011	J	0.005	-
ZINC (TOTAL)	11/21/92	N001	MG/L		0.0040		0.0010	-
	06/29/93	N001			0.009	J	0.005	-

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/09/89	0001	MG/L CACO3		202.		-	-
	05/31/91	0001			204.		-	-
	02/22/92	0001			196		-	-
	08/11/92	0001			189	L	-	-
	11/19/92	0001			191		-	-
	02/02/93	0001			207		-	-
	06/26/93	N001			200		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001		<	0.05		0.05	-
	02/22/92	0001		<	0.05		0.05	-
	08/11/92	0001		<	0.2	*L	0.2	-
AMMONIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001			0.3		0.1	-
	02/22/92	0001			0.2		0.1	-
AMMONIUM (TOTAL)	06/26/93	N001	MG/L	<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003		0.003	-
	05/31/91	0001			0.005		0.003	-
	02/22/92	0001		<	0.003		0.003	-
	08/11/92	0001		<	0.06	WL	0.06	-
ARSENIC	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01	WL	0.01	-
	11/19/92	0001			0.0027		0.0015	-
	06/26/93	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	11/19/92	N001	MG/L		0.0030		0.0015	-
	06/26/93	N001		<	0.005		0.005	-
BARIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001			0.04		0.01	-
	02/22/92	0001			0.04		0.01	-
	08/11/92	0001		<	0.2	L	0.2	-
	11/19/92	0001			0.038		0.0015	-
	06/26/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/19/92	N001	MG/L		0.075		0.0015	-
	06/26/93	N001			0.1		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
	08/11/92	0001		<	0.005	L	0.005	-
BORON	06/09/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001		<	0.05		0.05	-
BROMIDE	05/31/91	0001	MG/L	<	0.1		0.1	-
CADMIUM	06/09/89	0001	MG/L	<	0.001		0.001	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Date
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	05/31/91	0001	MG/L	<	0.001		0.001	-
	02/22/92	0001		<	0.0005		0.0005	-
	08/11/92	0001		<	0.005	EL	0.005	-
	11/19/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/19/92	N001	MG/L		0.00014	N	0.00013	-
CALCIUM	06/09/89	0001	MG/L		20.1		0.01	-
	05/31/91	0001			18.8		0.1	-
	02/22/92	0001			17.3		0.1	-
	08/11/92	0001			20	L	5	-
	02/02/93	0001			19.2		0.5	-
	06/26/93	0001			19.1		0.5	-
CALCIUM (TOTAL)	06/26/93	N001	MG/L		22.8		0.5	-
CHLORIDE	06/09/89	0001	MG/L		11.		1.	-
	05/31/91	0001			11.6		0.5	-
	02/22/92	0001			12.1		0.5	-
	08/11/92	0001			11	L	0.016	-
	02/02/93	0001			11.5		0.5	-
CHLORIDE (TOTAL)	06/26/93	N001	MG/L		10.8		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01	L	0.01	-
	11/19/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/19/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
	05/31/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
	05/31/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	11/19/92	0001	MG/L		0.4		-	-
	06/26/93	N001			0.0		-	-
FLUORIDE	06/09/89	0001	MG/L		0.2		0.1	-
	05/31/91	0001			0.1		0.1	-
GROSS ALPHA	05/31/91	0001	PCI/L		5.0		1.	5.4
	02/22/92	0001			0.5		1.0	3.9
	08/11/92	0001			1.2	L	4.1	2.2
	11/19/92	0001			3.9	N	3.2	2.7
	02/02/93	0001			0		6	6
	06/26/93	0001			6		3	5
GROSS ALPHA (TOTAL)	11/19/92	N001	PCI/L		0.9	N	6.6	4.0
	06/26/93	N001			4		3	6

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	05/31/91	0001	PCI/L		1.7		0.5	2.9
	02/22/92	0001			1.8		0.5	2.2
	08/11/92	0001			2.3	L	4.0	2.4
	11/19/92	0001			0.0	N	5.6	3.1
	02/02/93	0001			0		11	5
	06/26/93	0001			3		4	4
GROSS BETA (TOTAL)	11/19/92	N001	PCI/L		8.9	N	5.1	3.4
	06/26/93	N001			1		4	4
IRON	06/09/89	0001	MG/L	<	0.03		0.03	-
	05/31/91	0001		<	0.03		0.03	-
	02/22/92	0001		<	0.03		0.03	-
	08/11/92	0001		<	0.1	L	0.1	-
	02/02/93	0001		<	0.03		0.03	-
	06/26/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/26/93	N001	MG/L		1.88		0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
	11/19/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/19/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/19/92	0001	PCI/L		0.1		2.0	1.2
LEAD-210 (TOTAL)	11/19/92	N001	PCI/L		1.1		2.0	1.2
MAGNESIUM	06/09/89	0001	MG/L		11.9		0.001	-
	05/31/91	0001			11.8		0.1	-
	02/22/92	0001			11.1		0.1	-
	08/11/92	0001			12	L	5	-
	02/02/93	0001			11.4		0.1	-
	06/26/93	0001			11.4		0.1	-
MAGNESIUM (TOTAL)	06/26/93	N001	MG/L		12.4		0.1	-
MANGANESE	06/09/89	0001	MG/L		0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/11/92	0001			0.011	L	0.01	-
	11/19/92	0001			0.012		0.0015	-
	02/02/93	0001		<	0.01		0.01	-
	06/26/93	0001			0.01		0.01	-
MANGANESE (TOTAL)	11/19/92	N001	MG/L		0.025		0.0015	-
	06/26/93	N001			0.05		0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	08/11/92	0001	MG/L	<	0.007	L	0.007	-
	11/19/92	0001		<	0.0049	N	0.0049	-
	06/26/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/26/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	05/31/91	0001	PCI/L		4.66		-	-
	02/22/92	0001			-0.87		-	-
	11/19/92	0001			1.84		-	-
	02/02/93	0001			-2.06		-	-
	06/26/93	0001			4.63		-	-
NET GROSS ALPHA (TOTAL) **	11/19/92	N001	PCI/L		-1.16		-	-
	06/26/93	N001			2.63		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
	05/31/91	0001		<	0.04		0.04	-
NITRATE	06/09/89	0001	MG/L		5.3		1.	-
	05/31/91	0001			2.3		1.	-
	02/22/92	0001		<	1.0		1.0	-
	08/11/92	0001			2.6	L	0.075	-
	11/19/92	0001			1.06		0.044	-
	02/02/93	0001		<	1		1	-
NITRATE (TOTAL)	06/26/93	N001	MG/L	<	1		1	-
NITRITE AND NITRATE	05/31/91	0001	MG/L		0.53		0.05	-
PH	06/09/89	0001	SU		8.12		-	-
	05/31/91	0001			8.31		-	-
	02/22/92	0001			8.18		-	-
	08/11/92	0001			8.17	L	-	-
	11/19/92	0001			8.26		-	-
	02/02/93	0001			8.13		-	-
	06/26/93	N001			8.03		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6		0.1	-
PHOSPHATE (TOTAL)	06/26/93	N001	MG/L		0.4		0.1	-
POTASSIUM	06/09/89	0001	MG/L		1.4		0.01	-
	05/31/91	0001			1.78		0.01	-
	02/22/92	0001			1.90		0.01	-
	08/11/92	0001			1.2	*L	0.575	-
	02/02/93	0001			1.7		0.1	-
	06/26/93	0001			1.8		0.1	-
POTASSIUM (TOTAL)	06/26/93	N001	MG/L		2.3		0.1	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	06/09/89	0001	PCI/L		0.1		1.	0.2
	05/31/91	0001			0.2		1.	0.2
	02/22/92	0001			0.0		1.0	0.3
	08/11/92	0001			0.1	L	0.3	0.1
	11/19/92	0001			0.1		0.3	0.2
RADIUM-226 (TOTAL)	11/19/92	N001	PCI/L		0.6		0.3	0.3
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.10		-	-
	05/31/91	0001			0.20		-	-
	02/22/92	0001			0.20		-	-
	08/11/92	0001			1.90		-	-
	11/19/92	0001			2.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		1.30		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.0		1.	0.9
	05/31/91	0001			0.0	J	1.	1.9
	02/22/92	0001			0.2		1.0	1.6
	08/11/92	0001			1.8	L	2.0	1.1
	11/19/92	0001			1.9		2.7	1.7
RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		0.7		2.4	1.5
REDOX POTENTIAL	11/19/92	0001	mVOLTS		453.1		-	-
	06/26/93	N001			395		-	-
SELENIUM	06/09/89	0001	MG/L	<	0.005		0.005	-
	05/31/91	0001			0.006	J	0.005	-
	02/22/92	0001			0.007		0.005	-
	08/11/92	0001		<	0.005	WL	0.005	-
	11/19/92	0001		<	0.0015	NW	0.0015	-
SELENIUM (TOTAL)	11/19/92	N001	MG/L		0.0015	W	0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		13.		2.	-
	05/31/91	0001			13.2		0.1	-
SILICA - SIO2 (TOTAL)	06/26/93	N001	MG/L		24.5	H	0.5	-
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
SODIUM	06/09/89	0001	MG/L		97.9		0.002	-
	05/31/91	0001			112.		5.	-
	02/22/92	0001			110.		5.	-
	08/11/92	0001			98	L	5	-
	02/02/93	0001			103		0.1	-
	06/26/93	0001			101		1	-
SODIUM (TOTAL)	06/26/93	N001	MG/L		97		1	-
SPECIFIC CONDUCTANCE	06/09/89	0001	UMHO/CM		385.		-	-

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

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OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
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LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	PARAMETER VALUE	PARAMETER FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	05/31/91	0001	UMHO/CM		632.		-	-
	02/22/92	0001			507		-	-
	08/11/92	0001			438	L	-	-
	11/19/92	0001			517		-	-
	02/02/93	0001			510		-	-
	06/26/93	N001			520		-	-
STRONTIUM	05/31/91	0001	MG/L		0.18		0.01	-
	02/22/92	0001			0.17		0.01	-
	08/11/92	0001		<	0.2	L	0.2	-
	11/19/92	0001			0.24	S	0.00035	-
	06/26/93	0001			0.19		0.01	-
STRONTIUM (TOTAL)	11/19/92	N001	MG/L		0.25		0.00035	-
	06/26/93	N001			0.20		0.01	-
SULFATE	06/09/89	0001	MG/L		119.		0.1	-
	05/31/91	0001			158.		0.1	-
	02/22/92	0001			95.		10.	-
	08/11/92	0001			100	L	0.059	-
	11/19/92	0001			110		1.0	-
	02/02/93	0001			112		1	-
SULFATE (TOTAL)	11/19/92	N001	MG/L		120		1.0	-
	06/26/93	N001			108		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001			5.14	J	1.	-
TEMPERATURE	06/09/89	0001	C - DEGREE		15.3		-	-
	05/31/91	0001			14.3		-	-
	02/22/92	0001			14.8		-	-
	08/11/92	0001			15.4	L	-	-
	11/19/92	0001			15.8		-	-
	02/02/93	0001			15.2		-	-
	06/26/93	N001			17.4		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
THORIUM-230	05/31/91	0001	PCI/L		0.4		1.	0.3
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-
	05/31/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	06/09/89	0001	MG/L		389.		10.	-
	05/31/91	0001			383.		10.	-
	02/22/92	0001			385.		10.	-
	08/11/92	0001			390	L	42	-
	02/02/93	0001			370		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/26/93	N001	MG/L		390		10	-
TOTAL ORGANIC CARBON	05/31/91	0001	MG/L		2.		1.	-

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
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0604
NORTH COORDINATE: 58397.0 FT
EAST COORDINATE: 89424.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL ORGANIC CARBON	02/22/92	0001	MG/L	<	1.		1.	
	08/11/92	0001		<	1.0	L	1.0	
URANIUM	06/09/89	0001	MG/L		0.0051		0.003	
	05/31/91	0001		<	0.001		0.001	
	02/22/92	0001			0.002		0.001	
	11/19/92	0001			0.003		0.001	
	02/02/93	0001			0.003		0.001	
	06/26/93	0001			0.002		0.001	
URANIUM (TOTAL)	11/19/92	N001	MG/L		0.003		0.001	
	06/26/93	N001			0.002		0.001	
VANADIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.05	L	0.05	-
	11/19/92	0001		<	0.0019		0.0019	-
	06/26/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/19/92	N001	MG/L		0.0020		0.0019	
	06/26/93	N001		<	0.01		0.01	
ZINC	06/09/89	0001	MG/L	<	0.005		0.005	-
	05/31/91	0001		<	0.005		0.005	-
	02/22/92	0001		<	0.005		0.005	-
	08/11/92	0001		<	0.02	L	0.02	-
	11/19/92	0001			0.012		0.0010	-
	06/26/93	0001		<	0.005	J	0.005	-
ZINC (TOTAL)	11/19/92	N001	MG/L		0.0060		0.0010	-
	06/26/93	N001			0.008	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
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SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0605
NORTH COORDINATE: 58707.6 FT
EAST COORDINATE: 90066.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/22/88	0001	MG/L CACO3		204.		-	-
	06/09/89	0001			219.		-	-
	12/04/89	0001			331.		-	-
	06/21/90	0001			240.		-	-
	01/29/91	0001			312.		-	-
	05/31/91	0001			301.		-	-
	11/22/92	0001			349	L	-	-
	02/02/93	0001			393		-	-
	06/26/93	N001			372		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/31/91	0001		<	0.05		0.05	-
AMMONIUM	04/22/88	0001	MG/L	<	0.1		0.1	-
	06/09/89	0001			0.5		0.1	-
	12/04/89	0001			0.5		0.1	-
	06/21/90	0001			0.6	H	0.1	-
	01/29/91	0001			2.2		0.1	-
	05/31/91	0001			0.5		0.1	-
AMMONIUM (TOTAL)	06/26/93	N001	MG/L		0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003	J	0.003	-
	12/04/89	0001		<	0.003		0.003	-
	06/21/90	0001			0.006		0.003	-
	01/29/91	0001		<	0.003		0.003	-
	05/31/91	0001		<	0.003		0.003	-
ARSENIC	04/22/88	0001	MG/L		0.011		0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/04/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01		0.01	-
	01/29/91	0001			0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	11/22/92	0001		<	0.0015	L	0.0015	-
	06/26/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L	<	0.0015	L	0.0015	-
	06/26/93	N001		<	0.005		0.005	-
BARIUM	06/09/89	0001	MG/L		0.1		0.1	-
	12/04/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/31/91	0001			0.03		0.01	-
	11/22/92	0001			0.023	L	0.0015	-
	06/26/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.022	L	0.0015	-
	06/26/93	N001		<	0.1		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BERYLLIUM	12/04/89	0001	MG/L	<	0.005		0.005	-
	06/21/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
BORON	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001			0.2		0.1	-
	06/21/90	0001		<	0.1		0.1	-
	01/29/91	0001			0.2		0.1	-
	05/31/91	0001			0.21		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1		0.1	-
	05/31/91	0001			1.1		0.1	-
CADMIUM	04/22/88	0001	MG/L		0.017		0.001	-
	06/09/89	0001			0.002		0.001	-
	12/04/89	0001		<	0.001		0.001	-
	06/21/90	0001		<	0.001		0.001	-
	01/29/91	0001		<	0.001		0.001	-
	05/31/91	0001		<	0.001		0.001	-
	11/22/92	0001		<	0.00013	L	0.00013	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L		0.00014	NL	0.00013	-
CALCIUM	04/22/88	0001	MG/L		106.		0.01	-
	06/09/89	0001			116.		0.01	-
	12/04/89	0001			162.		0.01	-
	06/21/90	0001			130.		0.01	-
	01/29/91	0001			146.		0.01	-
	05/31/91	0001			130.		0.5	-
	02/02/93	0001			112		0.5	-
	06/26/93	0001			118		0.5	-
CALCIUM (TOTAL)	06/26/93	N001	MG/L		121		0.5	-
CHLORIDE	04/22/88	0001	MG/L		110.		1.	-
	06/09/89	0001			120.		1.	-
	12/04/89	0001			212.		1.	-
	06/21/90	0001			124.		1.	-
	01/29/91	0001			259.	J	1.	-
	05/31/91	0001			195.		0.5	-
	02/02/93	0001			232		0.5	-
CHLORIDE (TOTAL)	06/26/93	N001	MG/L		248		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
	11/22/92	0001		<	0.0053	L	0.0053	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053	L	0.0053	
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0605
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EAST COORDINATE: 90066.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COBALT	12/04/89	0001	MG/L	<	0.05		0.05	-
	06/21/90	0001		<	0.05		0.05	-
	01/29/91	0001		<	0.05		0.05	-
	05/31/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
	12/04/89	0001		<	0.02		0.02	-
	06/21/90	0001		<	0.02		0.02	-
	01/29/91	0001		<	0.02		0.02	-
	05/31/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01		0.01	-
DISSOLVED OXYGEN	11/22/92	0001	MG/L		0.0	L	-	-
	06/26/93	N001			0.0		-	-
FLUORIDE	06/09/89	0001	MG/L		0.3		0.1	-
	12/04/89	0001			0.3		0.1	-
	06/21/90	0001			0.3		0.1	-
	01/29/91	0001			0.3		0.1	-
	05/31/91	0001			0.2		0.1	-
GROSS ALPHA	04/22/88	0001	PCI/L		38.		0.2	13.
	01/29/91	0001			14.		1.	26.
	05/31/91	0001			0.0		1.	26.3
	11/22/92	0001			60.0	NL	24.0	24.9
	02/02/93	0001			12		40	45
	06/26/93	0001			39		41	70
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		0.0	NL	52.8	27.8
	06/26/93	N001			0		41	61
GROSS BETA	04/22/88	0001	PCI/L		9.0		1.	5.5
	01/29/91	0001			22.		0.5	19.
	05/31/91	0001			0.0		0.5	15.8
	11/22/92	0001			9.7	NL	41.1	24.8
	02/02/93	0001			0		58	25
	06/26/93	0001			0		45	40
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		0.0	NL	39.0	23.1
	06/26/93	N001			0		45	41
IRON	06/09/89	0001	MG/L		0.14		0.03	-
	12/04/89	0001			0.14		0.03	-
	06/21/90	0001			0.11		0.03	-
	01/29/91	0001			0.12		0.03	-
	05/31/91	0001			0.06		0.03	-
	02/02/93	0001		<	0.03		0.03	-
	06/26/93	0001			0.03	J	0.03	-
IRON (TOTAL)	06/26/93	N001	MG/L		0.08	J	0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-

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

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0605
NORTH COORDINATE: 58707.6 FT
EAST COORDINATE: 90066.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	12/04/89	0001	MG/L	<	0.01		0.01	-
	06/21/90	0001		<	0.01	J	0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.005		0.005	-
	11/22/92	0001		<	0.0015	L	0.0015	-
LEAD (TOTAL)	11/22/92	N001	MG/L	<	0.0015	WL	0.0015	-
LEAD-210	11/22/92	0001	PCI/L		0.6	L	2.0	1.2
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		5.4	L	0.3	0.9
MAGNESIUM	04/22/88	0001	MG/L		87.5		0.001	-
	06/09/89	0001			108.		0.001	-
	12/04/89	0001			175.		0.001	-
	06/21/90	0001			112.		0.001	-
	01/29/91	0001			154.		0.001	-
	05/31/91	0001			145.		0.5	-
	02/02/93	0001			145		0.1	-
	06/26/93	0001			148		0.1	-
MAGNESIUM (TOTAL)	06/26/93	N001	MG/L		153		0.1	-
MANGANESE	06/09/89	0001	MG/L		0.06		0.01	-
	12/04/89	0001			0.03		0.01	-
	06/21/90	0001			0.04		0.01	-
	01/29/91	0001			0.05		0.01	-
	05/31/91	0001			0.02		0.01	-
	11/22/92	0001			0.022	L	0.0015	-
	02/02/93	0001			0.02		0.01	-
	06/26/93	0001			0.02		0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L		0.019	L	0.0015	-
	06/26/93	N001			0.02		0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
	12/04/89	0001		<	0.0002		0.0002	-
	06/21/90	0001		<	0.0002		0.0002	-
MOLYBDENUM	04/22/88	0001	MG/L		0.04		0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/04/89	0001			0.02		0.01	-
	06/21/90	0001			0.01		0.01	-
	01/29/91	0001			0.07		0.01	-
	05/31/91	0001			0.03		0.01	-
	11/22/92	0001			0.043	NL	0.0049	-
	06/26/93	0001			0.06		0.01	-
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L		0.044	NL	0.0049	-
	06/26/93	N001			0.06		0.01	-
NET GROSS ALPHA *	04/22/88	0001	PCI/L		35.53		-	-

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0605
NORTH COORDINATE: 58707.6 FT
EAST COORDINATE: 90066.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA *	01/29/91	0001	PCI/L		3.64		-	-
	05/31/91	0001			-8.92		-	-
	11/22/92	0001			44.22		-	-
	02/02/93	0001			-4.46		-	-
	06/26/93	0001			17.05		-	-
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-15.09		-	-
	06/26/93	N001			-15.09		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
	12/04/89	0001		<	0.04		0.04	-
	06/21/90	0001		<	0.04		0.04	-
	01/29/91	0001		<	0.04		0.04	-
	05/31/91	0001		<	0.04		0.04	-
NITRATE	04/22/88	0001	MG/L		0.2	J	1.	-
	06/09/89	0001			4.2		1.	-
	12/04/89	0001			1.8		1.	-
	06/21/90	0001		<	0.1		0.1	-
	01/29/91	0001			1.		1.	-
	05/31/91	0001			2.7		1.	-
	11/22/92	0001			0.93	L	0.044	-
	02/02/93	0001		<	1		1	-
NITRATE (TOTAL)	06/26/93	N001	MG/L	<	1		1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		1.		1.	-
	05/31/91	0001			0.61		0.05	-
PH	04/22/88	0001	SU		7.88		-	-
	06/09/89	0001			7.90		-	-
	12/04/89	0001			7.62		-	-
	06/21/90	0001			7.78		-	-
	01/29/91	0001			7.68		-	-
	05/31/91	0001			7.68		-	-
	11/22/92	0001			7.73	L	-	-
	02/02/93	0001			7.51		-	-
	06/26/93	N001			7.56		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6		0.1	-
	12/04/89	0001			0.4		0.1	-
	06/21/90	0001			0.4		0.1	-
PHOSPHATE (TOTAL)	06/26/93	N001	MG/L		0.4		0.1	-
POTASSIUM	04/22/88	0001	MG/L		2.75		0.01	-
	06/09/89	0001			3.3		0.01	-
	12/04/89	0001			3.3		0.01	-
	06/21/90	0001			3.6		0.01	-
	01/29/91	0001			3.8		0.01	-
	05/31/91	0001			3.0		0.01	-

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

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

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GROUNDWATER QUALITY DATA BY LOCATION
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04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	02/02/93	0001	MG/L		2.8		0.1	-
	06/26/93	0001			3.2		0.1	-
POTASSIUM (TOTAL)	06/26/93	N001	MG/L		3.1		0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.1		1.	0.2
	12/04/89	0001			0.1		1.	0.2
	06/21/90	0001			0.1		1.	0.2
	01/29/91	0001			0.1		1.	0.5
	05/31/91	0001			0.0		1.	0.1
	11/22/92	0001			0.0	L	0.3	0.2
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.2	L	0.3	0.2
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.10		-	-
	12/04/89	0001			0.10		-	-
	06/21/90	0001			0.50		-	-
	01/29/91	0001			1.50		-	-
	05/31/91	0001			0.00		-	-
	11/22/92	0001			1.90		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.70		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.0		1.	0.8
	12/04/89	0001			0.0		1.	1.7
	06/21/90	0001			0.4		1.	1.2
	01/29/91	0001			1.4		1.	1.1
	05/31/91	0001			0.0	J	1.	2.0
	11/22/92	0001			1.9	L	2.7	1.7
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.5	L	1.9	1.4
REDOX POTENTIAL	11/22/92	0001	mVOLTS		441.5	L	-	-
	06/26/93	N001			213		-	-
SELENIUM	04/22/88	0001	MG/L		0.016		0.005	-
	06/09/89	0001			0.014		0.005	-
	12/04/89	0001		<	0.005		0.005	-
	06/21/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/31/91	0001			0.007	J	0.005	-
	11/22/92	0001		<	0.015	INWL	0.015	-
SELENIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0015	WL	0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		26.		2.	-
	12/04/89	0001			33.		2.	-
	06/21/90	0001			0.28	J	2.	-
	01/29/91	0001			30.		2.	-
	05/31/91	0001			29.5		0.1	-
SILICA - SIO2 (TOTAL)	06/26/93	N001	MG/L		33.0	H	0.5	-
SILVER	06/09/89	0001	MG/L	<	0.01	L	0.01	-

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OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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EAST COORDINATE: 90066.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILVER	12/04/89	0001	MG/L	<	0.01		0.01	-
	06/21/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
SODIUM	04/22/88	0001	MG/L		257.		0.002	-
	06/09/89	0001			279.		0.002	-
	12/04/89	0001			617.		0.002	-
	06/21/90	0001			302.		0.002	-
	01/29/91	0001			592.		0.002	-
	05/31/91	0001			625.		5.	-
	02/02/93	0001			701		0.1	-
	06/26/93	0001			828		1	-
SODIUM (TOTAL)	06/26/93	N001	MG/L		860		1	-
SPECIFIC CONDUCTANCE	04/22/88	0001	UMHO/CM		1550.		-	-
	06/09/89	0001			1490.		-	-
	12/04/89	0001			3050.		-	-
	06/21/90	0001			1950.		-	-
	01/29/91	0001			3890.		-	-
	05/31/91	0001			3950.		-	-
	11/22/92	0001			3630	L	-	-
	02/02/93	0001			3560		-	-
	06/26/93	N001			2890		-	-
STRONTIUM	06/21/90	0001	MG/L		1.54	*	0.1	-
	01/29/91	0001			2.3		0.1	-
	05/31/91	0001			1.86		0.01	-
	11/22/92	0001			2.9	L	0.00035	-
	06/26/93	0001			2.23		0.01	-
STRONTIUM (TOTAL)	11/22/92	N001	MG/L		2.7	L	0.00035	-
	06/26/93	N001			2.27		0.01	-
SULFATE	04/22/88	0001	MG/L		906.		0.1	-
	06/09/89	0001			1030.		0.1	-
	12/04/89	0001			1720.		0.1	-
	06/21/90	0001			1080.		0.1	-
	01/29/91	0001			1770.		0.1	-
	05/31/91	0001			1690.		10.	-
	11/22/92	0001			1900	L	1.0	-
	02/02/93	0001			1950		1	-
SULFATE (TOTAL)	11/22/92	N001	MG/L		1900	L	1.0	-
	06/26/93	N001			2130		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001			0.4		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/31/91	0001			13.2	J	1.	-
TEMPERATURE	04/22/88	0001	C - DEGREE		12.5		-	-
	06/09/89	0001			16.0		-	-

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OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
J - ESTIMATED VALUE
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
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LOCATION: 0605
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REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	12/04/89	0001	C - DEGREE		16.5		-	-
	06/21/90	0001			16.0		-	-
	01/29/91	0001			13.4		-	-
	05/31/91	0001			13.5		-	-
	11/22/92	0001			16.9	L	-	-
	02/02/93	0001			14.4		-	-
	06/26/93	N001			16.1		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0		1.	0.3
	05/31/91	0001			0.8		1.	0.3
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-
	12/04/89	0001		<	0.01		0.01	-
	06/21/90	0001			0.006		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/31/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	04/22/88	0001	MG/L		1660.		10.	-
	06/09/89	0001			1860.		10.	-
	12/04/89	0001			3280.		10.	-
	06/21/90	0001			1780.		10.	-
	01/29/91	0001			2250.		10.	-
	05/31/91	0001			3080.		10.	-
	02/02/93	0001			3390		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/26/93	N001	MG/L		3870		10	-
TOTAL ORGANIC CARBON	04/22/88	0001	MG/L		62.6		1.	-
	01/29/91	0001			1.8		1.	-
	05/31/91	0001			2.		1.	-
URANIUM	04/22/88	0001	MG/L		0.0036		0.003	-
	06/09/89	0001			0.0044		0.003	-
	12/04/89	0001			0.017		0.003	-
	06/21/90	0001			0.0042		0.003	-
	01/29/91	0001			0.0151		0.0003	-
	05/31/91	0001			0.013		0.001	-
	11/22/92	0001			0.023	L	0.001	-
	02/02/93	0001			0.024		0.001	-
	06/26/93	0001			0.032		0.001	-
URANIUM (TOTAL)	11/22/92	N001	MG/L		0.022	L	0.001	-
	06/26/93	N001			0.022		0.001	-
VANADIUM	06/09/89	0001	MG/L		0.03		0.01	-
	12/04/89	0001		<	0.01		0.01	-
	06/21/90	0001			0.02		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/31/91	0001		<	0.01		0.01	-

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VANADIUM	11/22/92	0001	MG/L	<	0.0019	L	0.0019	-
	06/26/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/22/92	N001	MG/L		0.0040	L	0.0019	-
	06/26/93	N001		<	0.01		0.01	-
ZINC	06/09/89	0001	MG/L		0.023		0.005	-
	12/04/89	0001		<	0.005		0.005	-
	06/21/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/31/91	0001		<	0.005		0.005	-
	11/22/92	0001		<	0.0010	L	0.0010	-
	06/26/93	0001			0.013	J	0.005	-
ZINC (TOTAL)	11/22/92	N001	MG/L		0.0[illegible]	[illegible]	0.0010	-
	06/26/93	N001		<	0.00[illegible]	J	0.005	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		700.	JL	-	-
	06/09/89	0001			329.		-	-
	12/01/89	0001			292.		-	-
	06/25/90	0001			382.		-	-
	01/29/91	0001			309.	L	-	-
	06/01/91	0001			367.		-	-
	02/21/92	0001			295		-	-
	08/11/92	0001			353		-	-
	11/24/92	0001			289		-	-
	01/31/93	0001			304		-	-
	01/31/93	0002			304		-	-
	06/30/93	N001			333		-	-
	12/12/93	N001			305		-	-
	04/24/94	N001			316	L	-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/01/89	0001		<	0.1		0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/01/91	0001		<	0.05		0.05	-
	02/21/92	0001		<	0.05		0.05	-
	08/11/92	0001		<	0.2	*	0.2	-
AMMONIUM	04/26/88	0001	MG/L		200.	JL	0.1	-
	06/09/89	0001			360.		0.1	-
	12/01/89	0001			370.		0.1	-
	06/25/90	0001			356.	H	0.1	-
	01/29/91	0001			346.	L	0.1	-
	06/01/91	0001			278.		0.1	-
	02/21/92	0001			272.		10.	-
	01/31/93	0001			361		0.1	-
	01/31/93	0002			400		0.1	-
	12/12/93	0001			340		0.1	-
	12/12/93	0002			346		0.1	-
AMMONIUM (TOTAL)	06/30/93	N001	MG/L		2.2	R	0.1	-
	06/30/93	N002			297		0.1	-
	04/24/94	N001			282	L	0.1	-
	04/24/94	N002			288	L	0.1	-
	12/11/94	N001			297	HL	0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003	J	0.003	-
	12/01/89	0001		<	0.003		0.003	-
	06/25/90	0001			0.003		0.003	-
	01/29/91	0001			0.010	L	0.003	-
	06/01/91	0001		<	0.003		0.003	-
	02/21/92	0001		<	0.003		0.003	-
	08/11/92	0001		<	0.06	W	0.06	-
ARSENIC	04/26/88	0001	MG/L		0.015	JL	0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
R - UNUSABLE DATA POINT
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/25/90	0001	MG/L	<	0.01		0.01	-
	01/29/91	0001			0.01	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01	W	0.01	-
	11/24/92	0001		<	0.0015		0.0015	-
	06/30/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/24/92	N001	MG/L		0.0015		0.0015	-
	06/30/93	N001			0.007		0.005	-
	06/30/93	N002			0.007		0.005	-
BARIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/01/89	0001		<	0.1		0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/01/91	0001			0.04		0.01	-
	02/21/92	0001			0.03		0.01	-
	08/11/92	0001		<	0.2		0.2	-
	11/24/92	0001			0.034		0.0015	-
	06/30/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/24/92	N001	MG/L		0.039		0.0015	-
	06/30/93	N001			0.3		0.1	-
	06/30/93	N002			0.3		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001		<	0.005		0.005	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.005		0.005	-
	08/11/92	0001		<	0.005		0.005	-
BORON	06/09/89	0001	MG/L		0.2		0.1	-
	12/01/89	0001			0.2		0.1	-
	06/25/90	0001			0.2		0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/01/91	0001			0.15		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/01/91	0001		<	1.0	I	1.	-
CADMIUM	04/26/88	0001	MG/L		0.020	JL	0.001	-
	06/09/89	0001			0.002		0.001	-
	12/01/89	0001		<	0.001		0.001	-
	06/25/90	0001		<	0.001		0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/01/91	0001		<	0.001		0.001	-
	02/21/92	0001		<	0.0005		0.0005	-
	08/11/92	0001		<	0.005	E	0.005	-
	11/24/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/24/92	N001	MG/L		0.00022	NS	0.00013	-

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
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
CALCIUM	04/26/88	0001	MG/L		660.	JL	0.01	-
	06/09/89	0001			226.		0.01	-
	12/01/89	0001			266.		0.01	-
	06/25/90	0001			254.		0.01	-
	01/29/91	0001			220.	L	0.01	-
	06/01/91	0001			283.		0.5	-
	02/21/92	0001			211.		0.5	-
	08/11/92	0001			200		5	-
	01/31/93	0001			199		0.5	-
	01/31/93	0002			202		0.5	-
	06/30/93	0001			237		0.5	-
	12/12/93	0001			203		0.5	-
	12/12/93	0002			207		0.5	-
	04/24/94	0001			221	L	0.5	-
	04/24/94	0002			222	L	0.5	-
	12/11/94	0001			262	L	0.5	-
CALCIUM (TOTAL)	06/30/93	N001	MG/L		271		0.5	-
	06/30/93	N002			255		0.5	-
	12/12/93	N001			230		0.5	-
	04/24/94	N001			263	L	0.5	-
	04/24/94	N002			268	L	0.5	-
CHLORIDE	04/26/88	0001	MG/L		21.	JL	1.	-
	06/09/89	0001			20.		1.	-
	12/01/89	0001			17.5		1.	-
	06/25/90	0001			18.		1.	-
	01/29/91	0001			16.	JL	1.	-
	06/01/91	0001			17.0		0.5	-
	02/21/92	0001			15.9		0.5	-
	08/11/92	0001			18		0.016	-
	01/31/93	0001			16.2		0.5	-
	01/31/93	0002			16.2		0.5	-
	12/12/93	0001			14.2		0.5	-
	12/12/93	0002			14.5		0.5	-
	04/24/94	0001			15.7	L	0.5	-
	04/24/94	0002			15.8	L	0.5	-
	12/11/94	0001			14	L	0.5	-
CHLORIDE (TOTAL)	06/30/93	N001	MG/L		16.4		0.5	-
	06/30/93	N002			17.5		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.01		0.01	-
	11/24/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
	12/01/89	0001		<	0.05		0.05	-
	06/25/90	0001		<	0.05		0.05	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Date
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COBALT	01/29/91	0001	MG/L	<	0.05	L	0.05	-
	06/01/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L		0.02		0.02	-
	12/01/89	0001		<	0.02		0.02	-
	06/25/90	0001		<	0.02		0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/01/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-
DISSOLVED OXYGEN	11/24/92	0001	MG/L		0.7		-	-
FLUORIDE	06/09/89	0001	MG/L		0.5		0.1	-
	12/01/89	0001			0.6		0.1	-
	06/25/90	0001			0.6		0.1	-
	01/29/91	0001			0.5	L	0.1	-
	06/01/91	0001			0.4		0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		38.	JL	0.2	24.
	01/29/91	0001			7.	L	1.	11.
	06/01/91	0001			0.0		1.	22.4
	02/21/92	0001			14.7		1.0	25.5
	08/11/92	0001			16		26	17
	11/24/92	0001			11.5	N	10.8	8.8
	01/31/93	0001			18		33	38
	01/31/93	0002			29		35	41
	06/30/93	0001			51		16	32
GROSS ALPHA (TOTAL)	11/24/92	N001	PCI/L		0.0	N	25.4	12.8
	06/30/93	N001			0		20	28
	06/30/93	N002			7		22	35
GROSS BETA	04/26/88	0001	PCI/L		23.	JL	1.	11.
	01/29/91	0001			17.	L	0.5	7.
	06/01/91	0001			16.1		0.5	14.2
	02/21/92	0001			26.0		0.5	17.3
	08/11/92	0001			12		22	13
	11/24/92	0001			0.0	N	19.6	11.6
	01/31/93	0001			10		40	18
	01/31/93	0002			18		40	18
	06/30/93	0001			5		22	21
GROSS BETA (TOTAL)	11/24/92	N001	PCI/L		4.0	N	18.6	11.2
	06/30/93	N001			0		23	20
	06/30/93	N002			19		23	22
IRON	06/09/89	0001	MG/L		0.06		0.03	-
	12/01/89	0001		<	0.03		0.03	-
	06/25/90	0001			0.07		0.03	-
	01/29/91	0001			0.06	L	0.03	-
	06/01/91	0001		<	0.03		0.03	-
	02/21/92	0001		<	0.03		0.03	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	08/11/92	0001	MG/L	<	0.1		0.1	-
	01/31/93	0001		<	0.03		0.03	-
	01/31/93	0002		<	0.03		0.03	-
	06/30/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/30/93	N001	MG/L		10.2		0.03	-
	06/30/93	N002			10.3		0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	J	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.005		0.005	-
	11/24/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/24/92	N001	MG/L	<	0.0015	W	0.0015	-
LEAD-210	11/24/92	0001	PCI/L		1.9		3.6	2.2
LEAD-210 (TOTAL)	11/24/92	N001	PCI/L		5.6		0.3	0.9
MAGNESIUM	04/26/88	0001	MG/L		144.	JL	0.001	-
	06/09/89	0001			137.		0.001	-
	12/01/89	0001			155.		0.001	-
	06/25/90	0001			132.		0.001	-
	01/29/91	0001			114.	L	0.001	-
	06/01/91	0001			121.		0.5	-
	02/21/92	0001			122.		0.5	-
	08/11/92	0001			120		5	-
	01/31/93	0001			119		0.1	-
	01/31/93	0002			120		0.1	-
	06/30/93	0001			130		0.1	-
	12/12/93	0001			118		0.1	-
	12/12/93	0002			117		0.1	-
	04/24/94	0001			120	L	0.1	-
	04/24/94	0002			121	L	0.1	-
	12/11/94	0001			135	L	0.1	-
MAGNESIUM (TOTAL)	06/30/93	N001	MG/L		144		0.1	-
	06/30/93	N002			139		0.1	-
	12/12/93	N001			121		0.1	-
	12/12/93	N002			120		0.1	-
	04/24/94	N001			119	L	0.1	-
	04/24/94	N002			120	L	0.1	-
MANGANESE	06/09/89	0001	MG/L		0.17		0.01	-
	12/01/89	0001			0.14		0.01	-
	06/25/90	0001			0.15		0.01	-
	01/29/91	0001			0.13	L	0.01	-
	06/01/91	0001			0.14		0.01	-
	02/21/92	0001			0.09		0.01	-
	08/11/92	0001			0.11		0.01	-
	11/24/92	0001			0.12		0.0015	-
	01/31/93	0001			0.13		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	01/31/93	0002	MG/L		0.13		0.01	-
	06/30/93	0001			0.16		0.01	-
	12/12/93	0001			0.12		0.01	-
	12/12/93	0002			0.12		0.01	-
	04/24/94	0001			0.14	L	0.01	-
	04/24/94	0002			0.14	L	0.01	-
	12/11/94	0001			0.26	L	0.01	-
MANGANESE (TOTAL)	11/24/92	N001	MG/L		0.11		0.0015	-
	06/30/93	N001			0.31		0.01	-
	06/30/93	N002			0.30		0.01	-
	12/12/93	N001			0.19		0.01	-
	12/12/93	N002			0.19		0.01	-
	04/24/94	N001			0.21	L	0.01	-
	04/24/94	N002			0.22	L	0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
	12/01/89	0001		<	0.0002		0.0002	-
	06/25/90	0001		<	0.0002		0.0002	-
MOLYBDENUM	04/26/88	0001	MG/L		0.06	JL	0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001			0.04	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/11/92	0001			0.013		0.007	-
	11/24/92	0001		<	0.0049	N	0.0049	-
	06/30/93	0001		<	0.01		0.01	-
	12/11/94	0001		<	0.01	L	0.01	-
MOLYBDENUM (TOTAL)	11/24/92	N001	MG/L		0.0080	N	0.0049	-
	06/30/93	N001		<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		25.79		-	-
	01/29/91	0001			-2.40		-	-
	06/01/91	0001			-5.49		-	-
	02/21/92	0001			5.78		-	-
	11/24/92	0001			1.90		-	-
	01/31/93	0001			9.08		-	-
	01/31/93	0002			20.08		-	-
	06/30/93	0001			42.77		-	-
NET GROSS ALPHA (TOTAL) **	11/24/92	N001	PCI/L		-8.23		-	-
	06/30/93	N001			-8.92		-	-
	06/30/93	N002			-1.23		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-

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

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	12/01/89	0001	MG/L	<	0.04		0.04	-
	06/25/90	0001		<	0.04		0.04	-
	01/29/91	0001		<	0.04	L	0.04	-
	06/01/91	0001		<	0.04		0.04	-
NITRATE	04/26/88	0001	MG/L		1600.	JL	1.	-
	06/09/89	0001			1200.		1.	-
	12/01/89	0001			1200.		1.	-
	06/25/90	0001			1120.		1.	-
	01/29/91	0001			1080.	L	1.	-
	06/01/91	0001			974.		1.	-
	02/21/92	0001			1060.		150.	-
	08/11/92	0001			1100	I	0.75	-
	11/24/92	0001			1600		0.044	-
	01/31/93	0001			1160		1	-
	01/31/93	0002			1160		1	-
	12/12/93	0001			1120		1	-
	12/12/93	0002			1260		1	-
NITRATE (TOTAL)	06/30/93	N001	MG/L		1170		1	-
	06/30/93	N002			1160		1	-
	04/24/94	N001			1180	L	1	-
	04/24/94	N002			1130	L	1	-
	12/11/94	N001			1360	HJLN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		1080.	L	1.	-
	06/01/91	0001			215.		0.05	-
PH	04/26/88	0001	SU		7.20	L	-	-
	06/09/89	0001			7.33		-	-
	12/01/89	0001			7.15		-	-
	06/25/90	0001			7.26		-	-
	01/29/91	0001			7.02	L	-	-
	06/01/91	0001			7.20		-	-
	02/21/92	0001			7.06		-	-
	08/11/92	0001			7.20		-	-
	11/24/92	0001			7.32		-	-
	01/31/93	0001			6.98		-	-
	01/31/93	0002			6.98		-	-
	06/30/93	N001			6.98		-	-
	12/12/93	N001			7.26		-	-
	04/24/94	N001			7.16	L	-	-
	12/11/94	N001			7.24	L	0.10	-
PHOSPHATE	06/09/89	0001	MG/L		0.6		0.1	-
	12/01/89	0001			0.3		0.1	-
	06/25/90	0001			0.4		0.1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L		1.0		0.1	-
	06/30/93	N002			1.0		0.1	-
POTASSIUM	04/26/88	0001	MG/L		10.5	JL	0.01	-
	06/09/89	0001			13.8		0.01	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	12/01/89	0001	MG/L		12.2		0.01	-
	06/25/90	0001			12.7		0.01	-
	01/29/91	0001			12.3	L	0.01	-
	06/01/91	0001			13.		5.	-
	02/21/92	0001			11.		5.	-
	08/11/92	0001			12	*	0.575	-
	01/31/93	0001			12.1		0.1	-
	01/31/93	0002			12.4		0.1	-
	06/30/93	0001			14.1		0.1	-
	12/12/93	0001			9.4		0.1	-
	12/12/93	0002			9.2		0.1	-
	04/24/94	0001			11.6	L	0.1	-
	04/24/94	0002			11.6	L	0.1	-
	12/11/94	0001			14.4	L	0.1	-
POTASSIUM (TOTAL)	06/30/93	N001	MG/L		16.7		0.1	-
	06/30/93	N002			16.9		0.1	-
	12/12/93	N001			10.3		0.1	-
	12/12/93	N002			10.3		0.1	-
	04/24/94	N001			11.8	L	0.1	-
	04/24/94	N002			12.7	L	0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.4		1.	0.2
	12/01/89	0001			0.2		1.	0.2
	06/25/90	0001			0.1		1.	0.2
	01/29/91	0001			1.0	L	1.	0.9
	06/01/91	0001			0.3		1.	0.3
	02/21/92	0001			0.2		1.0	0.3
	08/11/92	0001			0.4		0.5	0.1
	11/24/92	0001			0.7		0.3	0.3
RADIUM-226 (TOTAL)	11/24/92	N001	PCI/L		1.0		0.3	0.4
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.40		-	-
	12/01/89	0001			1.00		-	-
	06/25/90	0001			1.50		-	-
	01/29/91	0001			2.50		-	-
	06/01/91	0001			15.50		-	-
	02/21/92	0001			2.10		-	-
	08/11/92	0001			0.40		-	-
	11/24/92	0001			3.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/24/92	N001	PCI/L		3.20		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.0		1.	0.9
	12/01/89	0001			0.8		1.	1.8
	06/25/90	0001			1.4		1.	0.9
	01/29/91	0001			1.5	L	1.	0.8
	06/01/91	0001			15.2	J	1.	2.2
	02/21/92	0001			1.9		1.0	1.6
	08/11/92	0001			0.0		1.9	1.0
	11/24/92	0001			2.3		2.0	1.4
RADIUM-228 (TOTAL)	11/24/92	N001	PCI/L		2.2		2.0	1.4

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
REDOX POTENTIAL	11/24/92	0001	mVOLTS		481.7		-	-
	12/11/94	N001			426	L	-	-
SELENIUM	04/26/88	0001	MG/L		0.009	JL	0.005	-
	06/09/89	0001			0.015		0.005	-
	12/01/89	0001		<	0.005		0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/01/91	0001			0.007	J	0.005	-
	02/21/92	0001		<	0.03	I	0.03	-
	08/11/92	0001		<	0.005		0.005	-
	11/24/92	0001		<	0.0015	NW	0.0015	-
SELENIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		21.		2.	-
	12/01/89	0001			21.		2.	-
	06/25/90	0001			23.		2.	-
	01/29/91	0001			21.	L	2.	-
	06/01/91	0001			22.5		0.1	-
	12/12/93	0001			21.8		0.1	-
	12/12/93	0002			22.1		0.1	-
	12/11/94	0001			21.6	L	0.1	-
SILICA - SIO2 (TOTAL)	06/30/93	N001	MG/L		26.7	H	0.5	-
	06/30/93	N002			46.8	H	0.5	-
	12/12/93	N001			41.7		0.1	-
	12/12/93	N002			43.8		0.1	-
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
SODIUM	04/26/88	0001	MG/L		98.7	JL	0.002	-
	06/09/89	0001			98.8		0.002	-
	12/01/89	0001			106.		0.002	-
	06/25/90	0001			102.		0.002	-
	01/29/91	0001			97.3	L	0.002	-
	06/01/91	0001			96.		1.	-
	02/21/92	0001			95.		1.	-
	08/11/92	0001			95		5	-
	01/31/93	0001			95		0.1	-
	01/31/93	0002			96.2		0.1	-
	06/30/93	0001			94		1	-
	12/12/93	0001			92		1	-
	12/12/93	0002			90		1	-
	04/24/94	0001			94	L	1	-
	04/24/94	0002			95	L	1	-
	12/11/94	0001			100	L	1	-
SODIUM (TOTAL)	06/30/93	N001	MG/L		96		1	-

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J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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NORTH COORDINATE: 59034.2 FT
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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM (TOTAL)	06/30/93	N002	MG/L		94		1	-
	12/12/93	N001			94		1	-
	12/12/93	N002			94		1	-
	04/24/94	N001			85	L	1	-
	04/24/94	N002			85	L	1	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		3750.	L	-	-
	06/09/89	0001			3400.		-	-
	12/01/89	0001			3590.		-	-
	06/25/90	0001			4000.		-	-
	01/29/91	0001			4360.	L	-	-
	06/01/91	0001			4390.		-	-
	02/21/92	0001			3460		-	-
	08/11/92	0001			3670		-	-
	11/24/92	0001			2970		-	-
	01/31/93	0001			3220		-	-
	01/31/93	0002			3220		-	-
	06/30/93	N001			3610		-	-
	12/12/93	N001			3190		-	-
	04/24/94	N001			3390	L	-	-
	12/11/94	N001			3400	L	1	-
STRONTIUM	06/25/90	0001	MG/L		1.76	*	0.1	-
	01/29/91	0001			1.7	L	0.1	-
	06/01/91	0001			1.79		0.01	-
	02/21/92	0001			1.64		0.01	-
	08/11/92	0001			1.7		0.2	-
	11/24/92	0001			1.9		0.00035	-
	06/30/93	0001			1.82		0.01	-
	12/12/93	0001			1.71		0.01	-
	12/12/93	0002			1.68		0.01	-
	04/24/94	0001			1.81	L	0.01	-
	04/24/94	0002			1.82	L	0.01	-
	12/11/94	0001			2	JL	0.01	-
STRONTIUM (TOTAL)	11/24/92	N001	MG/L		2.0		0.00035	-
	06/30/93	N001			2.03		0.01	-
	06/30/93	N002			1.97		0.01	-
	12/12/93	N001			1.75		0.01	-
	12/12/93	N002			1.73		0.01	-
	04/24/94	N001			1.77	L	0.01	-
	04/24/94	N002			1.77	L	0.01	-
SULFATE	04/26/88	0001	MG/L		1380.	JL	0.1	-
	06/09/89	0001			1230.		0.1	-
	12/01/89	0001			1170.		0.1	-
	06/25/90	0001			1241.9		0.1	-
	01/29/91	0001			1070.	L	0.1	-
	06/01/91	0001			1010.		10.	-
	02/21/92	0001			961.		10.	-
	08/11/92	0001			860	I	0.59	-
	11/24/92	0001			930		1.0	-
	01/31/93	0001			988		1	-

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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	01/31/93	0002	MG/L		990		1	-
	12/12/93	0001			805		1	-
	12/12/93	0002			805		1	-
	04/24/94	0001			861	L	1	-
	04/24/94	0002			822	L	1	-
	12/11/94	0001			857	L	1	-
SULFATE (TOTAL)	11/24/92	N001	MG/L		920		1.0	-
	06/30/93	N001			884		1	-
	06/30/93	N002			932		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/01/89	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/01/91	0001			11.5	J	1.	-
TEMPERATURE	04/26/88	0001	C - DEGREE		15.0	L	-	-
	06/09/89	0001			17.0		-	-
	12/01/89	0001			16.0		-	-
	06/25/90	0001			22.		-	-
	01/29/91	0001			11.1	L	-	-
	06/01/91	0001			15.4		-	-
	02/21/92	0001			14.2		-	-
	08/11/92	0001			17.7		-	-
	11/24/92	0001			8.3		-	-
	01/31/93	0001			12.2		-	-
	01/31/93	0002			12.2		-	-
	06/30/93	N001			16.4		-	-
	12/12/93	N001			15.0		-	-
	04/24/94	N001			15.4	L	-	-
	12/11/94	N001			14.2	L	0.1	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/01/89	0001			0.1		0.1	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0	L	1.	0.3
	06/01/91	0001			0.5		1.	0.3
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-
	12/01/89	0001		<	0.005		0.005	-
	06/25/90	0001			0.013		0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/01/91	0001		<	0.01	I	0.01	-
	02/21/92	0001		<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		3410.	JL	10.	-
	06/09/89	0001			2410.		10.	-
	12/01/89	0001			2520.		10.	-
	06/25/90	0001			2068.		10.	-
	01/29/91	0001			1980.	L	10.	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	06/01/91	0001	MG/L		2040.		10.	-
	02/21/92	0001			1760.		10.	-
	08/11/92	0001			2100		42	-
	01/31/93	0001			2330		10	-
	01/31/93	0002			2230		10	-
	12/12/93	0001			1930		10	-
	12/12/93	0002			1880		10	-
	04/24/94	0001			1900	L	10	-
	04/24/94	0002			1870	L	10	-
	12/11/94	0001			2740	L	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/30/93	N001	MG/L		2010	H	10	-
	06/30/93	N002			2040	H	10	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		70.9	JL	1.	-
	01/29/91	0001			1.8	L	1.	-
	06/01/91	0001			4.		1.	-
	02/21/92	0001			1.		1.	-
	08/11/92	0001			4.6		1.0	-
URANIUM	04/26/88	0001	MG/L		0.0178	JL	0.003	-
	06/09/89	0001			0.014		0.003	-
	12/01/89	0001			0.015		0.003	-
	06/25/90	0001			0.013		0.003	-
	01/29/91	0001			0.0137	L	0.0003	-
	06/01/91	0001			0.008		0.001	-
	02/21/92	0001			0.013		0.001	-
	11/24/92	0001			0.014		0.001	-
	01/31/93	0001			0.013		0.001	-
	01/31/93	0002			0.013		0.001	-
	06/30/93	0001			0.012		0.001	-
	12/12/93	0001			0.012		0.001	-
	12/12/93	0002			0.013		0.001	-
	04/24/94	0001			0.013	L	0.001	-
	04/24/94	0002			0.013	L	0.001	-
	12/11/94	0001			0.007	L	0.001	-
URANIUM (TOTAL)	11/24/92	N001	MG/L		0.012		0.001	-
	06/27/93	N001			0.022		0.001	-
	06/30/93	N001			0.013		0.001	-
	06/30/93	N002			0.012		0.001	-
	12/12/93	N001			0.013		0.001	-
	12/12/93	N002			0.013		0.001	-
	04/24/94	N001			0.014	L	0.001	-
	04/24/94	N002			0.014	L	0.001	-
VANADIUM	06/09/89	0001	MG/L		0.05		0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/25/90	0001			0.02		0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/01/91	0001		<	0.01		0.01	-
	02/21/92	0001		<	0.01		0.01	-
	08/11/92	0001		<	0.05		0.05	-
	11/24/92	0001			0.0027		0.0019	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0606
NORTH COORDINATE: 59034.2 FT
EAST COORDINATE: 88634.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	06/30/93	0001	MG/L	<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	12/12/93	0002		<	0.01		0.01	-
	04/24/94	0001		<	0.01	L	0.01	-
	04/24/94	0002		<	0.01	L	0.01	-
	12/11/94	0001		<	0.01	L	0.01	-
VANADIUM (TOTAL)	11/24/92	N001	MG/L		0.0030		0.0019	-
	06/30/93	N001			0.01		0.01	-
	06/30/93	N002			0.01		0.01	-
	12/12/93	N001		<	0.01		0.01	-
	12/12/93	N002		<	0.01		0.01	-
	04/24/94	N001		<	0.01	L	0.01	-
	04/24/94	N002		<	0.01	L	0.01	-
ZINC	06/09/89	0001	MG/L		0.017		0.005	-
	12/01/89	0001		<	0.005		0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/01/91	0001			0.024		0.005	-
	02/21/92	0001			0.031		0.005	-
	08/11/92	0001		<	0.02		0.02	-
	11/24/92	0001			0.0021		0.0010	-
	06/30/93	0001			0.012	J	0.005	-
ZINC (TOTAL)	11/24/92	N001	MG/L		0.0060		0.0010	-
	06/30/93	N001			0.051	J	0.005	-
	06/30/93	N002			0.046	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0611
NORTH COORDINATE: 57811.0 FT
EAST COORDINATE: 89017.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/09/89	0001	MG/L CACO3		207.		-	-
	06/29/93	N001			195		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
AMMONIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003		0.003	-
ARSENIC	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/29/93	0001			0.005		0.005	-
ARSENIC (TOTAL)	06/29/93	N001	MG/L	<	0.005	W	0.005	-
BARIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	06/29/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
BORON	06/09/89	0001	MG/L	<	0.1		0.1	-
CADMIUM	06/09/89	0001	MG/L	<	0.001		0.001	-
CALCIUM	06/09/89	0001	MG/L		16.8		0.01	-
	06/29/93	0001			15.9		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		14.5		0.5	-
CHLORIDE	06/09/89	0001	MG/L		7.4		1.	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		10.8		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		0.3		-	-
FLUORIDE	06/09/89	0001	MG/L		0.3		0.1	-
GROSS ALPHA	06/29/93	0001	PCI/L		6		3	5
GROSS ALPHA (TOTAL)	06/29/93	N001	PCI/L		13		3	6
GROSS BETA	06/29/93	0001	PCI/L		7		4	4
GROSS BETA (TOTAL)	06/29/93	N001	PCI/L		4		4	4
IRON	06/09/89	0001	MG/L		0.04		0.03	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0611
NORTH COORDINATE: 57811.0 FT
EAST COORDINATE: 89017.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	06/29/93	0001	MG/L	<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.08	J	0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
MAGNESIUM	06/09/89	0001	MG/L		22.8		0.001	-
	06/29/93	0001			21.5		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		20.1		0.1	-
MANGANESE	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/29/93	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	06/29/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
NET GROSS ALPHA *	06/29/93	0001	PCI/L		0.51		-	-
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		8.20		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
NITRATE	06/09/89	0001	MG/L		5.0		1.	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		1		1	-
PH	06/09/89	0001	SU		7.76		-	-
	06/29/93	N001			7.93		-	-
PHOSPHATE	06/09/89	0001	MG/L		1.0		0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L		0.6		0.1	-
POTASSIUM	06/09/89	0001	MG/L		2.8		0.01	-
	06/29/93	0001			2.8		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		2.1		0.1	-
RADIUM-226	06/09/89	0001	PCI/L		2.0		1.	0.5
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		2.30		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.3		1.	1.0
REDOX POTENTIAL	06/29/93	N001	mVOLTS		446		-	-

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0611
NORTH COORDINATE: 57811.0 FT
EAST COORDINATE: 89017.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	06/09/89	0001	MG/L	<	0.005		0.005	
SILICA - SIO2	06/09/89	0001	MG/L		12.		2.	
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		11.2	H	0.5	
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	
SODIUM	06/09/89 06/29/93	0001 0001	MG/L		76.3 74		0.002 1	
SODIUM (TOTAL)	06/29/93	N001	MG/L		72		1	
SPECIFIC CONDUCTANCE	06/09/89 06/29/93	0001 N001	UMHO/CM		379. 470			
STRONTIUM	06/29/93	0001	MG/L		0.35		0.01	
STRONTIUM (TOTAL)	06/29/93	N001	MG/L		0.32		0.01	
SULFATE	06/09/89	0001	MG/L		77.		0.1	
SULFATE (TOTAL)	06/29/93	N001	MG/L		73		1	
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	
TEMPERATURE	06/09/89 06/29/93	0001 N001	C - DEGREE		17.0 18.0			
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	
TIN	06/09/89	0001	MG/L	<	0.005		0.005	
TOTAL DISSOLVED SOLIDS	06/09/89	0001	MG/L		313.		10.	
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		310	H	10	-
URANIUM	06/09/89 06/29/93	0001 0001	MG/L		0.0099 0.008		0.003 0.001	
URANIUM (TOTAL)	06/29/93	N001	MG/L		0.007		0.001	
VANADIUM	06/09/89 06/29/93	0001 0001	MG/L	< <	0.01 0.01		0.01 0.01	
VANADIUM (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	
ZINC	06/09/89 06/29/93	0001 0001	MG/L	<	0.005 0.085	 J	0.005 0.005	
ZINC (TOTAL)	06/29/93	N001	MG/L		0.101	J	0.005	

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0612
NORTH COORDINATE: 58437.2 FT
EAST COORDINATE: 85614.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		121.	L	-	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1	L	0.1	-
ARSENIC	04/26/88	0001	MG/L		0.006	JL	0.01	-
CADMIUM	04/26/88	0001	MG/L		0.004	L	0.001	-
CALCIUM	04/26/88	0001	MG/L		28.0	L	0.01	-
CHLORIDE	04/26/88	0001	MG/L		6.3	L	1.	-
GROSS ALPHA	04/26/88	0001	PCI/L		10.	L	0.2	3.
GROSS BETA	04/26/88	0001	PCI/L		9.0	L	1.	1.6
MAGNESIUM	04/26/88	0001	MG/L		18.2	L	0.001	-
MOLYBDENUM	04/26/88	0001	MG/L		0.01	L	0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		3.41		-	-
NITRATE	04/26/88	0001	MG/L		8.0	L	1.	-
PH	04/26/88	0001	SU		7.64	L	-	-
POTASSIUM	04/26/88	0001	MG/L		5.29	L	0.01	-
SELENIUM	04/26/88	0001	MG/L	<	0.005	L	0.005	-
SODIUM	04/26/88	0001	MG/L		12.6	L	0.002	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		240.	L	-	-
SULFATE	04/26/88	0001	MG/L		20.	L	0.1	-
TEMPERATURE	04/26/88	0001	C - DEGREE		17.5	L	-	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		195.	L	10.	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		41.2	L	1.	-
URANIUM	04/26/88	0001	MG/L		0.0096	L	0.003	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/05/89	0001	MG/L CACO3		189.		-	-
	12/04/89	0001			179.	L	-	-
	06/25/90	0001			183.		-	-
	01/29/91	0001			195.		-	-
	05/30/91	0001			196.	L	-	-
	02/26/92	0001			190	L	-	-
	08/10/92	0001			235	L	-	-
	11/21/92	0001			186	L	-	-
	06/27/93	N001			180		-	-
	12/10/93	N001			184		-	-
	04/21/94	N001			172		-	-
	12/08/94	N001			172		10	-
ALUMINUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/30/91	0001		<	0.05	L	0.05	-
	02/26/92	0001		<	0.05	L	0.05	-
	08/10/92	0001		<	0.2	*L	0.2	-
AMMONIUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	H	0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/30/91	0001			0.1	L	0.1	-
	02/26/92	0001		<	0.1	L	0.1	-
	12/10/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/27/93	N001	MG/L	<	0.1		0.1	-
	04/21/94	N001		<	0.1		0.1	-
	12/08/94	N001		<	0.1	H	0.1	-
ANTIMONY	06/05/89	0001	MG/L	<	0.003		0.003	-
	12/04/89	0001		<	0.003	L	0.003	-
	06/25/90	0001			0.007		0.003	-
	01/29/91	0001		<	0.003		0.003	-
	05/30/91	0001		<	0.003	L	0.003	-
	02/26/92	0001		<	0.003	L	0.003	-
	08/10/92	0001		<	0.06	WL	0.06	-
ARSENIC	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/26/92	0001		<	0.01	L	0.01	-
	08/10/92	0001		<	0.01	WL	0.01	-
	11/21/92	0001		<	0.0015	L	0.0015	-
	06/27/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/21/92	N001	MG/L	<	0.0015	L	0.0015	-
	06/27/93	N001		<	0.005		0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BARIUM	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/30/91	0001			0.04	L	0.01	-
	02/26/92	0001			0.04	L	0.01	-
	08/10/92	0001		<	0.2	L	0.2	-
	11/21/92	0001			0.036	L	0.0015	-
	06/27/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/21/92	N001	MG/L		0.038	L	0.0015	-
	06/27/93	N001		<	0.1		0.1	-
BERYLLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.005	L	0.005	-
	08/10/92	0001		<	0.005	L	0.005	-
BORON	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	05/30/91	0001		<	0.05	L	0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1		0.1	-
	05/30/91	0001		<	0.1	L	0.1	-
CADMIUM	06/05/89	0001	MG/L	<	0.001		0.001	-
	12/04/89	0001		<	0.001	L	0.001	-
	06/25/90	0001		<	0.001		0.001	-
	01/29/91	0001		<	0.001		0.001	-
	05/30/91	0001		<	0.001	L	0.001	-
	02/26/92	0001		<	0.001	L	0.001	-
	08/10/92	0001		<	0.005	EL	0.005	-
	11/21/92	0001		<	0.00013	L	0.00013	-
CADMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.00013	NL	0.00013	-
CALCIUM	06/05/89	0001	MG/L		17.3		0.01	-
	12/04/89	0001			16.9	L	0.01	-
	06/25/90	0001			16.3		0.01	-
	01/29/91	0001			16.1		0.01	-
	05/30/91	0001			15.9	L	0.1	-
	02/26/92	0001			15.7	L	0.1	-
	08/10/92	0001			16	L	5	-
	06/27/93	0001			15.7		0.5	-
	12/10/93	0001			14.6		0.5	-
	04/21/94	0001			15.2		0.5	-
	12/08/94	0001			16.4		0.5	-
CALCIUM (TOTAL)	06/27/93	N001	MG/L		15.2		0.5	-
	12/10/93	N001			15.3		0.5	-

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

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM (TOTAL)	04/21/94	N001	MG/L		15.2		0.5	-
	12/08/94	N001			15.8		0.5	-
CHLORIDE	06/05/89	0001	MG/L		7.4		1.	-
	12/04/89	0001			8.7	L	1.	-
	06/25/90	0001			8.		1.	-
	01/29/91	0001			4.	J	1.	-
	05/30/91	0001			8.2	L	0.5	-
	02/26/92	0001			9.3	L	0.5	-
	08/10/92	0001			8.0	L	0.016	-
	12/10/93	0001			34.7		0.5	-
	04/21/94	0001			7.2		0.5	-
CHLORIDE (TOTAL)	06/27/93	N001	MG/L		8.0		0.5	-
	12/08/94	N001			5		0.5	-
CHROMIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/26/92	0001		<	0.01	L	0.01	-
	08/10/92	0001		<	0.1	L	0.01	-
	11/21/92	0001		<	0.0053	L	0.0053	-
CHROMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0053	L	0.0053	-
COBALT	06/05/89	0001	MG/L	<	0.05		0.05	-
	12/04/89	0001		<	0.05	L	0.05	-
	06/25/90	0001		<	0.05		0.05	-
	01/29/91	0001		<	0.05		0.05	-
	05/30/91	0001		<	0.03	L	0.03	-
COPPER	06/05/89	0001	MG/L	<	0.02		0.02	-
	12/04/89	0001		<	0.02	L	0.02	-
	06/25/90	0001		<	0.02		0.02	-
	01/29/91	0001		<	0.02		0.02	-
	05/30/91	0001		<	0.01	L	0.01	-
CYANIDE	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
DISSOLVED OXYGEN	06/27/93	N001	MG/L		3.2		-	-
	12/10/93	N001			3.2		-	-
	04/21/94	N001			3.4		-	-
FLUORIDE	06/05/89	0001	MG/L		0.3		0.1	-
	12/04/89	0001			0.4	L	0.1	-
	06/25/90	0001			0.4		0.1	-
	01/29/91	0001			0.3		0.1	-
	05/30/91	0001			0.2	L	0.1	-
GROSS ALPHA	01/29/91	0001	PCI/L		1.9		1.	2.3
	05/30/91	0001			0.0	L	1.	4.1
	02/26/92	0001			5.2	L	1.0	4.3

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA	08/10/92	0001	PCI/L		2.6	IL	3.9	2.7
	11/21/92	0001			7.4	NL	3.0	3.1
	06/27/93	0001			7		3	5
GROSS ALPHA (TOTAL)	11/21/92	N001	PCI/L		0.0	NL	6.6	3.6
	06/27/93	N001			4		3	5
GROSS BETA	01/29/91	0001	PCI/L		2.9		0.5	1.8
	05/30/91	0001			1.5	L	0.5	2.7
	02/26/92	0001			6.9	L	0.5	2.4
	08/10/92	0001			5.7	IL	4.2	2.8
	11/21/92	0001			5.6	NL	5.4	3.4
	06/27/93	0001			5		4	4
GROSS BETA (TOTAL)	11/21/92	N001	PCI/L		0.0	NL	4.8	2.8
	06/27/93	N001			0		4	4
IRON	06/05/89	0001	MG/L	<	0.03		0.03	-
	12/04/89	0001		<	0.03	L	0.03	-
	06/25/90	0001		<	0.03		0.03	-
	01/29/91	0001		<	0.03		0.03	-
	05/30/91	0001		<	0.03	L	0.03	-
	02/26/92	0001		<	0.03	L	0.03	-
	08/10/92	0001		<	0.1	L	0.1	-
	06/27/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/27/93	N001	MG/L		0.04	J	0.03	-
LEAD	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.005	L	0.005	-
	11/21/92	0001		<	0.0015	L	0.0015	-
LEAD (TOTAL)	11/21/92	N001	MG/L	<	0.0015	L	0.0015	-
LEAD-210	11/21/92	0001	PCI/L		0.3	L	2.0	1.2
LEAD-210 (TOTAL)	11/21/92	N001	PCI/L		5.8	L	0.3	0.9
MAGNESIUM	06/05/89	0001	MG/L		29.9		0.001	-
	12/04/89	0001			30.	L	0.001	-
	06/25/90	0001			29.5		0.001	-
	01/29/91	0001			31.9		0.001	-
	05/30/91	0001			28.8	L	0.1	-
	02/26/92	0001			28.7	L	0.1	-
	08/10/92	0001			28	L	5	-
	06/27/93	0001			27.3		0.1	-
	12/10/93	0001			26.5		0.1	-
	04/21/94	0001			26.5		0.1	-
	12/08/94	0001			29.2		0.1	-
MAGNESIUM (TOTAL)	06/27/93	N001	MG/L		26.9		0.1	-

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM (TOTAL)	12/10/93	N001	MG/L		26.4		0.1	
	04/21/94	N001			26.3		0.1	
	12/08/94	N001			27.1		0.1	
MANGANESE	06/05/89	0001	MG/L	<	0.01		0.01	
	12/04/89	0001		<	0.01	L	0.01	
	06/25/90	0001		<	0.01		0.01	
	01/29/91	0001		<	0.01		0.01	
	05/30/91	0001		<	0.01	L	0.01	
	02/26/92	0001		<	0.01	L	0.01	
	08/10/92	0001		<	0.01	L	0.01	
	11/21/92	0001		<	0.0015	NL	0.0015	
	06/27/93	0001		<	0.01		0.01	
	12/10/93	0001		<	0.01		0.01	
	04/21/94	0001		<	0.01		0.01	
	12/08/94	0001		<	0.01		0.01	
MANGANESE (TOTAL)	11/21/92	N001	MG/L	<	0.0015	L	0.0015	
	06/27/93	N001		<	0.01		0.01	
	12/10/93	N001		<	0.01		0.01	
	04/21/94	N001		<	0.01		0.01	
	12/08/94	N001		<	0.01		0.01	
MERCURY	06/05/89	0001	MG/L	<	0.0002		0.0002	
	12/04/89	0001		<	0.0002	L	0.0002	
	06/25/90	0001		<	0.0002		0.0002	
MOLYBDENUM	06/05/89	0001	MG/L	<	0.01		0.01	
	12/04/89	0001		<	0.01	L	0.01	
	06/25/90	0001			0.01		0.01	
	01/29/91	0001			0.01		0.01	
	05/30/91	0001		<	0.01	L	0.01	
	02/26/92	0001		<	0.01	L	0.01	
	08/10/92	0001		<	0.007	L	0.007	
	11/21/92	0001			0.0086	NL	0.0049	
	06/27/93	0001		<	0.01		0.01	
	12/08/94	0001		<	0.01		0.01	
MOLYBDENUM (TOTAL)	11/21/92	N001	MG/L		0.0070	NL	0.0049	-
	06/27/93	N001		<	0.01		0.01	-
	12/08/94	N001		<	0.01		0.01	-
NET GROSS ALPHA *	01/29/91	0001	PCI/L		-0.64		-	-
	05/30/91	0001			-2.74		-	-
	02/26/92	0001			3.14		-	-
	11/21/92	0001			4.66		-	-
	06/27/93	0001			4.26		-	-
NET GROSS ALPHA (TOTAL) **	11/21/92	N001	PCI/L		-2.06		-	-
	06/27/93	N001			1.94		-	-
NICKEL	06/05/89	0001	MG/L	<	0.04		0.04	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	12/04/89	0001	MG/L	<	0.04	L	0.04	-
	06/25/90	0001		<	0.04		0.04	-
	01/29/91	0001		<	0.04		0.04	-
	05/30/91	0001		<	0.04	L	0.04	-
NITRATE	06/05/89	0001	MG/L		7.8		1.	-
	12/04/89	0001			5.3	L	1.	-
	06/25/90	0001			2.6		1.	-
	01/29/91	0001			4.		1.	-
	05/30/91	0001			4.6	L	1.	-
	02/26/92	0001			3.2	L	1.0	-
	08/10/92	0001			4.3	L	0.075	-
	11/21/92	0001			2.9	L	0.044	-
	12/10/93	0001			6		1	-
NITRATE (TOTAL)	06/27/93	N001	MG/L		3		1	-
	04/21/94	N001			3		1	-
	12/08/94	N001			2.7	H	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		4.	J	1.	-
	05/30/91	0001			1.06	L	0.05	-
PH	06/05/89	0001	SU		7.85		-	-
	12/04/89	0001			8.02	L	-	-
	06/25/90	0001			7.98		-	-
	01/29/91	0001			8.46		-	-
	05/30/91	0001			8.03	L	-	-
	02/26/92	0001			8.01	L	-	-
	08/10/92	0001			8.01	L	-	-
	11/21/92	0001			8.13	L	-	-
	06/27/93	N001			8.04		-	-
	12/10/93	N001			7.96		-	-
	04/21/94	N001			7.74		-	-
	12/08/94	N001			7.97		0.10	-
PHOSPHATE	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
PHOSPHATE (TOTAL)	06/27/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	06/05/89	0001	MG/L		3.0		0.01	-
	12/04/89	0001			2.5	L	0.01	-
	06/25/90	0001			2.9		0.01	-
	01/29/91	0001			2.7		0.01	-
	05/30/91	0001			3.0	L	0.01	-
	02/26/92	0001			2.67	L	0.01	-
	08/10/92	0001			2.2	*L	0.575	-
	06/27/93	0001			2.8		0.1	-
	12/10/93	0001			2.3		0.1	-
	04/21/94	0001			2.8		0.1	-
	12/08/94	0001			2.9		0.1	-
POTASSIUM (TOTAL)	06/27/93	N001	MG/L		2.7		0.1	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM (TOTAL)	12/10/93	N001	MG/L		2.3		0.1	-
	04/21/94	N001			2.7		0.1	-
	12/08/94	N001			2.7		0.1	-
RADIUM-226	06/05/89	0001	PCI/L		0.0		1.	0.1
	12/04/89	0001			0.1	L	1.	0.2
	06/25/90	0001			0.0		1.	0.1
	01/29/91	0001			0.0		1.	0.1
	05/30/91	0001			0.0	L	1.	0.1
	02/26/92	0001			0.0	L	1.0	0.2
	08/10/92	0001			0.1	L	0.3	0.1
	11/21/92	0001			0.2	L	0.3	0.2
RADIUM-226 (TOTAL)	11/21/92	N001	PCI/L		0.3	L	0.3	0.2
RADIUM-226 + RADIUM-228	06/05/89	0001	PCI/L		0.00		-	-
	12/04/89	0001			0.90		-	-
	06/25/90	0001			0.20		-	-
	01/29/91	0001			0.70		-	-
	05/30/91	0001			0.00		-	-
	02/26/92	0001			1.70		-	-
	08/10/92	0001			0.40		-	-
	11/21/92	0001			3.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		3.00		-	-
RADIUM-228	06/05/89	0001	PCI/L		0.0		1.	0.9
	12/04/89	0001			0.8	L	1.	1.8
	06/25/90	0001			0.2		1.	0.7
	01/29/91	0001			0.7		1.	0.8
	05/30/91	0001			0.0	JL	1.	1.2
	02/26/92	0001			1.7	L	1.0	1.7
	08/10/92	0001			0.3	L	2.2	1.1
	11/21/92	0001			2.8	L	2.5	1.7
RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		2.7	L	1.9	1.4
REDOX POTENTIAL	06/27/93	N001	mVOLTS		466		-	-
	12/10/93	N001			407		-	-
	04/21/94	N001			445		-	-
	12/08/94	N001			448		-	-
SELENIUM	06/05/89	0001	MG/L	<	0.005		0.005	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/30/91	0001			0.005	JL	0.005	-
	02/26/92	0001			0.005	L	0.005	-
	08/10/92	0001		<	0.005	WL	0.005	-
	11/21/92	0001		<	0.0015	NL	0.0015	-
SELENIUM (TOTAL)	11/21/92	N001	MG/L		0.0016	L	0.0015	-
SILICA - SIO2	06/05/89	0001	MG/L		11.		2.	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Date
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	12/04/89	0001	MG/L		10.6	L	2.	-
	06/25/90	0001			11.		2.	-
	01/29/91	0001			10.		2.	-
	05/30/91	0001			10.8	L	0.1	-
	12/10/93	0001			10.7		0.1	-
	12/08/94	0001			11.5		0.1	-
SILICA - SIO2 (TOTAL)	06/27/93	N001	MG/L		10.4	H	0.5	-
	12/10/93	N001			10.3		0.1	-
	12/08/94	N001			9.4		0.1	-
SILVER	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
SODIUM	06/05/89	0001	MG/L		51.7		0.002	-
	12/04/89	0001			49.	L	0.002	-
	06/25/90	0001			51.2		0.002	-
	01/29/91	0001			51.6		0.002	-
	05/30/91	0001			50.	L	1.	-
	02/26/92	0001			51.	L	1.	-
	08/10/92	0001			49	L	5	-
	06/27/93	0001			49		1	-
	12/10/93	0001			48		1	-
	04/21/94	0001			49		1	-
	12/08/94	0001			53.7		1	-
SODIUM (TOTAL)	06/27/93	N001	MG/L		50		1	-
	12/10/93	N001			49		1	-
	04/21/94	N001			48		1	-
	12/08/94	N001			48.5		1	-
SPECIFIC CONDUCTANCE	06/05/89	0001	UMHO/CM		332.		-	-
	12/04/89	0001			390.	L	-	-
	06/25/90	0001			400.		-	-
	01/29/91	0001			490.		-	-
	05/30/91	0001			508.	L	-	-
	02/26/92	0001			412	L	-	-
	08/10/92	0001			421	L	-	-
	11/21/92	0001			411	L	-	-
	06/27/93	N001			422		-	-
	12/10/93	N001			292		-	-
	04/21/94	N001			370		-	-
	12/08/94	N001			381	J	1	-
STRONTIUM	06/25/90	0001	MG/L		0.36	*	0.1	-
	01/29/91	0001			0.3		0.1	-
	05/30/91	0001			0.35	L	0.01	-
	02/26/92	0001			0.36	L	0.01	-
	08/10/92	0001			0.3	L	0.2	-
	11/21/92	0001			0.40	L	0.00035	-

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM	06/27/93	0001	MG/L		0.35		0.01	-
	12/10/93	0001			0.34		0.01	-
	04/21/94	0001			0.35		0.01	-
	12/08/94	0001			0.37	J	0.01	-
STRONTIUM (TOTAL)	11/21/92	N001	MG/L		0.39	L	0.00035	-
	06/27/93	N001			0.34		0.01	-
	12/10/93	N001			0.34		0.01	-
	04/21/94	N001			0.34		0.01	-
	12/08/94	N001			0.36	J	0.01	-
SULFATE	06/05/89	0001	MG/L		64.		0.1	-
	12/04/89	0001			64.	L	0.1	-
	06/25/90	0001			52.3		0.1	-
	01/29/91	0001			61.7		0.1	-
	05/30/91	0001			56.	L	0.1	-
	02/26/92	0001			60.	L	10.	-
	08/10/92	0001			60	L	0.059	-
	11/21/92	0001			65	L	1.0	-
	12/10/93	0001			59		1	-
	04/21/94	0001			61		1	-
SULFATE (TOTAL)	11/21/92	N001	MG/L		64	L	1.0	-
	06/27/93	N001			61		1	-
	12/08/94	N001			45		1	-
SULFIDE	06/05/89	0001	MG/L	<	0.1		0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	J	0.1	-
	05/30/91	0001			4.9	JL	1.	-
TEMPERATURE	06/05/89	0001	C - DEGREE		17.0		-	-
	12/04/89	0001			15.0	L	-	-
	06/25/90	0001			17.0		-	-
	01/29/91	0001			13.7		-	-
	05/30/91	0001			16.4	L	-	-
	02/26/92	0001			15.4	L	-	-
	08/10/92	0001			16.5	L	-	-
	11/21/92	0001			15.4	L	-	-
	06/27/93	N001			17.8		-	-
	12/10/93	N001			15.2		-	-
	04/21/94	N001			15.3		-	-
	12/08/94	N001			13.8		0.1	-
THALLIUM	06/05/89	0001	MG/L	<	0.01		0.01	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0		1.	0.3
	05/30/91	0001			1.1	L	1.	0.5
TIN	06/05/89	0001	MG/L	<	0.005		0.005	-
	12/04/89	0001		<	0.005	L	0.005	-

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L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TIN	06/25/90	0001	MG/L	<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/30/91	0001		<	0.01	IL	0.01	-
TOTAL DISSOLVED SOLIDS	06/05/89	0001	MG/L		281.		10.	-
	12/04/89	0001			298.	L	10.	-
	06/25/90	0001			284.		10.	-
	01/29/91	0001			228.		10.	-
	05/30/91	0001			288.	L	10.	-
	02/26/92	0001			277.	L	10.	-
	08/10/92	0001			360	L	42	-
	12/10/93	0001			300		10	-
	04/21/94	0001			290		10	-
	12/08/94	0001			294	H	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/27/93	N001	MG/L		270		10	-
TOTAL ORGANIC CARBON	01/29/91	0001	MG/L	<	1.	J	1.	-
	05/30/91	0001			2.	L	1.	-
	02/26/92	0001		<	1.	L	1.	-
	08/10/92	0001		<	1.0	L	1.0	-
URANIUM	06/05/89	0001	MG/L		0.0044		0.003	-
	12/04/89	0001			0.005	L	0.003	-
	06/25/90	0001			0.0042		0.003	-
	01/29/91	0001			0.0037		0.0003	-
	05/30/91	0001			0.004	L	0.001	-
	02/26/92	0001			0.003	L	0.001	-
	11/21/92	0001			0.004	L	0.001	-
	06/27/93	0001			0.004		0.001	-
	12/10/93	0001			0.005		0.001	-
	04/21/94	0001			0.004		0.001	-
	12/08/94	0001			0.004		0.001	-
URANIUM (TOTAL)	11/21/92	N001	MG/L		0.003	L	0.001	-
	06/27/93	N001			0.003		0.001	-
	12/10/93	N001			0.004		0.001	-
	04/21/94	N001			0.004		0.001	-
	12/08/94	N001			0.003		0.001	-
VANADIUM	06/05/89	0001	MG/L		0.01		0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	05/30/91	0001		<	0.01	L	0.01	-
	02/26/92	0001		<	0.01	L	0.01	-
	08/10/92	0001		<	0.005	JL	0.05	-
	11/21/92	0001		<	0.0019	L	0.0019	-
	06/27/93	0001		<	0.01		0.01	-
	12/10/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/21/92	N001	MG/L		0.0030	L	0.0019	-

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

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N001 - UNFILTERED SAMPLE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0613
NORTH COORDINATE: 56377.8 FT
EAST COORDINATE: 88643.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM (TOTAL)	06/27/93	N001	MG/L	<	0.01		0.01	-
	12/10/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
	12/08/94	N001		<	0.01		0.01	-
ZINC	06/05/89	0001	MG/L		0.006		0.005	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001			0.010		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	05/30/91	0001			0.006	L	0.005	-
	02/26/92	0001		<	0.005	L	0.005	-
	08/10/92	0001		<	0.02	L	0.02	-
	11/21/92	0001		<	0.0010	L	0.0010	-
	06/27/93	0001		<	0.005	J	0.005	-
ZINC (TOTAL)	11/21/92	N001	MG/L		0.0040	L	0.0010	-
	06/27/93	N001			0.006	J	0.005	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/21/88	0001	MG/L CACO3		189.		-	-
	06/09/89	0001			194.		-	-
	12/02/89	0001			188.	L	-	-
	06/25/90	0001			193.		-	-
	01/29/91	0001			209.		-	-
	06/01/91	0001			203.		-	-
	08/10/92	0001			180		-	-
	02/19/93	0001			184		-	-
	06/30/93	0001			185		-	-
	06/30/93	N001			185		-	-
	12/12/93	N001			180		-	-
	12/08/94	N001			198		10	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	08/10/92	0001		<	0.2	*	0.2	-
ALUMINUM (TOTAL)	06/01/91	N001	MG/L		1.54		0.05	-
AMMONIUM	04/21/88	0001	MG/L	<	0.1		0.1	-
	06/09/89	0001		<	0.1		0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	H	0.1	-
	01/29/91	0001		<	0.1		0.1	-
	12/12/93	0001			0.2		0.1	-
AMMONIUM (TOTAL)	06/01/91	N001	MG/L		0.3		0.1	-
	06/30/93	N001		<	0.1		0.1	-
	12/08/94	N001			0.14	H	0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003		0.003	-
	12/02/89	0001		<	0.003	L	0.003	-
	06/25/90	0001		<	0.003		0.003	-
	01/29/91	0001		<	0.003		0.003	-
	08/10/92	0001		<	0.06	W	0.06	-
ANTIMONY (TOTAL)	06/01/91	N001	MG/L		0.005		0.003	-
ARSENIC	04/21/88	0001	MG/L		0.002	J	0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01	W	0.01	-
	06/30/93	0001			0.010		0.005	-
ARSENIC (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
	06/30/93	N001			0.012		0.005	-
BARIUM	06/09/89	0001	MG/L		0.1		0.1	-

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H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BARIUM	12/02/89	0001	MG/L		0.1	L	0.1	-
	06/25/90	0001			0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	08/10/92	0001		<	0.2		0.2	-
	06/30/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	06/01/91	N001	MG/L		0.14		0.01	-
	06/30/93	N001			0.4		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.005		0.005	-
BERYLLIUM (TOTAL)	06/01/91	N001	MG/L	<	0.005		0.005	-
BORON	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
BORON (TOTAL)	06/01/91	N001	MG/L	<	0.05		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1		0.1	-
BROMIDE (TOTAL)	06/01/91	N001	MG/L		0.2		0.1	-
CADMIUM	04/21/88	0001	MG/L		0.004		0.001	-
	06/09/89	0001		<	0.001		0.001	-
	12/02/89	0001		<	0.001	L	0.001	-
	06/25/90	0001		<	0.001		0.001	-
	01/29/91	0001		<	0.001		0.001	-
	08/10/92	0001		<	0.005	E	0.005	-
CADMIUM (TOTAL)	06/01/91	N001	MG/L	<	0.0005		0.0005	-
CALCIUM	04/21/88	0001	MG/L		82.7		0.01	-
	06/09/89	0001			89.9		0.01	-
	12/02/89	0001			89.	L	0.01	-
	06/25/90	0001			86.0		0.01	-
	01/29/91	0001			87.0		0.01	-
	08/10/92	0001			85		5	-
	02/19/93	0001			79.7		0.5	-
	06/30/93	0001			91.9		0.5	-
	12/12/93	0001			89.1		0.5	-
	12/08/94	0001			99		0.5	-
CALCIUM (TOTAL)	06/01/91	N001	MG/L		91.5		0.5	-
	06/30/93	N001			95.7		0.5	-
	12/12/93	N001			104		0.5	-
CHLORIDE	04/21/88	0001	MG/L		19.		1.	-
	06/09/89	0001			16.		1.	-
	12/02/89	0001			17.8	L	1.	-

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

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	06/25/90	0001	MG/L		21.		1.	-
	01/29/91	0001			20.	J	1.	-
	08/10/92	0001			17		0.016	-
	02/19/93	0001			21.8		0.5	-
	12/12/93	0001			56.7		0.5	-
	12/08/94	0001			48		0.5	-
CHLORIDE (TOTAL)	06/01/91	N001	MG/L		27.		1.	-
	06/30/93	N001			39.7		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01		0.01	-
CHROMIUM (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
	12/02/89	0001		<	0.05	L	0.05	-
	06/25/90	0001		<	0.05		0.05	-
	01/29/91	0001		<	0.05		0.05	-
COBALT (TOTAL)	06/01/91	N001	MG/L	<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
	12/02/89	0001		<	0.02	L	0.02	-
	06/25/90	0001		<	0.02		0.02	-
	01/29/91	0001		<	0.02		0.02	-
COPPER (TOTAL)	06/01/91	N001	MG/L		0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
FLUORIDE	06/09/89	0001	MG/L		0.2		0.1	-
	12/02/89	0001			0.2	L	0.1	-
	06/25/90	0001			0.2		0.1	-
	01/29/91	0001			0.2		0.1	-
FLUORIDE (TOTAL)	06/01/91	N001	MG/L		0.1		0.1	-
GROSS ALPHA	04/21/88	0001	PCI/L		24.		0.2	8.
	01/29/91	0001			28.		1.	6.
	06/01/91	0001			35.9	L	1.	12.4
	08/10/92	0001			18	I	8	8
	02/19/93	0001			22		9	12
	06/30/93	0001			29		5	11
GROSS ALPHA (TOTAL)	07/01/93	N001	PCI/L		54		7	18
GROSS BETA	04/21/88	0001	PCI/L		16.		1.	2.
	01/29/91	0001			7.0		0.5	2.8
	06/01/91	0001			13.3		0.5	5.9

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	08/10/92	0001	PCI/L		7.5	I	7.5	4.9
	02/19/93	0001			7		12	6
	06/30/93	0001			20		5	5
GROSS BETA (TOTAL)	07/01/93	N001	PCI/L		32		7	8
IRON	06/09/89	0001	MG/L		0.03		0.03	-
	12/02/89	0001		<	0.03	L	0.03	-
	06/25/90	0001		<	0.03		0.03	-
	01/29/91	0001			0.03		0.03	-
	08/10/92	0001		<	0.1		0.1	-
	02/19/93	0001		<	0.03		0.03	-
	06/30/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/01/91	N001	MG/L		0.88		0.03	-
	06/30/93	N001			5.25		0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001			0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
LEAD (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
MAGNESIUM	04/21/88	0001	MG/L		50.5		0.001	-
	06/09/89	0001			57.1		0.001	-
	12/02/89	0001			60.	L	0.001	-
	06/25/90	0001			57.2		0.001	-
	01/29/91	0001			63.3		0.001	-
	08/10/92	0001			55		5	-
	02/19/93	0001			52.9		0.1	-
	06/30/93	0001			57.3		0.1	-
	12/12/93	0001			59.1		0.1	-
	12/08/94	0001			62		0.1	-
MAGNESIUM (TOTAL)	06/01/91	N001	MG/L		58.0		0.5	-
	06/30/93	N001			64.0		0.1	-
	12/12/93	N001			67.7		0.1	-
MANGANESE	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.01		0.01	-
	02/19/93	0001		<	0.01		0.01	-
	06/30/93	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/01/91	N001	MG/L		0.02		0.01	-
	06/30/93	N001			0.11		0.01	-
	12/12/93	N001			0.15		0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MERCURY	12/02/89	0001	MG/L	<	0.0002	L	0.0002	-
	06/25/90	0001		<	0.0002		0.0002	-
MOLYBDENUM	04/21/88	0001	MG/L		0.03		0.01	-
	06/09/89	0001		<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001			0.01		0.01	-
	01/29/91	0001			0.01		0.01	-
	08/10/92	0001		<	0.007		0.007	-
	06/30/93	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
	06/30/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	04/21/88	0001	PCI/L		2.39		-	-
	01/29/91	0001			6.53		-	-
	02/19/93	0001			3.48		-	-
	06/30/93	0001			6.36		-	-
NET GROSS ALPHA (TOTAL) **	07/01/93	N001	PCI/L		29.99		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
	12/02/89	0001		<	0.04	L	0.04	-
	06/25/90	0001		<	0.04		0.04	-
	01/29/91	0001		<	0.04		0.04	-
NICKEL (TOTAL)	06/01/91	N001	MG/L	<	0.04		0.04	-
NITRATE	04/21/88	0001	MG/L		30.		1.	-
	06/09/89	0001			34.		1.	-
	12/02/89	0001			31.9	L	1.	-
	06/25/90	0001			25.4		1.	-
	01/29/91	0001			25.		1.	-
	08/10/92	0001			22		0.075	-
	02/19/93	0001			23		1	-
	12/12/93	0001			19		1	-
NITRATE (TOTAL)	06/01/91	N001	MG/L		8.8		1.	-
	06/30/93	N001			346		1	-
	12/08/94	N001			23	HJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		25.	J	1.	-
NITRITE AND NITRATE (TOTAL)	06/01/91	N001	MG/L		5.94		0.05	-
PH	04/21/88	0001	SU		7.66		-	-
	06/09/89	0001			7.47		-	-
	12/02/89	0001			7.77	L	-	-
	06/25/90	0001			7.54		-	-
	01/29/91	0001			7.69		-	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	06/01/91	0001	SU		7.68		-	-
	08/10/92	0001			7.42		-	-
	02/19/93	0001			7.59		-	-
	06/30/93	0001			7.41		-	-
	06/30/93	N001			7.41		-	-
	12/12/93	N001			7.73		-	-
	12/08/94	N001			7.49		0.10	-
PHOSPHATE	06/09/89	0001	MG/L		0.8		0.1	-
	12/02/89	0001			0.4	L	0.1	-
	06/25/90	0001			0.5		0.1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L		1.3		0.1	-
POTASSIUM	04/21/88	0001	MG/L		1.69		0.01	-
	06/09/89	0001			2.1		0.01	-
	12/02/89	0001			1.55	L	0.01	-
	06/25/90	0001			1.6		0.01	-
	01/29/91	0001			1.5		0.01	-
	08/10/92	0001			1.4	*	0.575	-
	02/19/93	0001			2		0.1	-
	06/30/93	0001			6.1		0.1	-
	12/12/93	0001			1.8		0.1	-
	12/08/94	0001			2.2		0.1	-
POTASSIUM (TOTAL)	06/01/91	N001	MG/L		2.7		0.01	-
	06/30/93	N001			7.2		0.1	-
	12/12/93	N001			3.7		0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.9		1.	0.3
	12/02/89	0001			0.5	L	1.	0.3
	06/25/90	0001			3.5		1.	0.6
	01/29/91	0001			0.5		1.	0.3
	08/10/92	0001			0.5		0.4	0.1
RADIUM-226 (TOTAL)	06/01/91	N001	PCI/L		8.5		1.	1.6
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.90		-	-
	12/02/89	0001			0.50		-	-
	06/25/90	0001			4.10		-	-
	01/29/91	0001			1.40		-	-
	08/10/92	0001			1.30		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	06/01/91	N001	PCI/L		12.40		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.0		1.	0.9
	12/02/89	0001			0.0	L	1.	1.8
	06/25/90	0001			0.6		1.	0.8
	01/29/91	0001			0.9		1.	0.8
	08/10/92	0001			0.8		2.2	1.2
RADIUM-228 (TOTAL)	06/01/91	N001	PCI/L		3.9		1.	2.8
REDOX POTENTIAL	12/08/94	N001	mVOLTS		456		-	-
SELENIUM	04/21/88	0001	MG/L	<	0.005		0.005	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	06/09/89	0001	MG/L		0.008		0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001			0.007		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.005	W	0.005	-
SELENIUM (TOTAL)	06/01/91	N001	MG/L		0.010		0.005	-
SILICA - SIO2	06/09/89	0001	MG/L		14.		2.	-
	12/02/89	0001			13.9	L	2.	-
	06/25/90	0001			14.		2.	-
	01/29/91	0001			13.		2.	-
	12/12/93	0001			14.3		0.1	-
	12/08/94	0001			14.1		0.1	-
SILICA - SIO2 (TOTAL)	06/01/91	N001	MG/L		19.9		0.1	-
	06/30/93	N001			26.0	H	0.5	-
	12/12/93	N001			51.0		0.1	-
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
SILVER (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
SODIUM	04/21/88	0001	MG/L		27.2		0.002	-
	06/09/89	0001			29.8		0.002	-
	12/02/89	0001			29.	L	0.002	-
	06/25/90	0001			31.5		0.002	-
	01/29/91	0001			31.4		0.002	-
	08/10/92	0001			30		5	-
	02/19/93	0001			29.3		0.1	-
	06/30/93	0001			34		1	-
	12/12/93	0001			40		1	-
	12/08/94	0001			43.7		1	-
SODIUM (TOTAL)	06/01/91	N001	MG/L		33.		1.	-
	06/30/93	N001			34		1	-
	12/12/93	N001			43		1	-
SPECIFIC CONDUCTANCE	04/21/88	0001	UMHO/CM		700.		-	-
	06/09/89	0001			510.		-	-
	12/02/89	0001			700.	L	-	-
	06/25/90	0001			780		-	-
	01/29/91	0001			925.		-	-
	06/01/91	0001			950.		-	-
	08/10/92	0001			853		-	-
	02/19/93	0001			719		-	-
	06/30/93	0001			850		-	-
	06/30/93	N001			850		-	-
	12/12/93	N001			878		-	-
	12/08/94	N001			856	J	1	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM	06/25/90	0001	MG/L		0.67	*	0.1	-
	01/29/91	0001			0.6		0.1	-
	08/10/92	0001			0.68		0.2	-
	06/30/93	0001			0.69		0.01	-
	12/12/93	0001			0.72		0.01	-
	12/08/94	0001			0.72	J	0.01	-
STRONTIUM (TOTAL)	06/01/91	N001	MG/L		0.66		0.01	-
	06/30/93	N001			0.81		0.01	-
	12/12/93	N001			0.89		0.01	-
SULFATE	04/21/88	0001	MG/L		255.		0.1	-
	06/09/89	0001			267.		0.1	-
	12/02/89	0001			244.	L	0.1	-
	06/25/90	0001			312.3		0.1	-
	01/29/91	0001			270.		0.1	-
	08/10/92	0001			240		0.12	-
	02/19/93	0001			244		1	-
	12/12/93	0001			281		1	-
	12/08/94	0001			250		1	-
SULFATE (TOTAL)	06/01/91	N001	MG/L		278.		10.	-
	06/30/93	N001			273		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	J	0.1	-
SULFIDE (TOTAL)	06/01/91	N001	MG/L	<	1.	I	1.	-
TEMPERATURE	04/21/88	0001	C - DEGREE		16.5		-	-
	06/09/89	0001			17.2		-	-
	12/02/89	0001			16.5	L	-	-
	06/25/90	0001			18.0		-	-
	01/29/91	0001			12.9		-	-
	06/01/91	0001			16.5		-	-
	08/10/92	0001			21.5		-	-
	02/19/93	0001			15.4		-	-
	06/30/93	0001			17.0		-	-
	06/30/93	N001			17.0		-	-
	12/12/93	N001			15.1		-	-
	12/08/94	N001			14.5		0.1	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
THALLIUM (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0		1.	0.3
	06/01/91	0001			0.6		1.	0.5
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TIN	12/02/89	0001	MG/L	<	0.005	L	0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005	*	0.005	-
TIN (TOTAL)	06/01/91	N001	MG/L	<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	04/21/88	0001	MG/L		619.		10.	-
	06/09/89	0001			623.		10.	-
	12/02/89	0001			633.	L	10.	-
	06/25/90	0001			644.	*J	10.	-
	01/29/91	0001			584.		10.	-
	08/10/92	0001			710		42	-
	02/19/93	0001			570		10	-
	12/12/93	0001			750		10	-
	12/08/94	0001			744	H	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/30/93	N001	MG/L		690	H	10	-
TOTAL ORGANIC CARBON	04/21/88	0001	MG/L		32.5		1.	-
	01/29/91	0001		<	1.	J	1.	-
	06/01/91	0001			5.		1.	-
	08/10/92	0001		<	1.0		1.0	-
URANIUM	04/21/88	0001	MG/L		0.0315		0.003	-
	06/09/89	0001			0.033		0.003	-
	12/02/89	0001			0.031	L	0.003	-
	06/25/90	0001			0.036		0.003	-
	01/29/91	0001			0.0313		0.0003	-
	02/19/93	0001			0.027		0.001	-
	06/30/93	0001			0.033		0.001	-
	12/12/93	0001			0.038		0.001	-
	12/08/94	0001			0.018		0.001	-
URANIUM (TOTAL)	06/01/91	N001	MG/L		0.025		0.001	-
	07/01/93	N001			0.035		0.001	-
	12/12/93	N001			0.044		0.001	-
VANADIUM	06/09/89	0001	MG/L		0.02		0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	08/10/92	0001		<	0.05		0.05	-
	06/30/93	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	06/01/91	N001	MG/L	<	0.01		0.01	-
	06/30/93	N001		<	0.01		0.01	-
	12/12/93	N001			0.01		0.01	-
ZINC	06/09/89	0001	MG/L	<	0.005		0.005	-
	12/02/89	0001		<	0.005	L	0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0614
NORTH COORDINATE: 60940.5 FT
EAST COORDINATE: 87832.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	06/25/90	0001	MG/L		0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	08/10/92	0001		<	0.02		0.02	-
	06/30/93	0001			0.016	J	0.005	-
ZINC (TOTAL)	06/01/91	N001	MG/L		0.030		0.005	-
	06/30/93	N001			0.069	J	0.005	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0615
NORTH COORDINATE: 57794.4 FT
EAST COORDINATE: 88980.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/09/89	0001	MG/L CACO3		230.		-	-
	11/23/92	0001			226	L	-	-
	06/29/93	N001			212	L	-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1		0.1	-
AMMONIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1	L	0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003		0.003	-
ARSENIC	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001			0.0015	L	0.0015	-
	06/29/93	0001		<	0.005	L	0.005	-
ARSENIC (TOTAL)	11/23/92	N001	MG/L		0.022	L	0.0015	-
	06/29/93	N001			0.011	L	0.005	-
BARIUM	06/09/89	0001	MG/L	<	0.1		0.1	-
	11/23/92	0001			0.038	L	0.0015	-
	06/29/93	0001		<	0.1	L	0.1	-
BARIUM (TOTAL)	11/23/92	N001	MG/L		0.070	L	0.0015	-
	06/29/93	N001		<	0.1	L	0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
BORON	06/09/89	0001	MG/L	<	0.1		0.1	-
CADMIUM	06/09/89	0001	MG/L	<	0.001		0.001	-
	11/23/92	0001		<	0.00013	L	0.00013	-
CADMIUM (TOTAL)	11/23/92	N001	MG/L		0.00032	NSL	0.00013	-
CALCIUM	06/09/89	0001	MG/L		18.1		0.01	-
	06/29/93	0001			16.9	L	0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		16.1	L	0.5	-
CHLORIDE	06/09/89	0001	MG/L		9.9		1.	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		9.6	L	0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001		<	0.0053	L	0.0053	-
CHROMIUM (TOTAL)	11/23/92	N001	MG/L	<	0.0053	L	0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05		0.05	-
COPPER	06/09/89	0001	MG/L	<	0.02		0.02	-
CYANIDE	06/09/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		1.1	L	-	-

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0615
NORTH COORDINATE: 57794.4 FT
EAST COORDINATE: 88980.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		5.31		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04		0.04	-
NITRATE	06/09/89	0001	MG/L		5.0		1.	-
	11/23/92	0001			3.6	L	0.044	-
NITRATE (TOTAL)	06/29/93	N001	MG/L	<	1	L	1	-
PH	06/09/89	0001	SU		7.84		-	-
	11/23/92	0001			8.10	L	-	-
	06/29/93	N001			7.72	L	-	-
PHOSPHATE	06/09/89	0001	MG/L	<	0.1		0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L	<	0.1	L	0.1	-
POTASSIUM	06/09/89	0001	MG/L		3.3		0.01	-
	06/29/93	0001			2.9	L	0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		2.8	L	0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.0		1.	0.1
	11/23/92	0001			2.4	L	0.3	0.5
RADIUM-226 (TOTAL)	11/23/92	N001	PCI/L		0.9	L	0.3	0.4
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.50		-	-
	11/23/92	0001			7.30		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/23/92	N001	PCI/L		3.80		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.5		1.	1.0
	11/23/92	0001			4.9	L	2.1	1.7
RADIUM-228 (TOTAL)	11/23/92	N001	PCI/L		2.9	L	2.0	1.5
REDOX POTENTIAL	06/29/93	N001	mVOLTS		248	L	-	-
SELENIUM	06/09/89	0001	MG/L	<	0.005		0.005	-
	11/23/92	0001		<	0.0015	NL	0.0015	-
SELENIUM (TOTAL)	11/23/92	N001	MG/L	<	0.0015	L	0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		9.0		2.	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		10.9	HL	0.5	-
SILVER	06/09/89	0001	MG/L	<	0.01		0.01	-
SODIUM	06/09/89	0001	MG/L		92.1		0.002	-
	06/29/93	0001			83	L	1	-

NET GROSS ALPHA (TOTAL) (TOTAL GROSS ALPHA - TOTAL URANIUM)

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

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OTHER PARAMETER VALUE FLAGS:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0615
NORTH COORDINATE: 57794.4 FT
EAST COORDINATE: 88980.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
FLUORIDE	06/09/89	0001	MG/L		0.4		0.1	-
GROSS ALPHA	11/23/92	0001	PCI/L		3.5	NL	3.0	2.5
	06/29/93	0001			0	L	3	4
GROSS ALPHA (TOTAL)	11/23/92	N001	PCI/L		0.0	NL	6.7	3.6
	06/29/93	N001			6	L	3	5
GROSS BETA	11/23/92	0001	PCI/L		1.0	L	3.6	2.2
	06/29/93	0001			0	L	4	4
GROSS BETA (TOTAL)	11/23/92	N001	PCI/L		1.5	NL	5.0	3.1
	06/29/93	N001			7	L	4	4
IRON	06/09/89	0001	MG/L		0.25		0.03	-
	06/29/93	0001		<	0.03	JL	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		2.95	L	0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001		<	0.0015	L	0.0015	-
LEAD (TOTAL)	11/23/92	N001	MG/L		0.0022	L	0.0015	-
LEAD-210	11/23/92	0001	PCI/L		1.0	L	7.3	4.4
LEAD-210 (TOTAL)	11/23/92	N001	PCI/L		7.2	L	0.3	1.0
MAGNESIUM	06/09/89	0001	MG/L		16.2		0.001	-
	06/29/93	0001			16.0	L	0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		15.4	L	0.1	-
MANGANESE	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001			0.0017	L	0.0015	-
	06/29/93	0001		<	0.01	L	0.01	-
MANGANESE (TOTAL)	11/23/92	N001	MG/L		0.27	L	0.0015	-
	06/29/93	N001			0.42	L	0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001		<	0.0049	NL	0.0049	-
	06/29/93	0001		<	0.01	L	0.01	-
MOLYBDENUM (TOTAL)	11/23/92	N001	MG/L		0.0060	NL	0.0049	-
	06/29/93	N001		<	0.01	L	0.01	-
NET GROSS ALPHA *	11/23/92	0001	PCI/L		2.81		-	-
	06/29/93	0001			-1.37		-	-
NET GROSS ALPHA (TOTAL) **	11/23/92	N001	PCI/L		-0.69		-	-

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

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0615
NORTH COORDINATE: 57794.4 FT
EAST COORDINATE: 88980.7 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM (TOTAL)	06/29/93	N001	MG/L		82	L	1	-
SPECIFIC CONDUCTANCE	06/09/89	0001	UMHO/CM		389.		-	-
	11/23/92	0001			360	L	-	-
	06/29/93	N001			519	L	-	-
STRONTIUM	11/23/92	0001	MG/L		0.64	SL	0.00035	-
	06/29/93	0001			0.62	L	0.01	-
STRONTIUM (TOTAL)	11/23/92	N001	MG/L		0.68	L	0.00035	-
	06/29/93	N001			0.60	L	0.01	-
SULFATE	06/09/89	0001	MG/L		62.		0.1	-
	11/23/92	0001			63	L	1.0	-
SULFATE (TOTAL)	11/23/92	N001	MG/L		62	L	1.0	-
	06/29/93	N001			61	L	1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1		0.1	-
TEMPERATURE	06/09/89	0001	C - DEGREE		16.5		-	-
	11/23/92	0001			15.7	L	-	-
	06/29/93	N001			20.3	L	-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
TIN	06/09/89	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	06/09/89	0001	MG/L		327.		10.	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		320	HL	10	-
URANIUM	06/09/89	0001	MG/L		0.0007	J	0.003	-
	11/23/92	0001			0.001	L	0.001	-
	06/29/93	0001			0.002	L	0.001	-
URANIUM (TOTAL)	11/23/92	N001	MG/L		0.001	L	0.001	-
	06/29/93	N001			0.001	L	0.001	-
VANADIUM	06/09/89	0001	MG/L	<	0.01		0.01	-
	11/23/92	0001		<	0.0019	L	0.0019	-
	06/29/93	0001		<	0.01	L	0.01	-
VANADIUM (TOTAL)	11/23/92	N001	MG/L		0.0050	L	0.0019	-
	06/29/93	N001		<	0.01	L	0.01	-
ZINC	06/09/89	0001	MG/L		0.055		0.005	-
	11/23/92	0001			0.0027	L	0.0010	-
	06/29/93	0001			0.013	JL	0.005	-
ZINC (TOTAL)	11/23/92	N001	MG/L		0.036	L	0.0010	-
	06/29/93	N001			0.040	JL	0.005	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/03/91	0001	MG/L CACO3		214.		-	-
	06/03/91	N001			214.		-	-
	02/27/92	0001			228		-	-
	02/27/92	N001			228		-	-
	08/14/92	0001			233		-	-
	11/24/92	0001			231		-	-
	02/19/93	N001			264		-	-
	06/25/93	N001			273		-	-
	12/15/93	N001			252		-	-
	04/21/94	N001			257		-	-
ALUMINUM	06/03/91	0001	MG/L	<	0.05		0.05	-
	02/27/92	0001		<	0.05		0.05	-
	08/14/92	0001		<	0.2		0.2	-
ALUMINUM (TOTAL)	06/03/91	N001	MG/L	<	0.05		0.05	-
	02/27/92	N001		<	0.05		0.05	-
	08/14/92	N001		<	0.2		0.2	-
AMMONIUM	06/03/91	0001	MG/L		0.1		0.1	-
	02/27/92	0001		<	0.1		0.1	-
	12/15/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/03/91	N001	MG/L		0.1		0.1	-
	02/27/92	N001		<	0.1		0.1	-
	06/25/93	N001		<	0.1		0.1	-
	04/21/94	N001		<	0.1		0.1	-
ANTIMONY	06/03/91	0001	MG/L	<	0.003		0.003	-
	02/27/92	0001		<	0.003		0.003	-
	08/14/92	0001		<	0.06	W	0.06	-
ANTIMONY (TOTAL)	06/03/91	N001	MG/L	<	0.003		0.003	-
	02/27/92	N001		<	0.003		0.003	-
	08/14/92	N001		<	0.06	W	0.06	-
ARSENIC	06/03/91	0001	MG/L	<	0.01		0.01	-
	02/27/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.01	W	0.01	-
ARSENIC (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	02/27/92	N001		<	0.01		0.01	-
	08/14/92	N001		<	0.01		0.01	-
	11/24/92	N001			0.0032		0.0015	-
	06/25/93	N001		<	0.005		0.005	-
BARIUM	06/03/91	0001	MG/L		0.11		0.01	-
	02/27/92	0001			0.12		0.01	-
	08/14/92	0001		<	0.2		0.2	-
BARIUM (TOTAL)	06/03/91	N001	MG/L		0.01		0.01	-
	02/27/92	N001			0.13		0.01	-
	08/14/92	N001		<	0.2		0.2	-
	11/24/92	N001			0.12		0.0015	-
	06/25/93	N001			0.1		0.1	-
BERYLLIUM	06/03/91	0001	MG/L	<	0.005		0.005	-

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 LOCAT
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BERYLLIUM	08/14/92	0001	MG/L	<	0.005		0.005	-
BERYLLIUM (TOTAL)	06/03/91	N001	MG/L	<	0.005		0.005	-
	08/14/92	N001		<	0.005		0.005	-
BORON	06/03/91	0001	MG/L	<	0.05		0.05	-
BORON (TOTAL)	06/03/91	N001	MG/L		0.19		0.05	-
BROMIDE	06/03/91	0001	MG/L	<	0.1		0.1	-
BROMIDE (TOTAL)	06/03/91	N001	MG/L	<	0.1		0.1	-
CADMIUM	06/03/91	0001	MG/L	<	0.001		0.001	-
	02/27/92	0001		<	0.001		0.001	-
	08/14/92	0001		<	0.005	E	0.005	-
CADMIUM (TOTAL)	06/03/91	N001	MG/L	<	0.001		0.001	
	02/27/92	N001		<	0.001		0.001	
	08/14/92	N001		<	0.005	E	0.005	
	11/24/92	N001		<	0.00013	N	0.00013	
CALCIUM	06/03/91	0001	MG/L		35.6		0.5	
	02/27/92	0001			30.3		0.5	
	08/14/92	0001			37		5	
	12/15/93	0001			33.4		0.5	
	04/21/94	0001			39.7		0.5	
CALCIUM (TOTAL)	06/03/91	N001	MG/L		4.5		0.1	
	02/27/92	N001			31.5		0.5	
	08/14/92	N001			35		5	
	02/19/93	N001			16		0.5	
	06/25/93	N001			66.9		0.5	
	12/15/93	N001			35.2		0.5	
	04/21/94	N001			39.6		0.5	
CHLORIDE	06/03/91	0001	MG/L		11.4		0.5	
	02/27/92	0001			9.7		0.5	
	08/14/92	0001			12		0.016	
	12/15/93	0001			22.2		0.5	
	04/21/94	0001			31.9		0.5	
CHLORIDE (TOTAL)	06/03/91	N001	MG/L		11.3		0.5	
	02/27/92	N001			9.8		0.5	
	08/14/92	N001			11		0.016	
	02/19/93	N001			14.4		0.5	
	06/25/93	N001			68.3		0.5	
CHROMIUM	06/03/91	0001	MG/L	<	0.01		0.01	
	02/27/92	0001		<	0.01		0.01	
	08/14/92	0001		<	0.01		0.01	
CHROMIUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	
	02/27/92	N001		<	0.01		0.01	
	08/14/92	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:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHROMIUM (TOTAL)	11/24/92	N001	MG/L	<	0.0053		0.0053	
COBALT	06/03/91	0001	MG/L	<	0.03		0.03	
COBALT (TOTAL)	06/03/91	N001	MG/L	<	0.03		0.03	
COPPER	06/03/91	0001	MG/L	<	0.01		0.01	
COPPER (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	
FLUORIDE	06/03/91	0001	MG/L		0.3		0.1	
FLUORIDE (TOTAL)	06/03/91	N001	MG/L		0.3		0.1	
GROSS ALPHA	06/03/91	0001	PCI/L		10.7		1.	6.2
	02/27/92	0001			1.2		1.0	3.9
	08/14/92	0001			3.1		6.1	3.8
GROSS ALPHA (TOTAL)	06/03/91	N001	PCI/L		6.5		1.	7.1
	02/27/92	N001			3.7		1.0	4.2
	08/14/92	N001			5.3		5.8	4.2
	11/24/92	N001			0.0	N	6.8	3.8
	02/19/93	N001			0		7	7
	06/25/93	N001			8		5	9
GROSS BETA	06/03/91	0001	PCI/L		3.5		0.5	3.2
	02/27/92	0001			1.8		0.5	2.6
	08/14/92	0001			4.6		6.2	3.8
GROSS BETA (TOTAL)	06/03/91	N001	PCI/L		4.4		0.5	3.5
	02/27/92	N001			2.2		0.5	2.6
	08/14/92	N001			1.9		5.0	3.0
	11/24/92	N001			7.0	N	5.3	3.5
	02/19/93	N001			0		12	5
	06/25/93	N001			2		5	5
IRON	06/03/91	0001	MG/L	<	0.03		0.03	
	02/27/92	0001		<	0.03		0.03	
	08/14/92	0001		<	0.1		0.1	
IRON (TOTAL)	06/03/91	N001	MG/L		0.16		0.03	
	02/27/92	N001			0.14		0.03	
	08/14/92	N001		<	0.01	J	0.1	
	02/19/93	N001			0.17		0.03	
	06/25/93	N001			0.08	J	0.03	
LEAD	06/03/91	0001	MG/L	<	0.005		0.005	
LEAD (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	
	11/24/92	N001		<	0.0015		0.0015	
LEAD-210 (TOTAL)	11/24/92	N001	PCI/L		5.3		0.3	0.8
MAGNESIUM	06/03/91	0001	MG/L		28.4		0.1	
	02/27/92	0001			25.6		0.1	

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM	08/14/92	0001	MG/L		30		5	-
	12/15/93	0001			33.4		0.1	-
	04/21/94	0001			36.3		0.1	-
MAGNESIUM (TOTAL)	06/03/91	N001	MG/L		26.1		0.1	-
	02/27/92	N001			28.2		0.1	-
	08/14/92	N001			29		5	-
	02/19/93	N001			33.1		0.1	-
	06/25/93	N001			60.1		0.1	-
	12/15/93	N001			34.1		0.1	-
	04/21/94	N001			36.2		0.1	-
MANGANESE	06/03/91	0001	MG/L	<	0.01		0.01	-
	02/27/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.01		0.01	-
	12/15/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	02/27/92	N001		<	0.01		0.01	-
	08/14/92	N001		<	0.01		0.01	-
	11/24/92	N001		<	0.0015		0.0015	-
	02/19/93	N001		<	0.01		0.01	-
	06/25/93	N001		<	0.01		0.01	-
	12/15/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
MOLYBDENUM	06/03/91	0001	MG/L		0.01		0.01	-
	02/27/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.007		0.007	-
MOLYBDENUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	02/27/92	N001		<	0.01		0.01	-
	08/14/92	N001		<	0.007		0.007	-
	11/24/92	N001		<	0.0049	N	0.0049	-
	06/25/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	06/03/91	0001	PCI/L		10.01		-	-
	02/27/92	0001			-1.54		-	-
	08/14/92	0001			0.36		-	-
NET GROSS ALPHA (TOTAL) **	06/03/91	N001	PCI/L		6.16		-	-
	02/27/92	N001			0.96		-	-
	08/14/92	N001			2.56		-	-
	11/24/92	N001			-4.12		-	-
	02/19/93	N001			-3.43		-	-
	06/25/93	N001			3.88		-	-
NICKEL	06/03/91	0001	MG/L	<	0.04		0.04	-
NICKEL (TOTAL)	06/03/91	N001	MG/L	<	0.04		0.04	-
NITRATE	06/03/91	0001	MG/L		6.2		1.	-

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

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

OTHER PARAMETER VALUE FLAGS:
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	02/27/92	0001	MG/L		2.4		1.0	-
	08/14/92	0001			5.8		0.075	-
	11/24/92	N001			3.9		0.044	-
	12/15/93	0001			6		1	-
NITRATE (TOTAL)	06/03/91	N001	MG/L		5.7		1.	-
	02/27/92	N001			4.9		1.0	-
	02/19/93	N001			4		1	-
	06/25/93	N001			6		1	-
	04/21/94	N001			7		1	-
NITRITE AND NITRATE	06/03/91	0001	MG/L		1.40		0.05	-
NITRITE AND NITRATE (TOTAL)	06/03/91	N001	MG/L		1.29		0.05	-
PH	06/03/91	0001	SU		7.89		-	-
	06/03/91	N001			7.89		-	-
	02/27/92	0001			8.25		-	-
	02/27/92	N001			8.25		-	-
	08/14/92	0001			7.95		-	-
	11/24/92	0001			8.90		-	-
	02/19/93	N001			8.23		-	-
	06/25/93	N001			8.38		-	-
	12/15/93	N001			8.12		-	-
	04/21/94	N001			7.85		-	-
PHOSPHATE (TOTAL)	06/25/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	06/03/91	0001	MG/L		1.06		0.01	-
	02/27/92	0001			0.87		0.01	-
	08/14/92	0001			2.2		0.575	-
	12/15/93	0001			0.9		0.1	-
	04/21/94	0001			1.4		0.1	-
POTASSIUM (TOTAL)	06/03/91	N001	MG/L		1.28		0.01	-
	02/27/92	N001			0.84		0.01	-
	08/14/92	N001			2.2		0.575	-
	02/19/93	N001			1.3		0.1	-
	06/25/93	N001			1.4		0.1	-
	12/15/93	N001			0.9		0.1	-
	04/21/94	N001			1.4		0.1	-
RADIUM-226	06/03/91	0001	PCI/L		0.0		1.	0.2
	02/27/92	0001			0.0		1.0	0.2
	08/14/92	0001			0.3		0.5	0.1
RADIUM-226 (TOTAL)	06/03/91	N001	PCI/L		0.1		1.	0.3
	02/27/92	N001			0.0		1.0	0.1
	08/14/92	N001			0.3		0.4	0.1
	11/24/92	N001			1.2		0.3	0.4
RADIUM-226 + RADIUM-228	06/03/91	0001	PCI/L		0.40		-	-
	02/27/92	0001			2.30		-	-
	08/14/92	0001			0.30		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	06/03/91	N001	PCI/L		7.80		-	-
	02/27/92	N001			0.00		-	-

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228 (TOTAL)	08/14/92	N001	PCI/L		0.30		-	-
	11/24/92	N001			4.40		-	-
RADIUM-228	06/03/91	0001	PCI/L		0.4	J	1.	1.6
	02/27/92	0001			2.3		1.0	1.1
	08/14/92	0001			0.0		2.0	1.1
RADIUM-228 (TOTAL)	06/03/91	N001	PCI/L		7.7		1.	2.3
	02/27/92	N001			0.0		1.0	1.8
	08/14/92	N001			0.0		1.8	0.9
	11/24/92	N001			3.2		2.0	1.5
SELENIUM	06/03/91	0001	MG/L	<	0.005	J	0.005	-
	02/27/92	0001			0.005		0.005	-
	08/14/92	0001		<	0.005		0.005	-
SELENIUM (TOTAL)	06/03/91	N001	MG/L		0.006		0.005	-
	02/27/92	N001		<	0.005		0.005	-
	08/14/92	N001		<	0.005		0.005	-
	11/24/92	N001		<	0.0015		0.0015	-
SILICA - SIO2	06/03/91	0001	MG/L		26.1		0.1	-
	12/15/93	0001			26.4		0.1	-
SILICA - SIO2 (TOTAL)	06/03/91	N001	MG/L		8.7		0.1	-
	06/25/93	N001			24.2	H	0.5	-
	12/15/93	N001			26.6		0.1	-
SILVER	06/03/91	0001	MG/L	<	0.01		0.01	-
SILVER (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
SODIUM	06/03/91	0001	MG/L		66.		1.	-
	02/27/92	0001			57.		1.	-
	08/14/92	0001			72		5	-
	12/15/93	0001			95		1	-
	04/21/94	0001			108		1	-
SODIUM (TOTAL)	06/03/91	N001	MG/L		63.		1.	-
	02/27/92	N001			61.		1.	-
	08/14/92	N001			73		5	-
	02/19/93	N001			108		0.1	-
	06/25/93	N001			113		1	-
	12/15/93	N001			100		1	-
	04/21/94	N001			105		1	-
SPECIFIC CONDUCTANCE	06/03/91	0001	UMHO/CM		602.		-	-
	06/03/91	N001			602.		-	-
	02/27/92	0001			397		-	-
	02/27/92	N001			397		-	-
	08/14/92	0001			605		-	-
	11/24/92	0001			400		-	-
	02/19/93	N001			516		-	-
	06/25/93	N001			821		-	-
	12/15/93	N001			582		-	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOND1 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	04/21/94	N001	UMHO/CM		742		-	-
STRONTIUM	06/03/91	0001	MG/L		0.43		0.01	-
	02/27/92	0001			0.40		0.01	-
	08/14/92	0001			0.5		0.2	-
	12/15/93	0001			0.47		0.01	-
	04/21/94	0001			0.52		0.01	-
STRONTIUM (TOTAL)	06/03/91	N001	MG/L		0.05		0.01	-
	02/27/92	N001			0.44		0.01	-
	08/14/92	N001			0.48		0.2	-
	11/24/92	N001			0.51		0.00035	-
	06/25/93	N001			0.82		0.01	-
	12/15/93	N001			0.48		0.01	-
	04/21/94	N001			0.50		0.01	-
SULFATE	06/03/91	0001	MG/L		134.		10.	-
	02/27/92	0001			69.		10.	-
	08/14/92	0001			86		0.059	-
	12/15/93	0001			136		1	-
	04/21/94	0001			183		1	-
SULFATE (TOTAL)	06/03/91	N001	MG/L		82.		0.1	-
	02/27/92	N001			77.		10.	-
	08/14/92	N001			85		0.059	-
	11/24/92	N001			79		1.0	-
	02/19/93	N001			102		1	-
	06/25/93	N001			346		1	-
SULFIDE	06/03/91	0001	MG/L	<	1.	IJ	1.	-
SULFIDE (TOTAL)	06/03/91	N001	MG/L	<	1.	I	1.	-
TEMPERATURE	06/03/91	0001	C - DEGREE		15.7		-	-
	06/03/91	N001			15.7		-	-
	02/27/92	0001			8.6		-	-
	02/27/92	N001			8.6	*	-	-
	08/14/92	0001			19.3		-	-
	11/24/92	0001			9.0		-	-
	02/19/93	N001			11.6		-	-
	06/25/93	N001			15.7		-	-
	12/15/93	N001			9.1		-	-
	04/21/94	N001			14.4		-	-
THALLIUM	06/03/91	0001	MG/L	<	0.01		0.01	-
THALLIUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
THORIUM-230	06/03/91	0001	PCI/L		0.8		1.	0.3
THORIUM-230 (TOTAL)	06/03/91	N001	PCI/L		1.4		1.	0.5
TIN	06/03/91	0001	MG/L	<	0.01	I	0.01	-
TIN (TOTAL)	06/03/91	N001	MG/L	<	0.01	I	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:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	06/03/91	0001	MG/L		378.		10.	
	02/27/92	0001			349.		10.	
	08/14/92	0001			420		42	
	12/15/93	0001			530		10	
	04/21/94	0001			590		10	
TOTAL DISSOLVED SOLIDS (TOTAL)	08/14/92	N001	MG/L		400		42	
	02/19/93	N001			420		10	
	06/25/93	N001			880		10	
TOTAL ORGANIC CARBON	06/03/91	0001	MG/L		1.		1.	
	06/03/91	N001		<	1.		1.	
	02/27/92	0001		<	1.		1.	
	02/27/92	N001		<	1.		1.	
	08/14/92	0001		<	1.0		1.0	
	08/14/92	N001		<	1.0		1.0	
URANIUM	06/03/91	0001	MG/L		0.001		0.001	-
	02/27/92	0001			0.004		0.001	-
	08/14/92	0001			0.004		0.001	-
	12/15/93	0001			0.006		0.001	-
	04/21/94	0001			0.007		0.001	-
URANIUM (TOTAL)	06/03/91	N001	MG/L	<	0.001		0.001	-
	02/27/92	N001			0.004		0.001	-
	08/14/92	N001			0.004		0.001	-
	11/24/92	N001			0.006		0.001	-
	02/19/93	N001			0.005		0.001	-
	06/25/93	N001			0.006		0.001	-
	12/15/93	N001			0.006		0.001	-
	04/21/94	N001			0.007		0.001	-
VANADIUM	06/03/91	0001	MG/L	<	0.01		0.01	-
	02/27/92	0001		<	0.01		0.01	-
	08/14/92	0001		<	0.05	*	0.05	-
	12/15/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	06/03/91	N001	MG/L	<	0.01		0.01	-
	02/27/92	N001		<	0.01		0.01	-
	08/14/92	N001		<	0.05	*	0.05	-
	11/24/92	N001			0.010		0.0019	-
	06/25/93	N001		<	0.01		0.01	-
	12/15/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
ZINC	06/03/91	0001	MG/L	<	0.005		0.005	-
	02/27/92	0001		<	0.005		0.005	-
	08/14/92	0001		<	0.02		0.02	-
ZINC (TOTAL)	06/03/91	N001	MG/L	<	0.005		0.005	-
	02/27/92	N001			0.039		0.005	-
	08/14/92	N001			0.021		0.02	-
	11/24/92	N001			0.069		0.0010	-
	06/25/93	N001			0.099	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:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0616
NORTH COORDINATE: 56747.3 FT
EAST COORDINATE: 87987.6 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	02/27/92	0001	MG/L CACO3		268		-	-
	02/27/92	N001			268		-	-
	08/14/92	0001			239		-	-
	11/24/92	0001			271		-	-
	02/19/93	N001			289		-	-
	06/25/93	N001			277		-	-
	12/12/93	N001			252		-	-
	04/21/94	N001			248		-	-
	12/09/94	N001			271		10	-
ALUMINUM	02/27/92	0001	MG/L	<	0.05	J	0.05	-
	08/14/92	0001		<	0.2		0.2	-
ALUMINUM (TOTAL)	02/27/92	N001	MG/L	<	0.05		0.05	-
	08/14/92	N001		<	0.2		0.2	-
AMMONIUM	02/27/92	0001	MG/L	<	0.1		0.1	-
	12/12/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	02/27/92	N001	MG/L	<	0.1		0.1	-
	06/25/93	N001		<	0.1		0.1	-
	04/21/94	N001		<	0.1		0.1	-
	12/09/94	N001		<	0.1	H	0.1	-
ANTIMONY	02/27/92	0001	MG/L	<	0.003		0.003	-
	08/14/92	0001		<	0.06		0.06	-
ANTIMONY (TOTAL)	02/27/92	N001	MG/L	<	0.003		0.003	-
	08/14/92	N001		<	0.06	W	0.06	-
ARSENIC	02/27/92	0001	MG/L	<	0.01		0.01	-
	08/14/92	0001		<	0.01	W	0.01	-
ARSENIC (TOTAL)	02/27/92	N001	MG/L	<	0.01		0.01	-
	08/14/92	N001		<	0.01	W	0.01	-
	11/24/92	N001			0.0054		0.0015	-
	06/25/93	N001			0.006		0.005	-
BARIUM	02/27/92	0001	MG/L		0.05		0.01	-
	08/14/92	0001		<	0.2		0.2	-
BARIUM (TOTAL)	02/27/92	N001	MG/L		0.05		0.01	-
	08/14/92	N001		<	0.2		0.2	-
	11/24/92	N001			0.056		0.0015	-
	06/25/93	N001		<	0.1		0.1	-
BERYLLIUM	08/14/92	0001	MG/L	<	0.005		0.005	-
BERYLLIUM (TOTAL)	08/14/92	N001	MG/L	<	0.005		0.005	-
CADMIUM	02/27/92	0001	MG/L	<	0.001		0.001	-
	08/14/92	0001		<	0.005	E	0.005	-
CADMIUM (TOTAL)	02/27/92	N001	MG/L	<	0.001		0.001	-

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

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM (TOTAL)	08/14/92	N001	MG/L	<	0.005	E	0.005	
	11/24/92	N001			0.00019	NS	0.00013	
CALCIUM	02/27/92	0001	MG/L		18.1		0.1	
	08/14/92	0001			23		5	
	12/12/93	0001			22.8		0.5	
	04/21/94	0001			22.0		0.5	
	12/09/94	0001			25.2		0.5	
CALCIUM (TOTAL)	02/27/92	N001	MG/L		18.3		0.1	
	08/14/92	N001			22		5	
	02/19/93	N001			16.2		0.5	
	06/25/93	N001			19.4		0.5	
	12/12/93	N001			23.4		0.5	
	04/21/94	N001			22.5		0.5	
	12/09/94	N001			24.2		0.5	
CHLORIDE	02/27/92	0001	MG/L		15.5		0.5	
	08/14/92	0001			14		0.016	
	12/12/93	0001			32.3		0.5	
	04/21/94	0001			29.5		0.5	
CHLORIDE (TOTAL)	02/27/92	N001	MG/L		15.8		0.5	
	08/14/92	N001			14		0.016	
	02/19/93	N001			23.5		0.5	
	06/25/93	N001			35.1		0.5	
	12/09/94	N001			24		0.5	
CHROMIUM	02/27/92	0001	MG/L	<	0.01		0.01	
	08/14/92	0001		<	0.01		0.01	
CHROMIUM (TOTAL)	02/27/92	N001	MG/L	<	0.01		0.01	
	08/14/92	N001		<	0.01		0.01	
	11/24/92	N001		<	0.0053		0.0053	
GROSS ALPHA	02/27/92	0001	PCI/L		3.3		1.0	5.4
	08/14/92	0001			3.6		6.6	4.2
GROSS ALPHA (TOTAL)	02/27/92	N001	PCI/L		0.0		1.0	5.2
	08/14/92	N001			4.2		6.0	4.1
	11/24/92	N001			0.0	N	7.2	3.9
	02/19/93	N001			0		8	9
	06/25/93	N001			14		5	10
GROSS BETA	02/27/92	0001	PCI/L		0.0		0.5	2.8
	08/14/92	0001			3.8		6.0	3.7
GROSS BETA (TOTAL)	02/27/92	N001	PCI/L		2.5		0.5	3.1
	08/14/92	N001			3.8		6.5	3.9
	11/24/92	N001			0.0	N	5.4	3.1
	02/19/93	N001			0		12	5
	06/25/93	N001			1		5	4
IRON	02/27/92	0001	MG/L	<	0.03		0.03	-
	08/14/92	0001		<	0.1		0.1	-

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

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON (TOTAL)	02/27/92	N001	MG/L	<	0.03		0.03	-
	08/14/92	N001			0.26		0.1	-
	02/19/93	N001			0.19		0.03	-
	06/25/93	N001			0.51		0.03	-
LEAD (TOTAL)	11/24/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210 (TOTAL)	11/24/92	N001	PCI/L		5.7		0.3	0.9
MAGNESIUM	02/27/92	0001	MG/L		33.0		0.1	-
	08/14/92	0001			34		5	-
	12/12/93	0001			42.6		0.1	-
	04/21/94	0001			45.3		0.1	-
	12/09/94	0001			51.9		0.1	-
MAGNESIUM (TOTAL)	02/27/92	N001	MG/L		35.3		0.1	-
	08/14/92	N001			33		5	-
	02/19/93	N001			33.3		0.1	-
	06/25/93	N001			41.8		0.1	-
	12/12/93	N001			42.2		0.1	-
	04/21/94	N001			44.5		0.1	-
	12/09/94	N001			48.3		0.1	-
MANGANESE	02/27/92	0001	MG/L	<	0.01		0.01	-
	08/14/92	0001		<	0.01		0.01	-
	12/12/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
	12/09/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	02/27/92	N001	MG/L	<	0.01		0.01	-
	08/14/92	N001		<	0.01		0.01	-
	11/24/92	N001		<	0.0015		0.0015	-
	02/19/93	N001		<	0.01		0.01	-
	06/25/93	N001		<	0.01		0.01	-
	12/12/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
	12/09/94	N001		<	0.01		0.01	-
MOLYBDENUM	02/27/92	0001	MG/L		0.01		0.01	-
	08/14/92	0001			0.018		0.007	-
	12/09/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	02/27/92	N001	MG/L		0.02		0.01	-
	08/14/92	N001			0.012		0.007	-
	11/24/92	N001			0.0080	N	0.0049	-
	06/25/93	N001			0.01		0.01	-
	12/09/94	N001			0.01		0.01	-
NET GROSS ALPHA *	02/27/92	0001	PCI/L		-0.13		-	-
	08/14/92	0001			0.17		-	-
NET GROSS ALPHA (TOTAL) **	02/27/92	N001	PCI/L		-2.06		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA (TOTAL) **	08/14/92	N001	PCI/L		0.77		-	-
	11/24/92	N001			-4.12		-	-
	02/19/93	N001			-4.80		-	-
	06/25/93	N001			9.88		-	-
NITRATE	02/27/92	0001	MG/L		12.6		1.0	-
	08/14/92	0001			15		0.075	-
	11/24/92	N001		<	0.044		0.044	-
	12/12/93	0001			35		1	-
NITRATE (TOTAL)	02/27/92	N001	MG/L		13.0		1.0	-
	02/19/93	N001			25		1	-
	06/25/93	N001			47		1	-
	04/21/94	N001			29		1	-
	12/09/94	N001			36.3	H	1	-
PH	02/27/92	0001	SU		8.39		-	-
	02/27/92	N001			8.39		-	-
	08/14/92	0001			8.17		-	-
	11/24/92	0001			8.57		-	-
	02/19/93	N001			8.41		-	-
	06/25/93	N001			7.91		-	-
	12/12/93	N001			8.17		-	-
	04/21/94	N001			8.02		-	-
	12/09/94	N001			8.23		0.10	-
PHOSPHATE (TOTAL)	06/25/93	N001	MG/L		0.1		0.1	-
POTASSIUM	02/27/92	0001	MG/L		0.55		0.01	-
	08/14/92	0001			0.78		0.575	-
	12/12/93	0001			0.5		0.1	-
	04/21/94	0001			0.6		0.1	-
	12/09/94	0001			0.9	J	0.1	-
POTASSIUM (TOTAL)	02/27/92	N001	MG/L		0.63		0.01	-
	08/14/92	N001			1.1		0.575	-
	02/19/93	N001			1.4		0.1	-
	06/25/93	N001			0.6		0.1	-
	12/12/93	N001			0.5		0.1	-
	04/21/94	N001			0.6		0.1	-
	12/09/94	N001			0.6	J	0.1	-
RADIUM-226	02/27/92	0001	PCI/L		0.1		1.0	0.2
	08/14/92	0001			5.7		0.7	0.3
RADIUM-226 (TOTAL)	02/27/92	N001	PCI/L		0.0		1.0	0.2
	08/14/92	N001			0.1		0.7	0.1
	11/24/92	N001			0.3		0.3	0.2
RADIUM-226 + RADIUM-228	02/27/92	0001	PCI/L		1.70		-	-
	08/14/92	0001			5.90		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	02/27/92	N001	PCI/L		0.00		-	-

** NET GROSS ALPHA (TOTAL) (TOTAL GROSS ALPHA - TOTAL URANIUM)

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228 (TOTAL)	08/14/92	N001	PCI/L		0.60		-	-
	11/24/92	N001			3.40		-	-
RADIUM-228	02/27/92	0001	PCI/L		1.6		1.0	1.0
	08/14/92	0001			0.2		1.8	1.0
RADIUM-228 (TOTAL)	02/27/92	N001	PCI/L		0.0		1.0	3.0
	08/14/92	N001			0.5		2.2	1.2
	11/24/92	N001			3.1		2.0	1.5
REDOX POTENTIAL	12/09/94	N001	mVOLTS		407		-	-
SELENIUM	02/27/92	0001	MG/L		0.007		0.005	-
	08/14/92	0001		<	0.005	W	0.005	-
SELENIUM (TOTAL)	02/27/92	N001	MG/L		0.005		0.005	-
	08/14/92	N001		<	0.005		0.005	-
	11/24/92	N001			0.0041	W	0.0015	-
SILICA - SIO2	12/12/93	0001	MG/L		35.0		0.1	-
	12/09/94	0001			27.4		0.1	-
SILICA - SIO2 (TOTAL)	06/25/93	N001	MG/L		34.0	H	0.5	-
	12/12/93	N001			35.1		0.1	-
	12/09/94	N001			33.2		0.1	-
SODIUM	02/27/92	0001	MG/L		91.		1.	-
	08/14/92	0001			97		5	-
	12/12/93	0001			120		1	-
	04/21/94	0001			111		1	-
	12/09/94	0001			131		1	-
SODIUM (TOTAL)	02/27/92	N001	MG/L		93.		1.	-
	08/14/92	N001			94		5	-
	02/19/93	N001			109		0.1	-
	06/25/93	N001			123		1	-
	12/12/93	N001			123		1	-
	04/21/94	N001			105		1	-
	12/09/94	N001			119		1	-
SPECIFIC CONDUCTANCE	02/27/92	0001	UMHO/CM		525		-	-
	02/27/92	N001			525		-	-
	08/14/92	0001			653		-	-
	11/24/92	0001			500		-	-
	02/19/93	N001			620		-	-
	06/25/93	N001			888		-	-
	12/12/93	N001			687		-	-
	04/21/94	N001			755		-	-
	12/09/94	N001			692		1	-
STRONTIUM	02/27/92	0001	MG/L		0.37		0.01	-
	08/14/92	0001			0.41		0.2	-
	12/12/93	0001			0.52		0.01	-
	04/21/94	0001			0.57		0.01	-
	12/09/94	0001			0.61	J	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:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM (TOTAL)	02/27/92	N001	MG/L		0.39		0.01	-
	08/14/92	N001			0.40		0.2	-
	11/24/92	N001			0.48		0.00035	-
	06/25/93	N001			0.52		0.01	-
	12/12/93	N001			0.51		0.01	-
	04/21/94	N001			0.55		0.01	-
	12/09/94	N001			0.59	J	0.01	-
SULFATE	02/27/92	0001	MG/L		85.		10.	-
	08/14/92	0001			80		0.059	-
	12/12/93	0001			162		1	-
	04/21/94	0001			169		1	-
SULFATE (TOTAL)	02/27/92	N001	MG/L		91.		10.	-
	08/14/92	N001			84		0.059	-
	11/24/92	N001			91		1.0	-
	02/19/93	N001			116		1	-
	06/25/93	N001			159		1	-
	12/09/94	N001			149		1	-
TEMPERATURE	02/27/92	0001	C - DEGREE		9.7		-	-
	02/27/92	N001			9.7		-	-
	08/14/92	0001			19.3		-	-
	11/24/92	0001			10.1		-	-
	02/19/93	N001			11.6		-	-
	06/25/93	N001			7.8		-	-
	12/12/93	N001			10.3		-	-
	04/21/94	N001			13.9		-	-
	12/09/94	N001			10.0		0.1	-
TOTAL DISSOLVED SOLIDS	02/27/92	0001	MG/L		442.		10.	-
	08/14/92	0001			450		42	-
	12/12/93	0001			640		10	-
	04/21/94	0001			580		10	-
	12/09/94	0001			438		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	08/14/92	N001	MG/L		470		42	-
	02/19/93	N001			490		10	-
	06/25/93	N001			630		10	-
TOTAL ORGANIC CARBON	02/27/92	0001	MG/L	<	1.		1.	-
	02/27/92	N001		<	1.		1.	-
	08/14/92	0001		<	1.0		1.0	-
	08/14/92	N001		<	1.0		1.0	-
URANIUM	02/27/92	0001	MG/L		0.005		0.001	-
	08/14/92	0001			0.005		0.001	-
	12/12/93	0001			0.008		0.001	-
	04/21/94	0001			0.007		0.001	-
	12/09/94	0001			0.007		0.001	-
URANIUM (TOTAL)	02/27/92	N001	MG/L		0.003		0.001	-
	08/14/92	N001			0.005		0.001	-
	11/24/92	N001			0.006		0.001	-
	02/19/93	N001			0.007		0.001	-
	06/25/93	N001			0.006		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)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0617
NORTH COORDINATE: 52090.6 FT
EAST COORDINATE: 87094.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: UNKNOWN (N)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM (TOTAL)	12/12/93	N001	MG/L		0.007		0.001	-
	04/21/94	N001			0.007		0.001	-
	12/09/94	N001			0.006		0.001	-
VANADIUM	02/27/92	0001	MG/L		0.02		0.01	-
	08/14/92	0001		<	0.05	*	0.05	-
	12/12/93	0001			0.01		0.01	-
	04/21/94	0001			0.01		0.01	-
	12/09/94	0001			0.01		0.01	-
VANADIUM (TOTAL)	02/27/92	N001	MG/L		0.01		0.01	-
	08/14/92	N001		<	0.05	*	0.05	-
	11/24/92	N001			0.018		0.0019	-
	06/25/93	N001			0.02		0.01	-
	12/12/93	N001			0.02		0.01	-
	04/21/94	N001			0.01		0.01	-
	12/09/94	N001			0.01		0.01	-
ZINC	02/27/92	0001	MG/L	<	0.005		0.005	-
	08/14/92	0001		<	0.02		0.02	-
ZINC (TOTAL)	02/27/92	N001	MG/L	<	0.005		0.005	-
	08/14/92	N001			0.057		0.02	-
	11/24/92	N001			0.029		0.0010	-
	06/25/93	N001			0.079	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:
0001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: D619
NORTH COORDINATE: 58876.5 FT
EAST COORDINATE: 87587.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/29/93	N001	MG/L CACO3		189		-	-
AMMONIUM	12/13/93	0001	MG/L	<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
ARSENIC	06/29/93	0001	MG/L	<	0.005		0.005	-
ARSENIC (TOTAL)	06/29/93	N001	MG/L	<	0.005		0.005	-
BARIUM	06/29/93	0001	MG/L	<	0.1		0.1	-
BARIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
CALCIUM	06/29/93 12/13/93	0001 0001	MG/L		66.0 46.3		0.5 0.5	- -
CALCIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		62.8 49.4		0.5 0.5	- -
CHLORIDE	12/13/93	0001	MG/L		7.1		0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		7.5		0.5	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		6.6		-	-
GROSS ALPHA	06/29/93	0001	PCI/L		90		4	14
GROSS ALPHA (TOTAL)	06/29/93	N001	PCI/L		91		4	14
GROSS BETA	06/29/93	0001	PCI/L		45		5	6
GROSS BETA (TOTAL)	06/29/93	N001	PCI/L		43		5	6
IRON	06/29/93	0001	MG/L	<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L	<	0.03	J	0.03	-
MAGNESIUM	06/29/93 12/13/93	0001 0001	MG/L		36.4 27.0		0.1 0.1	- -
MAGNESIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		35.9 28.8		0.1 0.1	- -
MANGANESE	06/29/93 12/13/93	0001 0001	MG/L	< <	0.01 0.01		0.01 0.01	- -
MANGANESE (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L	< <	0.01 0.01		0.01 0.01	- -
MOLYBDENUM	06/29/93	0001	MG/L		0.03		0.01	-
MOLYBDENUM (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
NET GROSS ALPHA *	06/29/93	0001	PCI/L		-1.24		-	-

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0619
NORTH COORDINATE: 58876.5 FT
EAST COORDINATE: 87587.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		5.25			
NITRATE	12/13/93	0001	MG/L		20		1	
NITRATE (TOTAL)	06/29/93	N001	MG/L		32		1	
PH	06/29/93	N001	SU		7.20			
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	
POTASSIUM	06/29/93 12/13/93	0001 0001	MG/L		2.2 1.7		0.1 0.1	
POTASSIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		2.1 1.7		0.1 0.1	
REDOX POTENTIAL	06/29/93	N001	mVOLTS		447			
SILICA - SIO2	12/13/93	0001	MG/L		13.0		0.1	
SILICA - SIO2 (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		13.5 13.3	H	0.5 0.1	
SODIUM	06/29/93 12/13/93	0001 0001	MG/L		22 21		1 1	- -
SODIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		22 23		1 1	- -
SPECIFIC CONDUCTANCE	06/29/93	N001	UMHO/CM		603		-	-
STRONTIUM	06/29/93 12/13/93	0001 0001	MG/L		0.51 0.39		0.01 0.01	
STRONTIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		0.50 0.41		0.01 0.01	
SULFATE	12/13/93	0001	MG/L		73		1	
SULFATE (TOTAL)	06/29/93	N001	MG/L		129		1	
TEMPERATURE	06/29/93	N001	C - DEGREE		17.6			
TOTAL DISSOLVED SOLIDS	12/13/93	0001	MG/L		320		10	
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		430	H	10	
URANIUM	06/29/93 12/13/93	0001 0001	MG/L		0.133 0.135		0.001 0.001	
URANIUM (TOTAL)	06/29/93 12/13/93	N001 N001	MG/L		0.125 0.124		0.001 0.001	- -

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0619
NORTH COORDINATE: 58876.5 FT
EAST COORDINATE: 87587.9 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	06/29/93	0001	MG/L		0.02		0.01	-
	12/13/93	0001			0.02		0.01	-
VANADIUM (TOTAL)	06/29/93	N001	MG/L		0.02		0.01	-
	12/13/93	N001			0.02		0.01	-
ZINC	06/29/93	0001	MG/L		0.105	J	0.005	-
ZINC (TOTAL)	06/29/93	N001	MG/L		0.035	J	0.005	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	02/26/92	0001	MG/L CACO3		219		-	-
	11/21/92	0001			219		-	-
	02/02/93	N001			245		-	-
	06/25/93	N001			212		-	-
	12/13/93	N001			199		-	-
	04/21/94	N001			204		-	-
	12/13/94	N001			205		10	-
ALUMINUM	02/26/92	0001	MG/L	<	0.05		0.05	-
AMMONIUM	02/26/92	0001	MG/L	<	0.1		0.1	-
	12/13/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/25/93	N001	MG/L	<	0.1		0.1	-
	04/21/94	N001		<	0.1		0.1	-
	12/13/94	N001		<	0.1		0.1	-
ANTIMONY	02/26/92	0001	MG/L	<	0.003		0.003	-
ARSENIC	02/26/92	0001	MG/L	<	0.01		0.01	-
	11/21/92	0001			0.0048		0.0015	-
ARSENIC (TOTAL)	11/21/92	N001	MG/L		0.0047		0.0015	-
	06/25/93	N001			0.006		0.005	-
BARIUM	02/26/92	0001	MG/L		0.06		0.01	-
	11/21/92	0001			0.065		0.0015	-
BARIUM (TOTAL)	11/21/92	N001	MG/L		0.071		0.0015	-
	06/25/93	N001		<	0.1		0.1	-
CADMIUM	02/26/92	0001	MG/L	<	0.001		0.001	-
	11/21/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.00013	N	0.00013	-
CALCIUM	02/26/92	0001	MG/L		3.0		0.1	-
	12/13/93	0001			2.6		0.5	-
	04/21/94	0001			3.0		0.5	-
	12/13/94	0001			3.1		0.5	-
CALCIUM (TOTAL)	02/02/93	N001	MG/L		2.6		0.5	-
	06/25/93	N001			2.5		0.5	-
	12/13/93	N001			2.8		0.5	-
	04/21/94	N001			3.1		0.5	-
	12/13/94	N001			3		0.5	-
CHLORIDE	02/26/92	0001	MG/L		9.5		0.5	-
	12/13/93	0001			10.0		0.5	-
	04/21/94	0001			8.0		0.5	-
CHLORIDE (TOTAL)	02/02/93	N001	MG/L		9.2		0.5	-
	06/25/93	N001			8.6		0.5	-
	12/13/94	N001			6		0.5	-
CHROMIUM	02/26/92	0001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHROMIUM	11/21/92	0001	MG/L	<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0053		0.0053	-
GROSS ALPHA	02/26/92	0001	PCI/L		9.5		1.0	4.7
	11/21/92	0001			6.7	N	3.0	3.0
GROSS ALPHA (TOTAL)	11/21/92	N001	PCI/L		0.2	N	6.8	4.1
	02/02/93	N001			0		5	6
	06/25/93	N001			5		2	5
GROSS BETA	02/26/92	0001	PCI/L		5.6		0.5	2.7
	11/21/92	0001			1.5	N	5.3	3.2
GROSS BETA (TOTAL)	11/21/92	N001	PCI/L		3.1	N	5.0	3.1
	02/02/93	N001			0		11	5
	06/25/93	N001			5		4	4
IRON	02/26/92	0001	MG/L	<	0.03		0.03	-
IRON (TOTAL)	02/02/93	N001	MG/L	<	0.03		0.03	-
	06/25/93	N001		<	0.03	J	0.03	-
LEAD	11/21/92	0001	MG/L	<	0.0015		0.0015	-
LEAD (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/21/92	0001	PCI/L		1.3		2.0	1.2
LEAD-210 (TOTAL)	11/21/92	N001	PCI/L		6.3		0.3	0.9
MAGNESIUM	02/26/92	0001	MG/L		3.2		0.1	-
	12/13/93	0001			2.5		0.1	-
	04/21/94	0001			2.9		0.1	-
	12/13/94	0001			3.2		0.1	-
MAGNESIUM (TOTAL)	02/02/93	N001	MG/L		2.8		0.1	-
	06/25/93	N001			2.4		0.1	-
	12/13/93	N001			2.5		0.1	-
	04/21/94	N001			2.9		0.1	-
	12/13/94	N001			3		0.1	-
MANGANESE	02/26/92	0001	MG/L	<	0.01		0.01	-
	11/21/92	0001			0.0044		0.0015	-
	12/13/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
	12/13/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
	02/02/93	N001			0.01		0.01	-
	06/25/93	N001		<	0.01		0.01	-
	12/13/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
	12/13/94	N001		<	0.01		0.01	-
MOLYBDENUM	02/26/92	0001	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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	11/21/92	0001	MG/L	<	0.0049	N	0.0049	-
	12/13/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/21/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/25/93	N001		<	0.01		0.01	-
	12/13/94	N001		<	0.01		0.01	-
NET GROSS ALPHA *	02/26/92	0001	PCI/L		8.81		-	-
	11/21/92	0001			6.36		-	-
NET GROSS ALPHA (TOTAL) **	11/21/92	N001	PCI/L		-0.49		-	-
	02/02/93	N001			-0.34		-	-
	06/25/93	N001			4.66		-	-
NITRATE	02/26/92	0001	MG/L	<	1.0		1.0	-
	11/21/92	0001			0.93		0.044	-
	12/13/93	0001		<	1		1	-
NITRATE (TOTAL)	02/02/93	N001	MG/L	<	1		1	-
	06/25/93	N001		<	1		1	-
	04/21/94	N001		<	1		1	-
	12/13/94	N001		<	1		1	-
PH	02/26/92	0001	SU		8.59		-	-
	11/21/92	0001			8.77		-	-
	02/02/93	N001			8.54		-	-
	06/25/93	N001			8.86		-	-
	12/13/93	N001			8.57		-	-
	04/21/94	N001			8.44		-	-
	12/13/94	N001			8.65		0.10	-
PHOSPHATE (TOTAL)	06/25/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	02/26/92	0001	MG/L		0.93		0.01	-
	12/13/93	0001			0.8		0.1	-
	04/21/94	0001			1.0		0.1	-
	12/13/94	0001			1.1		0.1	-
POTASSIUM (TOTAL)	02/02/93	N001	MG/L		1.1		0.1	-
	06/25/93	N001			0.9		0.1	-
	12/13/93	N001			0.8		0.1	-
	04/21/94	N001			1.0		0.1	-
	12/13/94	N001			1	J	0.1	-
RADIUM-226	02/26/92	0001	PCI/L		2.1		1.0	0.7
	11/21/92	0001			2.3		0.3	0.5
RADIUM-226 (TOTAL)	11/21/92	N001	PCI/L		2.4		0.3	0.5
RADIUM-226 + RADIUM-228	02/26/92	0001	PCI/L		3.70		-	-
	11/21/92	0001			3.10		-	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226 + RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		5.90		-	-
RADIUM-228	02/26/92	0001	PCI/L		1.6		1.0	1.7
	11/21/92	0001			0.8		2.5	1.6
RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		3.5		1.9	1.4
REDOX POTENTIAL	12/13/94	N001	mVOLTS		167		-	-
SELENIUM	02/26/92	0001	MG/L	<	0.005		0.005	-
	11/21/92	0001		<	0.0015	N	0.0015	-
SELENIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	12/13/93	0001	MG/L		13.3		0.1	-
	12/13/94	0001			13.2		0.1	-
SILICA - SIO2 (TOTAL)	06/25/93	N001	MG/L		12.7	H	0.5	-
	12/13/93	N001			13.2		0.1	-
	12/13/94	N001			11.2		0.1	-
SODIUM	02/26/92	0001	MG/L		124.		5.	-
	12/13/93	0001			118		1	-
	04/21/94	0001			121		1	-
	12/13/94	0001			127		1	-
SODIUM (TOTAL)	02/02/93	N001	MG/L		110		0.1	-
	06/25/93	N001			117		1	-
	12/13/93	N001			120		1	-
	04/21/94	N001			107		1	-
	12/13/94	N001			115		1	-
SPECIFIC CONDUCTANCE	02/26/92	0001	UMHO/CM		456		-	-
	11/21/92	0001			455		-	-
	02/02/93	N001			454		-	-
	06/25/93	N001			460		-	-
	12/13/93	N001			420		-	-
	04/21/94	N001			462		-	-
	12/13/94	N001			429		1	-
STRONTIUM	02/26/92	0001	MG/L		0.08		0.01	-
	11/21/92	0001			0.10		0.00035	-
	12/13/93	0001			0.07		0.01	-
	04/21/94	0001			0.08		0.01	-
	12/13/94	0001			0.08	J	0.01	-
STRONTIUM (TOTAL)	11/21/92	N001	MG/L		0.096		0.00035	-
	06/25/93	N001			0.06		0.01	-
	12/13/93	N001			0.07		0.01	-
	04/21/94	N001			0.08		0.01	-
	12/13/94	N001			0.08	J	0.01	-
SULFATE	02/26/92	0001	MG/L		54.		10.	-
	11/21/92	0001			58		1.0	-

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	12/13/93	0001	MG/L		55		1	-
	04/21/94	0001			54		1	-
SULFATE (TOTAL)	11/21/92	N001	MG/L		57		1.0	-
	02/02/93	N001			46		1	-
	06/25/93	N001			51		1	-
	12/13/94	N001			42		1	-
TEMPERATURE	02/26/92	0001	C - DEGREE		15.6		-	-
	11/21/92	0001			15.7		-	-
	02/02/93	N001			15.7		-	-
	06/25/93	N001			16.9		-	-
	12/13/93	N001			13.0		-	-
	04/21/94	N001			16.0		-	-
	12/13/94	N001			14.4		0.1	-
TOTAL DISSOLVED SOLIDS	02/26/92	0001	MG/L		339.		10.	-
	12/13/93	0001			330		10	-
	04/21/94	0001			340		10	-
	12/13/94	0001			330	H	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	02/02/93	N001	MG/L		340		10	-
	06/25/93	N001			310		10	-
TOTAL ORGANIC CARBON	02/26/92	0001	MG/L	<	1.		1.	-
URANIUM	02/26/92	0001	MG/L		0.001		0.001	-
	11/21/92	0001		<	0.001		0.001	-
	12/13/93	0001		<	0.001		0.001	-
	04/21/94	0001		<	0.001		0.001	-
	12/13/94	0001		<	0.001		0.001	-
URANIUM (TOTAL)	11/21/92	N001	MG/L		0.001		0.001	-
	02/02/93	N001		<	0.001		0.001	-
	06/25/93	N001		<	0.001		0.001	-
	12/13/93	N001		<	0.001		0.001	-
	04/21/94	N001		<	0.001		0.001	-
	12/13/94	N001		<	0.001		0.001	-
VANADIUM	02/26/92	0001	MG/L	<	0.01		0.01	-
	11/21/92	0001		<	0.0019		0.0019	-
	12/13/93	0001		<	0.01		0.01	-
	04/21/94	0001		<	0.01		0.01	-
	12/13/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0019		0.0019	-
	06/25/93	N001		<	0.01		0.01	-
	12/13/93	N001		<	0.01		0.01	-
	04/21/94	N001		<	0.01		0.01	-
	12/13/94	N001		<	0.01		0.01	-
ZINC	02/26/92	0001	MG/L	<	0.005		0.005	-
	11/21/92	0001		<	0.0010		0.0010	-
ZINC (TOTAL)	11/21/92	N001	MG/L		0.0030		0.0010	-
	06/25/93	N001		<	0.005	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0625
NORTH COORDINATE: 58272.5 FT
EAST COORDINATE: 89803.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0640 RESERVED FOR AMILLER
NORTH COORDINATE: UNKNOWN
EAST COORDINATE: UNKNOWN
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

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
ALKALINITY	12/12/93	N001	MG/L CACO3		372	RX	-	-
AMMONIUM	12/12/93	0001	MG/L	<	0.1	RX	0.1	-
CALCIUM	12/12/93	0001	MG/L		56.2	RX	0.5	-
CALCIUM (TOTAL)	12/12/93	N001	MG/L		57.1	RX	0.5	-
CHLORIDE	12/12/93	0001	MG/L		113	RX	0.5	-
MAGNESIUM	12/12/93	0001	MG/L		107	RX	0.1	-
MAGNESIUM (TOTAL)	12/12/93	N001	MG/L		105	RX	0.1	-
MANGANESE	12/12/93	0001	MG/L	<	0.01	RX	0.01	-
MANGANESE (TOTAL)	12/12/93	N001	MG/L	<	0.01	RX	0.01	-
NITRATE	12/12/93	0001	MG/L		11	RX	1	-
PH	12/12/93	N001	SU		7.87	RX	-	-
POTASSIUM	12/12/93	0001	MG/L		0.8	RX	0.1	-
POTASSIUM (TOTAL)	12/12/93	N001	MG/L		0.9	RX	0.1	-
SILICA - SIO2	12/12/93	0001	MG/L		54.0	RX	0.1	-
SILICA - SIO2 (TOTAL)	12/12/93	N001	MG/L		52.9	RX	0.1	-
SODIUM	12/12/93	0001	MG/L		299	RX	1	-
SODIUM (TOTAL)	12/12/93	N001	MG/L		298	RX	1	-
SPECIFIC CONDUCTANCE	12/12/93	N001	UMHO/CM		1667	RX	-	-
STRONTIUM	12/12/93	0001	MG/L		1.65	RX	0.01	-
STRONTIUM (TOTAL)	12/12/93	N001	MG/L		1.59	RX	0.01	-
SULFATE	12/12/93	0001	MG/L		668	RX	1	-
TEMPERATURE	12/12/93	N001	C - DEGREE		11.6	RX	-	-
TOTAL DISSOLVED SOLIDS	12/12/93	0001	MG/L		1590	RX	10	-
URANIUM	12/12/93	0001	MG/L		0.021	RX	0.001	-
URANIUM (TOTAL)	12/12/93	N001	MG/L		0.019	RX	0.001	-
VANADIUM	12/12/93	0001	MG/L		0.01	RX	0.01	-
VANADIUM (TOTAL)	12/12/93	N001	MG/L		0.02	RX	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:
R - UNUSABLE DATA POINT
X - LOCATION UNDEFINED

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0650
NORTH COORDINATE: 64970.2 FT
EAST COORDINATE: 89923.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		205.		-	-
	06/09/89	0001			219.	L	-	-
	12/14/93	N001			204		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1	L	0.1	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1		0.1	-
	06/09/89	0001		<	0.1	L	0.1	-
	12/14/93	0001		<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003	L	0.003	-
ARSENIC	04/26/88	0001	MG/L		0.003	J	0.01	-
	06/09/89	0001		<	0.01	L	0.01	-
BARIUM	06/09/89	0001	MG/L	<	0.1	L	0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
BORON	06/09/89	0001	MG/L	<	0.1	L	0.1	-
CADMIUM	04/26/88	0001	MG/L		0.004		0.001	-
	06/09/89	0001		<	0.001	L	0.001	-
CALCIUM	04/26/88	0001	MG/L		9.00		0.01	-
	06/09/89	0001			9.48	L	0.01	-
	12/14/93	0001			8.3		0.5	-
CALCIUM (TOTAL)	12/14/93	N001	MG/L		9.2		0.5	-
CHLORIDE	04/26/88	0001	MG/L		8.2		1.	-
	06/09/89	0001			6.1	L	1.	-
	12/14/93	0001			11.6		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
COBALT	06/09/89	0001	MG/L	<	0.05	L	0.05	-
COPPER	06/09/89	0001	MG/L	<	0.02	L	0.02	-
CYANIDE	06/09/89	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	12/14/93	N001	MG/L	<	0.6		-	-
FLUORIDE	06/09/89	0001	MG/L		0.4	L	0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		3.0		0.2	2.6
GROSS BETA	04/26/88	0001	PCI/L		2.9		1.	1.3
IRON	06/09/89	0001	MG/L	<	0.03	L	0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01	L	0.01	-
MAGNESIUM	04/26/88	0001	MG/L		6.23		0.001	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0650
NORTH COORDINATE: 64970.2 FT
EAST COORDINATE: 89923.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MAGNESIUM	06/09/89	0001	MG/L		6.51	L	0.001	
	12/14/93	0001			6.1		0.1	
MAGNESIUM (TOTAL)	12/14/93	N001	MG/L		7.0		0.1	
MANGANESE	06/09/89	0001	MG/L	<	0.01	L	0.01	
	12/14/93	0001		<	0.01		0.01	
MANGANESE (TOTAL)	12/14/93	N001	MG/L	<	0.01		0.01	
MERCURY	06/09/89	0001	MG/L	<	0.0002	L	0.0002	
MOLYBDENUM	04/26/88	0001	MG/L		0.01		0.01	-
	06/09/89	0001		<	0.01	L	0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		1.42			
NICKEL	06/09/89	0001	MG/L	<	0.04	L	0.04	
NITRATE	04/26/88	0001	MG/L		0.5	J	1.	
	06/09/89	0001			5.3	L	1.	
	12/14/93	0001			1		1	
PH	04/26/88	0001	SU		8.52			
	06/09/89	0001			8.16	L		
	12/14/93	N001			8.32			
PHOSPHATE	06/09/89	0001	MG/L		0.6	L	0.1	
POTASSIUM	04/26/88	0001	MG/L		1.02		0.01	
	06/09/89	0001			1.0	L	0.01	
	12/14/93	0001			0.9		0.1	
POTASSIUM (TOTAL)	12/14/93	N001	MG/L		14.6		0.1	
RADIUM-226	06/09/89	0001	PCI/L		0.1	L	1.	0.2
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.10			
RADIUM-228	06/09/89	0001	PCI/L		0.0	L	1.	0.7
REDOX POTENTIAL	12/14/93	N001	mVOLTS		376		-	
SELENIUM	04/26/88	0001	MG/L	<	0.005		0.005	
	06/09/89	0001		<	0.005	L	0.005	
SILICA - SIO2	06/09/89	0001	MG/L		12.	L	2.	
	12/14/93	0001			12.6		0.1	
SILICA - SIO2 (TOTAL)	12/14/93	N001	MG/L		12.3		0.1	
SILVER	06/09/89	0001	MG/L	<	0.01	L	0.01	-
SODIUM	04/26/88	0001	MG/L		93.6		0.002	-

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

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0650
NORTH COORDINATE: 64970.2 FT
EAST COORDINATE: 89923.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	06/09/89	0001	MG/L		91.2	L	0.002	-
	12/14/93	0001			90		1	-
SODIUM (TOTAL)	12/14/93	N001	MG/L		157		1	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		360.		-	-
	06/09/89	0001			340.	L	-	-
	12/14/93	N001			393		-	-
STRONTIUM	12/14/93	0001	MG/L		0.10		0.01	-
STRONTIUM (TOTAL)	12/14/93	N001	MG/L		0.11		0.01	-
SULFATE	04/26/88	0001	MG/L		28.		0.1	-
	06/09/89	0001			31.	L	0.1	-
	12/14/93	0001			31		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	04/26/88	0001	C - DEGREE		16.5		-	-
	06/09/89	0001			17.0	L	-	-
	12/14/93	N001			15.2		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
TIN	06/09/89	0001	MG/L	<	0.005	L	0.005	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		319.		10.	-
	06/09/89	0001			262.	L	10.	-
	12/14/93	0001			300		10	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		58.5		1.	-
URANIUM	04/26/88	0001	MG/L		0.0023	J	0.003	-
	06/09/89	0001			0.0041	L	0.003	-
	12/14/93	0001			0.002		0.001	-
URANIUM (TOTAL)	12/14/93	N001	MG/L		0.003		0.001	-
VANADIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	12/14/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	12/14/93	N001	MG/L	<	0.01		0.01	-
ZINC	06/09/89	0001	MG/L		0.617	L	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/21/88	0001	MG/L CACO3		192.	L	-	-
	06/05/89	0001			198.	L	-	-
	06/05/89	0002			198.	L	-	-
	06/05/89	0003			198.	L	-	-
	06/05/89	0004			198.	L	-	-
	06/05/89	0005			198.	L	-	-
	12/03/89	0001			194.		-	-
	06/25/90	0001			175.	L	-	-
	01/29/91	0001			206.	L	-	-
	06/02/91	0001			199.		-	-
	02/25/92	0001			199	L	-	-
	08/13/92	0001			172	L	-	-
	11/21/92	0001			195		-	-
	07/01/93	N001			188		-	-
	04/20/94	N001			180		-	-
	12/11/94	N001			191	F	10	-
ALUMINUM	06/05/89	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0002		<	0.1	L	0.1	-
	06/05/89	0003		<	0.1	L	0.1	-
	06/05/89	0004		<	0.1	L	0.1	-
	06/05/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001		<	0.05		0.05	-
	02/25/92	0001		<	0.05	L	0.05	-
	08/13/92	0001		<	0.2	*L	0.2	-
AMMONIUM	04/21/88	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0001		<	0.1	L	0.1	-
	06/05/89	0002		<	0.1	L	0.1	-
	06/05/89	0003		<	0.1	L	0.1	-
	06/05/89	0004			0.2	L	0.1	-
	06/05/89	0005			0.2	L	0.1	-
	12/03/89	0001			0.1		0.1	-
	06/25/90	0001		<	0.1	HL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001			0.1	*	0.1	-
	02/25/92	0001		<	0.1	L	0.1	-
AMMONIUM (TOTAL)	07/01/93	N001	MG/L	<	0.1		0.1	-
	04/20/94	N001		<	0.1		0.1	-
	12/11/94	N001			0.19	FH	0.1	-
ANTIMONY	06/05/89	0001	MG/L	<	0.003	L	0.003	-
	06/05/89	0002		<	0.003	L	0.003	-
	06/05/89	0003		<	0.003	L	0.003	-
	06/05/89	0004		<	0.003	L	0.003	-
	06/05/89	0005		<	0.003	L	0.003	-
	12/03/89	0001		<	0.003		0.003	-
	06/25/90	0001		<	0.003	L	0.003	-
	01/29/91	0001		<	0.003	L	0.003	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ANTIMONY	06/02/91	0001	MG/L	<	0.003		0.003	-
	02/25/92	0001		<	0.003	L	0.003	-
	08/13/92	0001		<	0.06	WL	0.06	-
ARSENIC	04/21/88	0001	MG/L		0.002	JL	0.01	-
	06/05/89	0001		<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/25/92	0001		<	0.01	L	0.01	-
	08/13/92	0001		<	0.01	WL	0.01	-
	07/01/93	0001		<	0.005	W	0.005	-
ARSENIC (TOTAL)	11/21/92	N001	MG/L		0.0045		0.0015	-
	07/01/93	N001		<	0.005		0.005	-
BARIUM	06/05/89	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0002		<	0.1	L	0.1	-
	06/05/89	0003		<	0.1	L	0.1	-
	06/05/89	0004		<	0.1	L	0.1	-
	06/05/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001			0.04		0.01	-
	02/25/92	0001			0.03	L	0.01	-
	08/13/92	0001		<	0.2	L	0.2	-
	07/01/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/21/92	N001	MG/L		0.037		0.0015	-
	07/01/93	N001		<	0.1		0.1	-
BERYLLIUM	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.005		0.005	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.005		0.005	-
	08/13/92	0001		<	0.005	L	0.005	-
BORON	06/05/89	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0002		<	0.1	L	0.1	-
	06/05/89	0003		<	0.1	L	0.1	-
	06/05/89	0004		<	0.1	L	0.1	-
	06/05/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BORON	06/25/90	0001	MG/L	<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001			0.06		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/02/91	0001		<	0.1		0.1	-
CADMIUM	04/21/88	0001	MG/L		0.005	L	0.001	-
	06/05/89	0001		<	0.001	L	0.001	-
	06/05/89	0002		<	0.001	L	0.001	-
	06/05/89	0003		<	0.001	L	0.001	-
	06/05/89	0004		<	0.001	L	0.001	-
	06/05/89	0005		<	0.001	L	0.001	-
	12/03/89	0001		<	0.001		0.001	-
	06/25/90	0001		<	0.001	L	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/02/91	0001		<	0.001		0.001	-
	02/25/92	0001		<	0.001	L	0.001	-
	08/13/92	0001		<	0.005	EL	0.005	-
CADMIUM (TOTAL)	11/21/92	N001	MG/L		0.00013	N	0.00013	-
CALCIUM	04/21/88	0001	MG/L		10.3	L	0.01	-
	06/05/89	0001			11.2	L	0.01	-
	06/05/89	0002			11.2	L	0.01	-
	06/05/89	0003			11.2	L	0.01	-
	06/05/89	0004			11.0	L	0.01	-
	06/05/89	0005			11.0	L	0.01	-
	12/03/89	0001			11.1		0.01	-
	06/25/90	0001			11.1	L	0.01	-
	01/29/91	0001			9.61	L	0.01	-
	06/02/91	0001			11.0		0.1	-
	02/25/92	0001			9.8	L	0.1	-
	08/13/92	0001			11	L	5	-
	07/01/93	0001			9.9		0.5	-
	04/20/94	0001			10.1		0.5	-
	12/11/94	0001			10.5	F	0.5	-
CALCIUM (TOTAL)	07/01/93	N001	MG/L		10.5		0.5	-
	04/20/94	N001			11.7		0.5	-
CHLORIDE	04/21/88	0001	MG/L		13.	L	1.	-
	06/05/89	0001			9.9	L	1.	-
	06/05/89	0002			11.	L	1.	-
	06/05/89	0003			11.	L	1.	-
	06/05/89	0004			11.	L	1.	-
	06/05/89	0005			11.	L	1.	-
	12/03/89	0001			13.1		1.	-
	06/25/90	0001			13.	L	1.	-
	01/29/91	0001			4.	JL	1.	-
	06/02/91	0001			12.8		0.5	-
	02/25/92	0001			12.5	L	0.5	-

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	08/13/92	0001	MG/L		12	L	0.016	-
	04/20/94	0001			11.6		0.5	-
	12/11/94	0001			8	F	0.5	-
CHLORIDE (TOTAL)	07/01/93	N001	MG/L		13.9		0.5	-
CHROMIUM	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/25/92	0001		<	0.01	L	0.01	-
	08/13/92	0001		<	0.01	L	0.01	-
CHROMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/05/89	0001	MG/L	<	0.05	L	0.05	-
	06/05/89	0002		<	0.05	L	0.05	-
	06/05/89	0003		<	0.05	L	0.05	-
	06/05/89	0004		<	0.05	L	0.05	-
	06/05/89	0005		<	0.05	L	0.05	-
	12/03/89	0001		<	0.05		0.05	-
	06/25/90	0001		<	0.05	L	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
	06/02/91	0001		<	0.03		0.03	-
COPPER	06/05/89	0001	MG/L	<	0.02	L	0.02	-
	06/05/89	0002		<	0.02	L	0.02	-
	06/05/89	0003		<	0.02	L	0.02	-
	06/05/89	0004		<	0.02	L	0.02	-
	06/05/89	0005		<	0.02	L	0.02	-
	12/03/89	0001		<	0.02		0.02	-
	06/25/90	0001		<	0.02	L	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/02/91	0001		<	0.01		0.01	-
CYANIDE	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
DISSOLVED OXYGEN	07/01/93	N001	MG/L		0.0		-	-
	04/20/94	N001			0.054		-	-
	12/11/94	N001		<	0.02	F	0.02	-
FLUORIDE	06/05/89	0001	MG/L		0.2	L	0.1	-
	06/05/89	0002			0.2	L	0.1	-
	06/05/89	0003			0.2	L	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
FLUORIDE	06/05/89	0004	MG/L		0.2	L	0.1	-
	06/05/89	0005			0.2	L	0.1	-
	12/03/89	0001			0.2		0.1	-
	06/25/90	0001			0.2	L	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/02/91	0001		<	0.1		0.1	-
GROSS ALPHA	04/21/88	0001	PCI/L		17.	L	0.2	5.
	01/29/91	0001			0.0	L	1.	2.8
	06/02/91	0001			4.2		1.	5.2
	02/25/92	0001			7.6	L	1.0	4.9
	08/13/92	0001			3.3	L	4.1	3.0
	11/21/92	0001			18.5	N	8.4	8.4
	07/01/93	0001			3		3	5
GROSS ALPHA (TOTAL)	11/21/92	N001	PCI/L		0.0	N	7.1	3.4
	07/01/93	N001			1		3	5
GROSS BETA	04/21/88	0001	PCI/L		8.0	L	1.	1.8
	01/29/91	0001			2.0	L	0.5	2.0
	06/02/91	0001			4.0		0.5	2.7
	02/25/92	0001			6.6	L	0.5	2.7
	08/13/92	0001			2.7	L	4.3	2.6
	11/21/92	0001			4.1		3.9	2.6
	07/01/93	0001			1		4	4
GROSS BETA (TOTAL)	11/21/92	N001	PCI/L		4.3	N	5.3	3.4
	07/01/93	N001			2		4	4
IRON	06/05/89	0001	MG/L	<	0.03	L	0.03	-
	06/05/89	0002		<	0.03	L	0.03	-
	06/05/89	0003		<	0.03	L	0.03	-
	06/05/89	0004		<	0.03	L	0.03	-
	06/05/89	0005		<	0.03	L	0.03	-
	12/03/89	0001		<	0.03		0.03	-
	06/25/90	0001		<	0.03	L	0.03	-
	01/29/91	0001		<	0.03	L	0.03	-
	06/02/91	0001		<	0.03		0.03	-
	02/25/92	0001		<	0.03	L	0.03	-
	08/13/92	0001		<	0.1	L	0.1	-
	07/01/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	07/01/93	N001	MG/L		0.06	J	0.03	-
LEAD	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.005		0.005	-
LEAD (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD-210	11/21/92	0001	PCI/L		0.0		2.0	1.2
LEAD-210 (TOTAL)	11/21/92	N001	PCI/L		5.8		0.3	0.9
MAGNESIUM	04/21/88	0001	MG/L		5.32	L	0.001	-
	06/05/89	0001			5.21	L	0.001	-
	06/05/89	0002			5.23	L	0.001	-
	06/05/89	0003			5.21	L	0.001	-
	06/05/89	0004			5.15	L	0.001	-
	06/05/89	0005			5.11	L	0.001	-
	12/03/89	0001			5.61		0.001	-
	06/25/90	0001			5.49	L	0.001	-
	01/29/91	0001			5.01	L	0.001	-
	06/02/91	0001			5.4		0.1	-
	02/25/92	0001			4.9	L	0.1	-
	08/13/92	0001			5.2	L	5	-
	07/01/93	0001			4.7		0.1	-
	04/20/94	0001			4.8		0.1	-
	12/11/94	0001			4.9	F	0.1	-
MAGNESIUM (TOTAL)	07/01/93	N001	MG/L		4.9		0.1	-
	04/20/94	N001			5.1		0.1	-
MANGANESE	06/05/89	0001	MG/L		0.03	L	0.01	-
	06/05/89	0002			0.03	L	0.01	-
	06/05/89	0003			0.03	L	0.01	-
	06/05/89	0004			0.03	L	0.01	-
	06/05/89	0005			0.03	L	0.01	-
	12/03/89	0001			0.03		0.01	-
	06/25/90	0001			0.03	L	0.01	-
	01/29/91	0001			0.02	L	0.01	-
	06/02/91	0001			0.03		0.01	-
	02/25/92	0001			0.02	L	0.01	-
	08/13/92	0001			0.026	L	0.01	-
	07/01/93	0001			0.02		0.01	-
	04/20/94	0001			0.03		0.01	-
	12/11/94	0001		<	0.01	F	0.01	-
MANGANESE (TOTAL)	11/21/92	N001	MG/L		0.024		0.0015	-
	07/01/93	N001			0.03		0.01	-
	04/20/94	N001			0.04		0.01	-
MERCURY	06/05/89	0001	MG/L	<	0.0002	L	0.0002	-
	06/05/89	0002		<	0.0002	L	0.0002	-
	06/05/89	0003		<	0.0002	L	0.0002	-
	06/05/89	0004		<	0.0002	L	0.0002	-
	06/05/89	0005		<	0.0002	L	0.0002	-
	12/03/89	0001		<	0.0002		0.0002	-
	06/25/90	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	04/21/88	0001	MG/L		0.01	L	0.01	-
	06/05/89	0001		<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	06/05/89	0004	MG/L	<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/25/92	0001		<	0.01	L	0.01	-
	08/13/92	0001		<	0.007	L	0.007	-
	07/01/93	0001		<	0.01		0.01	-
	12/11/94	0001		<	0.01	F	0.01	-
MOLYBDENUM (TOTAL)	11/21/92	N001	MG/L	<	0.0049	N	0.0049	-
	07/01/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	04/21/88	0001	PCI/L		15.70		-	-
	01/29/91	0001			-0.96		-	-
	06/02/91	0001			3.86		-	-
	02/25/92	0001			6.91		-	-
	11/21/92	0001			15.07		-	-
	07/01/93	0001			1.63		-	-
NET GROSS ALPHA (TOTAL) **	11/21/92	N001	PCI/L		-1.37		-	-
	07/01/93	N001			-0.37		-	-
NICKEL	06/05/89	0001	MG/L	<	0.04	L	0.04	-
	06/05/89	0002		<	0.04	L	0.04	-
	06/05/89	0003		<	0.04	L	0.04	-
	06/05/89	0004		<	0.04	L	0.04	-
	06/05/89	0005		<	0.04	L	0.04	-
	12/03/89	0001		<	0.04		0.04	-
	06/25/90	0001		<	0.04	L	0.04	-
	01/29/91	0001		<	0.04	JL	0.04	-
	06/02/91	0001		<	0.04		0.04	-
NITRATE	04/21/88	0001	MG/L		4.4	L	1.	-
	06/05/89	0001			8.0	L	1.	-
	06/05/89	0002			6.2	L	1.	-
	06/05/89	0003			6.2	L	1.	-
	06/05/89	0004			8.4	L	1.	-
	06/05/89	0005			12.4	L	1.	-
	12/03/89	0001			4.4		1.	-
	06/25/90	0001			1.6	L	1.	-
	01/29/91	0001		<	1.	L	1.	-
	06/02/91	0001			4.1		1.	-
	02/25/92	0001		<	1.0	L	1.0	-
	08/13/92	0001			4.4	L	0.075	-
	11/21/92	0001			0.44		0.044	-
NITRATE (TOTAL)	07/01/93	N001	MG/L		2		1	-

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE (TOTAL)	04/20/94	N001	MG/L		1		1	-
	12/11/94	N001			1	FHJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L	<	1.	JL	1.	-
	06/02/91	0001			0.97		0.05	-
PH	04/21/88	0001	SU		8.24	L	-	-
	06/05/89	0001			8.07	L	-	-
	06/05/89	0002			8.07	L	-	-
	06/05/89	0003			8.07	L	-	-
	06/05/89	0004			8.07	L	-	-
	06/05/89	0005			8.07	L	-	-
	12/03/89	0001			8.48		-	-
	06/25/90	0001			8.19	L	-	-
	01/29/91	0001			8.23	L	-	-
	06/02/91	0001			8.33		-	-
	02/25/92	0001			8.34	L	-	-
	08/13/92	0001			8.13	L	-	-
	11/21/92	0001			8.59		-	-
	07/01/93	N001			8.52		-	-
	04/20/94	N001			8.17		-	-
	12/11/94	N001			8.19	F	0.10	-
PHOSPHATE	06/05/89	0001	MG/L		0.6	L	0.1	-
	06/05/89	0002			0.6	L	0.1	-
	06/05/89	0003			0.6	L	0.1	-
	06/05/89	0004			0.6	L	0.1	-
	06/05/89	0005			0.6	L	0.1	-
	12/03/89	0001			0.2		0.1	-
	06/25/90	0001			0.3	L	0.1	-
PHOSPHATE (TOTAL)	07/01/93	N001	MG/L		0.2		0.1	-
POTASSIUM	04/21/88	0001	MG/L		1.85	L	0.01	-
	06/05/89	0001			2.1	L	0.01	-
	06/05/89	0002			1.8	L	0.01	-
	06/05/89	0003			2.0	L	0.01	-
	06/05/89	0004			2.1	L	0.01	-
	06/05/89	0005			1.8	L	0.01	-
	12/03/89	0001			1.76		0.01	-
	06/25/90	0001			2.1	L	0.01	-
	01/29/91	0001			1.8	L	0.01	-
	06/02/91	0001			2.1		0.01	-
	02/25/92	0001			1.96	L	0.01	-
	08/13/92	0001			1.7	*L	0.575	-
	07/01/93	0001			2.1		0.1	-
	04/20/94	0001			2.1		0.1	-
	12/11/94	0001			1.9	F	0.1	-
POTASSIUM (TOTAL)	07/01/93	N001	MG/L		2.0		0.1	-
	04/20/94	N001			2.2		0.1	-
RADIUM-226	06/05/89	0001	PCI/L		0.0	L	1.	0.1
	06/05/89	0002			0.0	L	1.	0.1

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-226	06/05/89	0003	PCI/L		0.0	L	1.	0.1
	06/05/89	0004			0.1	L	1.	0.2
	06/05/89	0005			0.0	L	1.	0.1
	12/03/89	0001			0.0		1.	0.1
	06/25/90	0001			0.0	L	1.	0.1
	01/29/91	0001			0.0	L	1.	0.1
	06/02/91	0001			0.0		1.	0.2
	02/25/92	0001			0.1	L	1.0	0.3
	08/13/92	0001			0.1	L	0.6	0.1
	11/21/92	0001			0.4		0.3	0.3
RADIUM-226 (TOTAL)	11/21/92	N001	PCI/L		0.0		0.3	0.1
RADIUM-226 + RADIUM-228	06/05/89	0001	PCI/L		0.00		-	-
	06/05/89	0002			0.00		-	-
	06/05/89	0003			0.00		-	-
	06/05/89	0004			0.10		-	-
	06/05/89	0005			0.00		-	-
	12/03/89	0001			0.00		-	-
	06/25/90	0001			0.30		-	-
	01/29/91	0001			0.40		-	-
	06/02/91	0001			0.90		-	-
	02/25/92	0001			2.10		-	-
	08/13/92	0001			0.30		-	-
	11/21/92	0001			3.40		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		3.90		-	-
RADIUM-228	06/05/89	0001	PCI/L		0.0	L	1.	0.8
	06/05/89	0002			0.0	L	1.	0.7
	06/05/89	0003			0.0	L	1.	0.7
	06/05/89	0004			0.0	L	1.	0.8
	06/05/89	0005			0.0	L	1.	0.7
	12/03/89	0001			0.0		1.	1.9
	06/25/90	0001			0.3	L	1.	0.9
	01/29/91	0001			0.4	L	1.	0.7
	06/02/91	0001			0.9	J	1.	1.6
	02/25/92	0001			2.0	L	1.0	1.8
	08/13/92	0001			0.2	L	1.9	1.0
	11/21/92	0001			3.0		2.1	1.5
RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		3.9		1.9	1.5
REDOX POTENTIAL	07/01/93	N001	MVOLTS		413		-	-
	04/20/94	N001			377		-	-
	12/11/94	N001			338	F	-	-
SELENIUM	04/21/88	0001	MG/L	<	0.005	L	0.005	-
	06/05/89	0001		<	0.005	L	0.005	-
	06/05/89	0002		<	0.005	L	0.005	-
	06/05/89	0003		<	0.005	L	0.005	-
	06/05/89	0004		<	0.005	L	0.005	-
	06/05/89	0005		<	0.005	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	06/25/90	0001	MG/L	<	0.005	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/02/91	0001		<	0.005	J	0.005	-
	02/25/92	0001		<	0.005	L	0.005	-
	08/13/92	0001		<	0.005	L	0.005	-
SELENIUM (TOTAL)	11/21/92	N001	MG/L		0.0015		0.0015	-
SILICA - SIO2	06/05/89	0001	MG/L		11.	L	2.	-
	06/05/89	0002			11.	L	2.	-
	06/05/89	0003			11.	L	2.	-
	06/05/89	0004			11.	L	2.	-
	06/05/89	0005			11.	L	2.	-
	12/03/89	0001			11.2		2.	-
	06/25/90	0001			11.	L	2.	-
	01/29/91	0001			11.	L	2.	-
	06/02/91	0001			11.3		0.1	-
	12/11/94	0001			11.1	F	0.1	-
SILICA - SIO2 (TOTAL)	07/01/93	N001	MG/L		11.0		0.5	-
SILVER	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
SODIUM	04/21/88	0001	MG/L		128.	L	0.002	-
	06/05/89	0001			121.	L	0.002	-
	06/05/89	0002			122.	L	0.002	-
	06/05/89	0003			120.	L	0.002	-
	06/05/89	0004			119.	L	0.002	-
	06/05/89	0005			118.	L	0.002	-
	12/03/89	0001			128.		0.002	-
	06/25/90	0001			124.	L	0.002	-
	01/29/91	0001			132.	L	0.002	-
	06/02/91	0001			143.		5.	-
	02/25/92	0001			130.	L	5.	-
	08/13/92	0001			130	L	5	-
	07/01/93	0001			131		1	-
	04/20/94	0001			129		1	-
	12/11/94	0001			129	F	1	-
SODIUM (TOTAL)	07/01/93	N001	MG/L		123		1	-
	04/20/94	N001			126		1	-
SPECIFIC CONDUCTANCE	04/21/88	0001	UMHO/CM		460.	L	-	-
	06/05/89	0001			450.	L	-	-
	06/05/89	0002			450.	L	-	-
	06/05/89	0003			450.	L	-	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	06/05/89	0004	UMHO/CM		450.	L	-	-
	06/05/89	0005			450.	L	-	-
	12/03/89	0001			490.		-	-
	06/25/90	0001			500.	L	-	-
	01/29/91	0001			649.	L	-	-
	06/02/91	0001			655.		-	-
	02/25/92	0001			528	L	-	-
	08/13/92	0001			546	L	-	-
	11/21/92	0001			510	J	-	-
	07/01/93	N001			566		-	-
	04/20/94	N001			550		-	-
	12/11/94	N001			526	FJ	1	-
STRONTIUM	06/25/90	0001	MG/L		0.26	*L	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/02/91	0001			0.26		0.01	-
	02/25/92	0001			0.24	L	0.01	-
	08/13/92	0001			0.28	L	0.2	-
	07/01/93	0001			0.25		0.01	-
	04/20/94	0001			0.26		0.01	-
	12/11/94	0001			0.26	FJ	0.01	-
STRONTIUM (TOTAL)	11/21/92	N001	MG/L		0.28		0.00035	-
	07/01/93	N001			0.26		0.01	-
	04/20/94	N001			0.27		0.01	-
SULFATE	04/21/88	0001	MG/L		112.	L	0.1	-
	06/05/89	0001			116.	L	0.1	-
	06/05/89	0002			117.	L	0.1	-
	06/05/89	0003			115.	L	0.1	-
	06/05/89	0004			116.	L	0.1	-
	06/05/89	0005			112.	L	0.1	-
	12/03/89	0001			111.		0.1	-
	06/25/90	0001			110.	L	0.1	-
	01/29/91	0001			121.	L	0.1	-
	06/02/91	0001			165.		0.1	-
	02/25/92	0001			108.	L	20.	-
	08/13/92	0001			110	L	0.059	-
	11/21/92	0001			120		1.0	-
	04/20/94	0001			114		1	-
	12/11/94	0001			90	F	1	-
SULFATE (TOTAL)	11/21/92	N001	MG/L		120		1.0	-
	07/01/93	N001			113		1	-
SULFIDE	06/05/89	0001	MG/L	<	0.1	L	0.1	-
	06/05/89	0002		<	0.1	L	0.1	-
	06/05/89	0003		<	0.1	L	0.1	-
	06/05/89	0004		<	0.1	L	0.1	-
	06/05/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1	JL	0.1	-
	06/02/91	0001		<	1.	IJ	1.	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	04/21/88	0001	C - DEGREE		15.0	L	-	-
	06/05/89	0001			17.0	L	-	-
	06/05/89	0002			17.0	L	-	-
	06/05/89	0003			17.0	L	-	-
	06/05/89	0004			17.0	L	-	-
	06/05/89	0005			17.0	L	-	-
	12/03/89	0001			15.0		-	-
	06/25/90	0001			16.0	L	-	-
	01/29/91	0001			14.1	L	-	-
	06/02/91	0001			15.5		-	-
	02/25/92	0001			15.1	L	-	-
	08/13/92	0001			16.6	L	-	-
	11/21/92	0001			14.1		-	-
	07/01/93	N001			18.4		-	-
	04/20/94	N001			17.2		-	-
	12/11/94	N001			15.1	F	0.1	-
THALLIUM	06/05/89	0001	MG/L	<	0.01	L	0.01	-
	06/05/89	0002		<	0.01	L	0.01	-
	06/05/89	0003		<	0.01	L	0.01	-
	06/05/89	0004		<	0.01	L	0.01	-
	06/05/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.1		0.1	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0	L	1.	0.3
	06/02/91	0001			0.5		1.	0.3
TIN	06/05/89	0001	MG/L	<	0.005	L	0.005	-
	06/05/89	0002		<	0.005	L	0.005	-
	06/05/89	0003		<	0.005	L	0.005	-
	06/05/89	0004		<	0.005	L	0.005	-
	06/05/89	0005		<	0.005	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-
	06/25/90	0001		<	0.005	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/02/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	04/21/88	0001	MG/L		430.	L	10.	-
	06/05/89	0001			389.	L	10.	-
	06/05/89	0002			382.	L	10.	-
	06/05/89	0003			376.	L	10.	-
	06/05/89	0004			368.	L	10.	-
	06/05/89	0005			387.	L	10.	-
	12/03/89	0001			415.		10.	-
	06/25/90	0001			440.	L	10.	-
	01/29/91	0001			348.	L	10.	-
	06/02/91	0001			395.		10.	-
	02/25/92	0001			401.	L	10.	-
	08/13/92	0001			420	L	42	-
	04/20/94	0001			410		10	-
	12/11/94	0001			402	F	10	-

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

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS (TOTAL)	07/01/93	N001	MG/L		390		10	-
TOTAL ORGANIC CARBON	04/21/88	0001	MG/L		103.	L	1.	-
	01/29/91	0001		<	1.	JL	1.	-
	06/02/91	0001		<	1.		1.	-
	02/25/92	0001		<	1.	L	1.	-
	08/13/92	0001		<	1.0	GL	1.0	-
TURBIDITY	12/11/94	N001	NTU		8	F	1	-
URANIUM	04/21/88	0001	MG/L		0.0019	JL	0.003	-
	06/05/89	0001			0.0090	L	0.003	-
	06/05/89	0002			0.059	L	0.003	-
	06/05/89	0003			0.011	L	0.003	-
	06/05/89	0004			0.018	L	0.003	-
	06/05/89	0005			0.011	L	0.003	-
	12/03/89	0001			0.003		0.003	-
	06/25/90	0001			0.0023	JL	0.003	-
	01/29/91	0001			0.0014	L	0.0003	-
	06/02/91	0001		<	0.001		0.001	-
	02/25/92	0001			0.001	L	0.001	-
	11/21/92	0001			0.005		0.001	-
	07/01/93	0001			0.002	JL	0.001	-
	04/20/94	0001			0.002		0.001	-
	12/11/94	0001		<	0.001	F	0.001	-
URANIUM (TOTAL)	11/21/92	N001	MG/L		0.002		0.001	-
	07/01/93	N001			0.002		0.001	-
	04/20/94	N001			0.002		0.001	-
VANADIUM	06/05/89	0001	MG/L		0.01	L	0.01	-
	06/05/89	0002			0.01	L	0.01	-
	06/05/89	0003			0.01	L	0.01	-
	06/05/89	0004			0.01	L	0.01	-
	06/05/89	0005			0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001			0.01	L	0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/25/92	0001			0.01	L	0.01	-
	08/13/92	0001		<	0.05	L	0.05	-
	07/01/93	0001		<	0.01		0.01	-
	04/20/94	0001		<	0.01		0.01	-
	12/11/94	0001		<	0.01	F	0.01	-
VANADIUM (TOTAL)	11/21/92	N001	MG/L		0.011		0.0019	-
	07/01/93	N001			0.01		0.01	-
	04/20/94	N001			0.01		0.01	-
ZINC	06/05/89	0001	MG/L	<	0.005	L	0.005	-
	06/05/89	0002		<	0.005	L	0.005	-
	06/05/89	0003			0.059	L	0.005	-
	06/05/89	0004		<	0.005	L	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0651
NORTH COORDINATE: 63788.9 FT
EAST COORDINATE: 92734.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	06/05/89	0005	MG/L	<	0.005	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-
	06/25/90	0001			0.009	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/02/91	0001		<	0.005		0.005	-
	02/25/92	0001		<	0.005	L	0.005	-
	08/13/92	0001		<	0.02	L	0.02	-
	07/01/93	0001			0.022	J	0.005	-
ZINC (TOTAL)	11/21/92	N001	MG/L		0.0040		0.0010	-
	07/01/93	N001			0.023	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
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 I
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/01/91	0001	MG/L CACO3		205.	L	-	
	02/23/92	0001			195			
	08/12/92	0001			177			
	11/21/92	0001			190			
	02/19/93	0001			196			
	07/01/93	N001			187			
	12/08/94	N001			173		10	
ALUMINUM	06/01/91	0001	MG/L	<	0.05	L	0.05	
	02/23/92	0001		<	0.05		0.05	
	08/12/92	0001		<	0.2	*	0.2	
AMMONIUM	06/01/91	0001	MG/L		0.1	L	0.1	
	02/23/92	0001		<	0.1		0.1	
AMMONIUM (TOTAL)	07/01/93	N001	MG/L	<	0.1		0.1	-
	12/08/94	N001			0.12	H	0.1	-
ANTIMONY	06/01/91	0001	MG/L	<	0.003	L	0.003	-
	02/23/92	0001		<	0.003		0.003	-
	08/12/92	0001		<	0.06	W	0.06	-
ARSENIC	06/01/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/12/92	0001		<	0.01	W	0.01	-
	11/21/92	0001		<	0.0015		0.0015	-
	07/01/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
	07/01/93	N001		<	0.005		0.005	-
BARIUM	06/01/91	0001	MG/L		0.15	L	0.01	-
	02/23/92	0001			0.13		0.01	-
	08/12/92	0001		<	0.2		0.2	-
	11/21/92	0001			0.14		0.0015	-
	07/01/93	0001			0.1		0.1	-
BARIUM (TOTAL)	11/21/92	N001	MG/L		0.13		0.0015	-
	07/01/93	N001			0.1		0.1	-
BERYLLIUM	06/01/91	0001	MG/L	<	0.005	L	0.005	-
	08/12/92	0001		<	0.005		0.005	-
BORON	06/01/91	0001	MG/L		0.08	L	0.05	-
BROMIDE	06/01/91	0001	MG/L		0.1	L	0.1	-
CADMIUM	06/01/91	0001	MG/L	<	0.001	L	0.001	-
	02/23/92	0001		<	0.0005		0.0005	-
	08/12/92	0001		<	0.005	E	0.005	-
	11/21/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.00013	N	0.00013	-

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

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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
H - HOLD TIME EXPIRED, VALUE SUSPECT
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	06/01/91	0001	MG/L		29.6	L	0.5	-
	02/23/92	0001			26.7		0.5	-
	08/12/92	0001			28		5	-
	02/19/93	0001			26.3		0.5	-
	07/01/93	0001			26.6		0.5	-
	12/08/94	0001			27.3		0.5	-
CALCIUM (TOTAL)	07/01/93	N001	MG/L		26.1		0.5	-
CHLORIDE	06/01/91	0001	MG/L		15.3	L	0.5	-
	02/23/92	0001			15.3		0.5	-
	08/12/92	0001			14		0.016	-
	02/19/93	0001			15		0.5	-
	12/08/94	0001			9		0.5	-
CHLORIDE (TOTAL)	07/01/93	N001	MG/L		15.1		0.5	-
CHROMIUM	06/01/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/12/92	0001		<	0.01		0.01	-
	11/21/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/21/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/01/91	0001	MG/L	<	0.03	L	0.03	-
COPPER	06/01/91	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	07/01/93	N001	MG/L		0.1		-	-
	12/08/94	N001		<	0.02		0.02	-
FLUORIDE	06/01/91	0001	MG/L		0.1	L	0.1	-
GROSS ALPHA	06/01/91	0001	PCI/L		6.8	L	1.	5.1
	02/23/92	0001			1.6		1.0	3.8
	08/12/92	0001			2.9		4.3	2.9
	11/21/92	0001			9.4	N	3.0	3.4
	02/19/93	0001			0		5	5
	07/01/93	0001			2		3	4
GROSS ALPHA (TOTAL)	11/21/92	N001	PCI/L		0.0	N	6.8	3.8
	06/30/93	N001			9		2	5
GROSS BETA	06/01/91	0001	PCI/L		7.4	L	0.5	2.9
	02/23/92	0001			3.3		0.5	2.2
	08/12/92	0001			3.6		4.1	2.6
	11/21/92	0001			5.9	N	5.5	3.5
	02/19/93	0001			0		11	5
	07/01/93	0001			0		4	4
GROSS BETA (TOTAL)	11/21/92	N001	PCI/L		6.4	N	5.0	3.3
	06/30/93	N001			1	*	4	4
IRON	06/01/91	0001	MG/L	<	0.03	L	0.03	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOW01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
IRON	02/23/92	0001	MG/L	<	0.03		0.03	-
	08/12/92	0001		<	0.1		0.1	-
	02/19/93	0001		<	0.03		0.03	-
	07/01/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	07/01/93	N001	MG/L		0.04	J	0.03	-
LEAD	06/01/91	0001	MG/L	<	0.005	L	0.005	-
	11/21/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/21/92	0001	PCI/L		0.3		2.0	1.2
LEAD-210 (TOTAL)	11/21/92	N001	PCI/L		5.7		0.3	0.9
MAGNESIUM	06/01/91	0001	MG/L		14.0	L	0.1	-
	02/23/92	0001			12.5		0.1	-
	08/12/92	0001			13		5	-
	02/19/93	0001			12.4		0.1	-
	07/01/93	0001			12.3		0.1	-
	12/08/94	0001			12.8		0.1	-
MAGNESIUM (TOTAL)	07/01/93	N001	MG/L		12.9		0.1	-
MANGANESE	06/01/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/12/92	0001		<	0.01		0.01	-
	11/21/92	0001		<	0.0015		0.0015	-
	02/19/93	0001		<	0.01		0.01	-
	07/01/93	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	11/21/92	N001	MG/L	<	0.0015		0.0015	-
	07/01/93	N001		<	0.01		0.01	-
MOLYBDENUM	06/01/91	0001	MG/L	<	0.01	L	0.01	-
	02/23/92	0001		<	0.01		0.01	-
	08/12/92	0001		<	0.007		0.007	-
	11/21/92	0001		<	0.0049	N	0.0049	-
	07/01/93	0001		<	0.01		0.01	-
	12/08/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/21/92	N001	MG/L	<	0.0049	N	0.0049	-
	07/01/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	06/01/91	0001	PCI/L		6.46		-	-
	02/23/92	0001			-1.14		-	-
	11/21/92	0001			5.97		-	-
	02/19/93	0001			-3.43		-	-
	07/01/93	0001			-1.43		-	-
NET GROSS ALPHA (TOTAL) **	11/21/92	N001	PCI/L		-3.43		-	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA (TOTAL) **	06/30/93	N001	PCI/L		6.26		-	-
NICKEL	06/01/91	0001	MG/L	<	0.04	L	0.04	-
NITRATE	06/01/91	0001	MG/L		21.6	L	1.	-
	02/23/92	0001			20.1		1.0	-
	08/12/92	0001			19		0.075	-
	11/21/92	0001			7.1		0.044	-
	02/19/93	0001			20		1	-
NITRATE (TOTAL)	07/01/93	N001	MG/L		19		1	-
	12/08/94	N001			21	HJN	1	-
NITRITE AND NITRATE	06/01/91	0001	MG/L		4.87	L	0.05	-
PH	06/01/91	0001	SU		7.99	L	-	-
	02/23/92	0001			7.93		-	-
	08/12/92	0001			8.01		-	-
	11/21/92	0001			8.06		-	-
	02/19/93	0001			7.93		-	-
	07/01/93	N001			8.11		-	-
	12/08/94	N001			7.97		0.10	-
PHOSPHATE (TOTAL)	07/01/93	N001	MG/L		0.2		0.1	-
POTASSIUM	06/01/91	0001	MG/L		2.8	L	0.01	-
	02/23/92	0001			3.09		0.01	-
	08/12/92	0001			2.0	*	0.575	-
	02/19/93	0001			2.7		0.1	-
	07/01/93	0001			2.8		0.1	-
	12/08/94	0001			2.7		0.1	-
POTASSIUM (TOTAL)	07/01/93	N001	MG/L		2.6		0.1	-
RADIUM-226	06/01/91	0001	PCI/L		0.2	L	1.	0.3
	02/23/92	0001			0.0		1.0	0.2
	08/12/92	0001			0.12		0.41	0.05
	11/21/92	0001			0.3		0.3	0.2
RADIUM-226 (TOTAL)	11/21/92	N001	PCI/L		1.2		0.3	0.4
RADIUM-226 + RADIUM-228	06/01/91	0001	PCI/L		0.60		-	-
	02/23/92	0001			1.30		-	-
	08/12/92	0001			1.12		-	-
	11/21/92	0001			2.30		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		4.10		-	-
RADIUM-228	06/01/91	0001	PCI/L		0.4	JL	1.	1.6
	02/23/92	0001			1.3		1.0	1.0
	08/12/92	0001			1.0		1.8	1.0
	11/21/92	0001			2.0		2.5	1.7

** NET GROSS ALPHA (TOTAL) (TOTAL GROSS ALPHA - TOTAL URANIUM)

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228 (TOTAL)	11/21/92	N001	PCI/L		2.9		2.0	1.5
REDOX POTENTIAL	11/21/92	0001	mVOLTS		455.9		-	-
	07/01/93	N001			469		-	-
	12/08/94	N001			348		-	-
SELENIUM	06/01/91	0001	MG/L		0.008	JL	0.005	-
	02/23/92	0001			0.015		0.005	-
	08/12/92	0001		<	0.005	W	0.005	-
	11/21/92	0001			0.0038	N	0.0015	-
SELENIUM (TOTAL)	11/21/92	N001	MG/L		0.0041		0.0015	-
SILICA - SIO2	06/01/91	0001	MG/L		15.8	L	0.1	-
	12/08/94	0001			15		0.1	-
SILICA - SIO2 (TOTAL)	07/01/93	N001	MG/L		14.1		0.5	-
SILVER	06/01/91	0001	MG/L	<	0.01	L	0.01	-
SODIUM	06/01/91	0001	MG/L		85.	L	1.	-
	02/23/92	0001			73.		1.	-
	08/12/92	0001			77		5	-
	02/19/93	0001			78.6		0.1	-
	07/01/93	0001			78		1	-
	12/08/94	0001			80.4		1	-
SODIUM (TOTAL)	07/01/93	N001	MG/L		77		1	-
SPECIFIC CONDUCTANCE	06/01/91	0001	UMHO/CM		581.	L	-	-
	02/23/92	0001			466		-	-
	08/12/92	0001			485		-	-
	11/21/92	0001			460		-	-
	02/19/93	0001			468		-	-
	07/01/93	N001			488		-	-
	12/08/94	N001			420	J	1	-
STRONTIUM	06/01/91	0001	MG/L		0.55	L	0.01	-
	02/23/92	0001			0.49		0.01	-
	08/12/92	0001			0.56		0.2	-
	11/21/92	0001			0.63		0.00035	-
	07/01/93	0001			0.51		0.01	-
	12/08/94	0001			0.52	J	0.01	-
STRONTIUM (TOTAL)	11/21/92	N001	MG/L		0.58	S	0.00035	-
	07/01/93	N001			0.52		0.01	-
SULFATE	06/01/91	0001	MG/L		85.	L	0.1	-
	02/23/92	0001			62.		10.	-
	08/12/92	0001			62		0.059	-
	11/21/92	0001			68		1.0	-
	02/19/93	0001			70		1	-
	12/08/94	0001			49		1	-

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	11/21/92	N001	MG/L		67		1.0	-
	07/01/93	N001			64		1	-
SULFIDE	06/01/91	0001	MG/L	<	1.	IJL	1.	-
TEMPERATURE	06/01/91	0001	C - DEGREE		14.6	L	-	-
	02/23/92	0001			15.2		-	-
	08/12/92	0001			16.7		-	-
	11/21/92	0001			14.5		-	-
	02/19/93	0001			15.7		-	-
	07/01/93	N001			17.7		-	-
	12/08/94	N001			11.4		0.1	-
THALLIUM	06/01/91	0001	MG/L	<	0.01	L	0.01	-
THORIUM-230	06/01/91	0001	PCI/L		0.7	L	1.	0.4
TIN	06/01/91	0001	MG/L	<	0.01	IL	0.01	-
TOTAL DISSOLVED SOLIDS	06/01/91	0001	MG/L		344.	L	10.	-
	02/23/92	0001			346.		10.	-
	08/12/92	0001			380		42	-
	02/19/93	0001			330		10	-
	12/08/94	0001			346	H	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	07/01/93	N001	MG/L		330		10	-
TOTAL ORGANIC CARBON	06/01/91	0001	MG/L	<	1.	L	1.	-
	02/23/92	0001		<	1.		1.	-
	08/12/92	0001		<	1.0		1.0	-
URANIUM	06/01/91	0001	MG/L	<	0.001	L	0.001	-
	02/23/92	0001			0.004		0.001	-
	11/21/92	0001			0.005		0.001	-
	02/19/93	0001			0.005		0.001	-
	07/01/93	0001			0.005		0.001	-
	12/08/94	0001			0.002		0.001	-
URANIUM (TOTAL)	11/21/92	N001	MG/L		0.005		0.001	-
	06/30/93	N001			0.004		0.001	-
VANADIUM	06/01/91	0001	MG/L		0.01	L	0.01	-
	02/23/92	0001			0.01		0.01	-
	08/12/92	0001		<	0.05		0.05	-
	11/21/92	0001			0.012		0.0019	-
	07/01/93	0001			0.01		0.01	-
	12/08/94	0001			0.01		0.01	-
VANADIUM (TOTAL)	11/21/92	N001	MG/L		0.013		0.0019	-
	07/01/93	N001		<	0.01		0.01	-
ZINC	06/01/91	0001	MG/L	<	0.005	L	0.005	-
	02/23/92	0001		<	0.005		0.005	-
	08/12/92	0001		<	0.02		0.02	-
	11/21/92	0001		<	0.0010		0.0010	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0652
NORTH COORDINATE: 62581.5 FT
EAST COORDINATE: 93759.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	07/01/93	D001	MG/L		0.023	J	0.005	-
ZINC (TOTAL)	11/21/92	N001	MG/L		0.0030		0.0010	-
	07/01/93	N001			0.024	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE

SAMPLE ID CODES:
D001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/22/88	0001	MG/L CACO3		173.		-	-
	06/25/89	0001			201.	L	-	-
	12/01/89	0001			197.		-	-
	06/21/90	0001			175.	JL	-	-
	06/21/90	0002			175.	JL	-	-
	06/21/90	0003			175.	JL	-	-
	06/21/90	0004			175.	JL	-	-
	06/21/90	0005			175.	JL	-	-
	01/29/91	0001			206.	L	-	-
	06/04/91	0001			215.		-	-
	02/25/92	0001			209		-	-
	11/19/92	0001			196		-	-
	02/19/93	0001			209		-	-
	06/30/93	N001			202		-	-
	04/24/94	N001			206		-	-
	12/13/94	N001			214		10	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	LR	0.1	-
	12/01/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1	JL	0.1	-
	06/21/90	0002		<	0.1	JL	0.1	-
	06/21/90	0003		<	0.1	JL	0.1	-
	06/21/90	0004		<	0.1	JL	0.1	-
	06/21/90	0005		<	0.1	JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.05		0.05	-
	02/25/92	0001		<	0.05		0.05	-
AMMONIUM	04/22/88	0001	MG/L	<	0.1		0.1	-
	06/25/89	0001		<	0.1	L	0.1	-
	12/01/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1	HJL	0.1	-
	06/21/90	0002		<	0.1	HJL	0.1	-
	06/21/90	0003		<	0.1	HJL	0.1	-
	06/21/90	0004		<	0.1	HJL	0.1	-
	06/21/90	0005		<	0.1	HJL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.1		0.1	-
	02/25/92	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
	06/30/93	N002		<	0.1		0.1	-
	04/24/94	N001		<	0.1		0.1	-
	04/24/94	N002		<	0.1		0.1	-
	12/13/94	N001			0.15		0.1	-
	12/13/94	N002			0.12		0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	JL	0.003	-
	12/01/89	0001		<	0.003		0.003	-
	06/21/90	0001		<	0.003	JL	0.003	-
	06/21/90	0002		<	0.003	JL	0.003	-
	06/21/90	0003		<	0.003	JL	0.003	-
	06/21/90	0004		<	0.003	JL	0.003	-

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
R - UNUSABLE DATA POINT

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
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ANTIMONY	06/21/90	0005	MG/L	<	0.003	JL	0.003	
	01/29/91	0001		<	0.003	L	0.003	
	06/04/91	0001		<	0.003		0.003	
	02/25/92	0001		<	0.003		0.003	
ARSENIC	04/22/88	0001	MG/L		0.011		0.01	
	06/25/89	0001		<	0.01	L	0.01	
	12/01/89	0001		<	0.01		0.01	
	06/21/90	0001		<	0.01	JL	0.01	
	06/21/90	0002		<	0.01	JL	0.01	
	06/21/90	0003		<	0.01	JL	0.01	
	06/21/90	0004		<	0.01	JL	0.01	
	06/21/90	0005		<	0.01	JL	0.01	
	01/29/91	0001			0.01	L	0.01	
	06/04/91	0001		<	0.01		0.01	
	02/25/92	0001		<	0.01		0.01	
	11/19/92	0001			0.0016		0.0015	
	06/30/93	0001		<	0.005		0.005	
ARSENIC (TOTAL)	11/19/92	N001	MG/L		0.0019	W	0.0015	
	06/30/93	N001		<	0.005		0.005	
	06/30/93	N002		<	0.005		0.005	
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	
	12/01/89	0001		<	0.1		0.1	
	06/21/90	0001		<	0.1	JL	0.1	
	06/21/90	0002		<	0.1	JL	0.1	
	06/21/90	0003		<	0.1	JL	0.1	
	06/21/90	0004		<	0.1	JL	0.1	
	06/21/90	0005		<	0.1	JL	0.1	
	01/29/91	0001		<	0.1	L	0.1	
	06/04/91	0001			0.04		0.01	
	02/25/92	0001			0.03		0.01	
	11/19/92	0001			0.028		0.0015	
	06/30/93	0001		<	0.1		0.1	
BARIUM (TOTAL)	11/19/92	N001	MG/L		0.027		0.0015	
	06/30/93	N001		<	0.1		0.1	
	06/30/93	N002		<	0.1		0.1	
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	
	12/01/89	0001		<	0.005		0.005	
	06/21/90	0001		<	0.01	JL	0.01	
	06/21/90	0002		<	0.01	JL	0.01	
	06/21/90	0003		<	0.01	JL	0.01	
	06/21/90	0004		<	0.01	JL	0.01	
	06/21/90	0005		<	0.01	JL	0.01	
	01/29/91	0001		<	0.01	L	0.01	
	06/04/91	0001		<	0.005		0.005	
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	
	12/01/89	0001		<	0.1		0.1	
	06/21/90	0001		<	0.1	JL	0.1	
	06/21/90	0002		<	0.1	JL	0.1	

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BORON	06/21/90	0003	MG/L	<	0.1	JL	0.1	-
	06/21/90	0004		<	0.1	JL	0.1	-
	06/21/90	0005		<	0.1	JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.05		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/04/91	0001			0.2		0.1	-
CADMIUM	04/22/88	0001	MG/L		0.003		0.001	-
	06/25/89	0001		<	0.001	L	0.001	-
	12/01/89	0001		<	0.001		0.001	-
	06/21/90	0001		<	0.001	JL	0.001	-
	06/21/90	0002		<	0.001	JL	0.001	-
	06/21/90	0003		<	0.001	JL	0.001	-
	06/21/90	0004		<	0.001	JL	0.001	-
	06/21/90	0005		<	0.001	JL	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/04/91	0001		<	0.001		0.001	-
	02/25/92	0001		<	0.001		0.001	-
	11/19/92	0001		<	0.00013	W	0.00013	-
CADMIUM (TOTAL)	11/19/92	N001	MG/L	<	0.00013	N	0.00013	-
CALCIUM	04/22/88	0001	MG/L		151.		0.01	-
	06/25/89	0001			156.	L	0.01	-
	12/01/89	0001			202.		0.01	-
	06/21/90	0001			194.	JL	0.01	-
	06/21/90	0002			190.	JL	0.01	-
	06/21/90	0003			188.	JL	0.01	-
	06/21/90	0004			193.	JL	0.01	-
	06/21/90	0005			200.	JL	0.01	-
	01/29/91	0001			200.	L	0.01	-
	06/04/91	0001			246.		0.5	-
	02/25/92	0001			251.		0.5	-
	02/19/93	0001			247		0.5	-
	06/30/93	0001			252		0.5	-
	04/24/94	0001			261		0.5	-
	04/24/94	0002			256		0.5	-
	12/13/94	0001			276		0.5	-
	12/13/94	0002			271		0.5	-
CALCIUM (TOTAL)	06/30/93	N001	MG/L		253		0.5	-
	06/30/93	N002			248		0.5	-
	04/24/94	N001			284		0.5	-
	04/24/94	N002			291		0.5	-
CHLORIDE	04/22/88	0001	MG/L		32.		1.	-
	06/25/89	0001			36.	L	1.	-
	12/01/89	0001			33.		1.	-
	06/21/90	0001			38.	JL	1.	-
	06/21/90	0002			37.	JL	1.	-
	06/21/90	0003			37.	JL	1.	-
	06/21/90	0004			37.	JL	1.	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	06/21/90	0005	MG/L		37.	JL	1.	-
	01/29/91	0001			42.	JL	1.	-
	06/04/91	0001			36.		0.5	-
	02/25/92	0001			40.		1.	-
	02/19/93	0001			40.5		0.5	-
	04/24/94	0001			39.4		0.5	-
	04/24/94	0002			40.3		0.5	-
	12/13/94	0001			30		0.5	-
	12/13/94	0002			29		0.5	-
CHLORIDE (TOTAL)	06/30/93	N001	MG/L		39.5		0.5	-
	06/30/93	N002			39.5		0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	JL	0.01	-
	06/21/90	0002		<	0.01	JL	0.01	-
	06/21/90	0003		<	0.01	JL	0.01	-
	06/21/90	0004			0.01	JL	0.01	-
	06/21/90	0005		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
	02/25/92	0001		<	0.01		0.01	-
	11/19/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/19/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
	12/01/89	0001		<	0.05		0.05	-
	06/21/90	0001		<	0.05	JL	0.05	-
	06/21/90	0002		<	0.05	JL	0.05	-
	06/21/90	0003		<	0.05	JL	0.05	-
	06/21/90	0004		<	0.05	JL	0.05	-
	06/21/90	0005		<	0.05	JL	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
	06/04/91	0001		<	0.03		0.03	-
COPPER	06/25/89	0001	MG/L	<	0.02	L	0.02	-
	12/01/89	0001		<	0.02		0.02	-
	06/21/90	0001		<	0.02	JL	0.02	-
	06/21/90	0002		<	0.02	JL	0.02	-
	06/21/90	0003		<	0.02	JL	0.02	-
	06/21/90	0004		<	0.02	JL	0.02	-
	06/21/90	0005		<	0.02	JL	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/04/91	0001		<	0.01		0.01	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01		0.01	-
DISSOLVED OXYGEN	11/19/92	0001	MG/L		1.8		-	-
	06/30/93	N001			0.1		-	-
	04/24/94	N001			0.077		-	-
	12/13/94	N001			0.17		0.02	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Date
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
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04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
FLUORIDE	06/25/89	0001	MG/L		0.2	L	0.1	-
	12/01/89	0001			0.2		0.1	-
	06/21/90	0001			0.2	JL	0.1	-
	06/21/90	0002			0.2	JL	0.1	-
	06/21/90	0003			0.2	JL	0.1	-
	06/21/90	0004			0.2	JL	0.1	-
	06/21/90	0005			0.2	JL	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/04/91	0001		<	0.1		0.1	-
GROSS ALPHA	04/22/88	0001	PCI/L		26.		0.2	12.
	01/29/91	0001			4.	L	1.	19.
	06/04/91	0001			7.2		1.	21.5
	02/26/92	0001			112.		1.0	58.0
	11/19/92	0001			20.9	N	16.2	13.8
	02/19/93	0001			0		31	32
	06/30/93	0001			0		14	22
GROSS ALPHA (TOTAL)	11/19/92	N001	PCI/L		0.0	N	38.1	19.7
	06/30/93	N001			14		13	22
	06/30/93	N002			18		14	25
GROSS BETA	04/22/88	0001	PCI/L		9.8		1.	5.8
	01/29/91	0001			3.	L	0.5	15.
	06/04/91	0001			4.0		0.5	11.7
	02/26/92	0001			60.8		0.5	31.1
	11/19/92	0001			0.0	N	28.3	15.2
	02/19/93	0001			0		39	17
	06/30/93	0001			0		15	14
GROSS BETA (TOTAL)	11/19/92	N001	PCI/L		0.4	N	28.2	16.8
	06/30/93	N001			0		15	13
	06/30/93	N002			0		15	13
IRON	06/25/89	0001	MG/L		3.50	L	0.03	-
	12/01/89	0001		<	0.03		0.03	-
	06/21/90	0001			0.06	JL	0.03	-
	06/21/90	0002			0.04	JL	0.03	-
	06/21/90	0003			0.04	JL	0.03	-
	06/21/90	0004			0.06	JL	0.03	-
	06/21/90	0005			0.07	JL	0.03	-
	01/29/91	0001			0.06	L	0.03	-
	06/04/91	0001		<	0.03		0.03	-
	02/25/92	0001		<	0.03		0.03	-
	02/19/93	0001		<	0.03		0.03	-
	06/30/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/30/93	N001	MG/L	<	0.03	J	0.03	-
	06/30/93	N002		<	0.03	J	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	JL	0.01	-

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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD	06/21/90	0002	MG/L	<	0.01	JL	0.01	-
	06/21/90	0003		<	0.01	JL	0.01	-
	06/21/90	0004		<	0.01	JL	0.01	-
	06/21/90	0005		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.005		0.005	-
	11/19/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/19/92	N001	MG/L	<	0.0015	W	0.0015	-
LEAD-210	11/19/92	0001	PCI/L		0.1		2.0	1.2
LEAD-210 (TOTAL)	11/19/92	N001	PCI/L		5.9		0.3	0.9
MAGNESIUM	04/22/88	0001	MG/L		113.		0.001	
	06/25/89	0001			133.	L	0.001	
	12/01/89	0001			160.		0.001	
	06/21/90	0001			150.	JL	0.001	
	06/21/90	0002			150.	JL	0.001	
	06/21/90	0003			148.	JL	0.001	
	06/21/90	0004			152.	JL	0.001	
	06/21/90	0005			160.	JL	0.001	
	01/29/91	0001			160.	L	0.001	
	06/04/91	0001			194.		0.5	
	02/25/92	0001			200.		0.5	
	02/19/93	0001			198		0.1	
	06/30/93	0001			195		0.1	
	04/24/94	0001			209		0.1	
	04/24/94	0002			208		0.1	
	12/13/94	0001			218		0.1	
	12/13/94	0002			216		0.1	
MAGNESIUM (TOTAL)	06/30/93	N001	MG/L		205		0.1	
	06/30/93	N002			204		0.1	
	04/24/94	N001			196		0.1	
	04/24/94	N002			204		0.1	
MANGANESE	06/25/89	0001	MG/L		0.04	L	0.01	
	12/01/89	0001		<	0.01		0.01	
	06/21/90	0001		<	0.01	JL	0.01	
	06/21/90	0002		<	0.01	JL	0.01	
	06/21/90	0003		<	0.01	JL	0.01	
	06/21/90	0004		<	0.01	JL	0.01	
	06/21/90	0005		<	0.01	JL	0.01	
	01/29/91	0001		<	0.01	L	0.01	
	06/04/91	0001		<	0.01		0.01	
	02/25/92	0001		<	0.01		0.01	
	11/19/92	0001			0.0035		0.0015	
	02/19/93	0001		<	0.01		0.01	
	06/30/93	0001		<	0.01		0.01	
	04/24/94	0001		<	0.01		0.01	
	04/24/94	0002		<	0.01		0.01	
	12/13/94	0001		<	0.01		0.01	
	12/13/94	0002		<	0.01		0.01	

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MANGANESE (TOTAL)	11/19/92	N001	MG/L	<	0.0015		0.0015	-
	06/30/93	N001		<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	04/24/94	N001			0.03		0.01	-
	04/24/94	N002			0.03		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/01/89	0001		<	0.0002		0.0002	-
	06/21/90	0001		<	0.0002	JL	0.0002	-
	06/21/90	0002		<	0.0002	JL	0.0002	-
	06/21/90	0003		<	0.0002	JL	0.0002	-
	06/21/90	0004		<	0.0002	JL	0.0002	-
	06/21/90	0005		<	0.0002	JL	0.0002	-
MOLYBDENUM	04/22/88	0001	MG/L		0.04		0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	JL	0.01	-
	06/21/90	0002		<	0.01	JL	0.01	-
	06/21/90	0003		<	0.01	JL	0.01	-
	06/21/90	0004		<	0.01	JL	0.01	-
	06/21/90	0005		<	0.01	JL	0.01	-
	01/29/91	0001			0.03	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
	02/25/92	0001		<	0.01		0.01	-
	11/19/92	0001		<	0.0049	N	0.0049	-
	06/30/93	0001		<	0.01		0.01	-
	12/13/94	0001		<	0.01		0.01	-
	12/13/94	0002		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/30/93	N001		<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
NET GROSS ALPHA *	04/22/88	0001	PCI/L		21.06		-	-
	01/29/91	0001			-2.45		-	-
	06/04/91	0001			-2.40		-	-
	02/26/92	0001			105.14		-	-
	11/19/92	0001			12.67		-	-
	02/19/93	0001			-8.92		-	-
	06/30/93	0001			-7.55		-	-
NET GROSS ALPHA (TOTAL) **	11/19/92	N001	PCI/L		-7.55		-	-
	06/30/93	N001			7.14		-	-
	06/30/93	N002			11.14		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
	12/01/89	0001		<	0.04		0.04	-
	06/21/90	0001		<	0.04	JL	0.04	-

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

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NICKEL	06/21/90	0002	MG/L	<	0.04	JL	0.04	
	06/21/90	0003		<	0.04	JL	0.04	
	06/21/90	0004		<	0.04	JL	0.04	
	06/21/90	0005		<	0.04	JL	0.04	
	01/29/91	0001		<	0.04	L	0.04	
	06/04/91	0001		<	0.04		0.04	
NITRATE	04/22/88	0001	MG/L		31.		1.	
	06/25/89	0001			50.	L	1.	
	12/01/89	0001			40.		1.	
	06/21/90	0001			36.8	JL	1.	
	06/21/90	0002			38.1	JL	1.	
	06/21/90	0003			39.4	JL	1.	
	06/21/90	0004			49.2	JL	1.	
	06/21/90	0005			37.2	JL	1.	
	01/29/91	0001			50.	L	1.	
	06/04/91	0001			50.9		1.	
	02/25/92	0001			64.6		5.0	
	11/19/92	0001			80		0.044	
	02/19/93	0001			75		1	
NITRATE (TOTAL)	06/30/93	N001	MG/L		76		1	
	06/30/93	N002			77		1	
	04/24/94	N001			85		1	
	04/24/94	N002			84		1	
	12/13/94	N001			88	JN	1	
	12/13/94	N002			23.3	JN	1	
NITRITE AND NITRATE	01/29/91	0001	MG/L		648.	L	1.	
	06/04/91	0001			12.7		0.05	
PH	04/22/88	0001	SU		7.68			
	06/25/89	0001			7.56	L		
	12/01/89	0001			7.74			
	06/21/90	0001			7.55	L		
	06/21/90	0002			7.55	L		
	06/21/90	0003			7.55	L		
	06/21/90	0004			7.55	L		
	06/21/90	0005			7.55	L		
	01/29/91	0001			7.48	L		
	06/04/91	0001			7.47	*J		
	02/25/92	0001			7.55			
	11/19/92	0001			7.51			
	02/19/93	0001			7.46			
	06/30/93	N001			7.50			
	04/24/94	N001			7.37			
	12/13/94	N001			7.22		0.10	
PHOSPHATE	06/25/89	0001	MG/L		0.6	L	0.1	
	12/01/89	0001			0.3		0.1	
	06/21/90	0001			0.4	JL	0.1	
	06/21/90	0002			0.4	JL	0.1	
	06/21/90	0003			0.4	JL	0.1	
	06/21/90	0004			0.4	JL	0.1	

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PHOSPHATE	06/21/90	0005	MG/L		0.4	JL	0.1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L		0.3		0.1	-
	06/30/93	N002			0.3		0.1	-
POTASSIUM	04/22/88	0001	MG/L		3.24	L	0.01	-
	06/25/89	0001			3.6	L	0.01	-
	12/01/89	0001			3.3		0.01	-
	06/21/90	0001			4.0	JL	0.01	-
	06/21/90	0002			4.0	JL	0.01	-
	06/21/90	0003			3.8	JL	0.01	-
	06/21/90	0004			4.1	JL	0.01	-
	06/21/90	0005			4.4	JL	0.01	-
	01/29/91	0001			3.7	L	0.01	-
	06/04/91	0001			4.0		0.01	-
	02/25/92	0001			4.19		0.01	-
	02/19/93	0001			4.2		0.1	-
	06/30/93	0001			4.5		0.1	-
	04/24/94	0001			4.6		0.1	-
	04/24/94	0002			4.5		0.1	-
	12/13/94	0001			4		0.1	-
	12/13/94	0002			4.4		0.1	-
POTASSIUM (TOTAL)	06/30/93	N001	MG/L		4.2		0.1	-
	06/30/93	N002			4.2		0.1	-
	04/24/94	N001			4.5		0.1	-
	04/24/94	N002			4.5		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.1	L	1.	0.2
	12/01/89	0001			0.2		1.	0.2
	06/21/90	0001			0.2	JL	1.	0.2
	06/21/90	0002			0.1	JL	1.	0.1
	06/21/90	0003			0.2	JL	1.	0.2
	06/21/90	0004			0.3	JL	1.	0.2
	06/21/90	0005			0.1	JL	1.	0.2
	01/29/91	0001			0.4	L	1.	0.7
	06/04/91	0001			0.5		1.	0.4
	02/26/92	0001			0.0		1.0	0.3
	11/19/92	0001			0.4		0.3	0.3
RADIUM-226 (TOTAL)	11/19/92	N001	PCI/L		0.1		0.3	0.2
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.10		-	-
	12/01/89	0001			0.60		-	-
	06/21/90	0001			1.00		-	-
	06/21/90	0002			1.20		-	-
	06/21/90	0003			1.10		-	-
	06/21/90	0004			1.00		-	-
	06/21/90	0005			1.40		-	-
	01/29/91	0001			0.70		-	-
	06/04/91	0001			6.10		-	-
	02/26/92	0001			2.40		-	-
	11/19/92	0001			3.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		4.60		-	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	06/25/89	0001	PCI/L		0.0	L	1.	0.9
	12/01/89	0001			0.4		1.	1.9
	06/21/90	0001			0.8	JL	1.	0.9
	06/21/90	0002			1.1	JL	1.	0.9
	06/21/90	0003			0.9	JL	1.	0.9
	06/21/90	0004			0.7	JL	1.	0.9
	06/21/90	0005			1.3	JL	1.	0.7
	01/29/91	0001			0.3	L	1.	0.8
	06/04/91	0001			5.6	J	1.	2.2
	02/26/92	0001			2.4		1.0	1.8
	11/19/92	0001			2.6		2.5	1.7
RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		4.5		2.0	1.6
REDOX POTENTIAL	11/19/92	0001	mVOLTS		443.1			
	06/30/93	N001			227			
	04/24/94	N001			367			
	12/13/94	N001			293			
SELENIUM	04/22/88	0001	MG/L		0.007		0.005	-
	06/25/89	0001			0.016	L	0.005	-
	12/01/89	0001		<	0.005		0.005	-
	06/21/90	0001		<	0.005	JL	0.005	-
	06/21/90	0002		<	0.005	JL	0.005	-
	06/21/90	0003		<	0.005	JL	0.005	-
	06/21/90	0004		<	0.005	JL	0.005	-
	06/21/90	0005		<	0.005	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.005	J	0.005	-
	02/25/92	0001		<	0.005		0.005	-
	11/19/92	0001		<	0.015	IN	0.015	-
SELENIUM (TOTAL)	11/19/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/25/89	0001	MG/L		15.	L	2.	-
	12/01/89	0001			15.1		2.	-
	06/21/90	0001			15.	JL	2.	-
	06/21/90	0002			15.	JL	2.	-
	06/21/90	0003			15.	JL	2.	-
	06/21/90	0004			16.	JL	2.	-
	06/21/90	0005			16.	JL	2.	-
	01/29/91	0001			14.	L	2.	-
	06/04/91	0001			15.8		0.1	-
	12/13/94	0001			16.1		0.1	-
	12/13/94	0002			16.3		0.1	-
SILICA - SIO2 (TOTAL)	06/30/93	N001	MG/L		15.6	H	0.5	-
	06/30/93	N002			15.4	H	0.5	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	
	12/01/89	0001		<	0.01		0.01	
	06/21/90	0001		<	0.01	JL	0.01	

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILVER	06/21/90	0002	MG/L	<	0.01	JL	0.01	-
	06/21/90	0003		<	0.01	JL	0.01	-
	06/21/90	0004		<	0.01	JL	0.01	-
	06/21/90	0005		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
SODIUM	04/22/88	0001	MG/L		210.		0.002	-
	06/25/89	0001			211.	L	0.002	-
	12/01/89	0001			242.		0.002	-
	06/21/90	0001			231.	JL	0.002	-
	06/21/90	0002			234.	JL	0.002	-
	06/21/90	0003			231.	JL	0.002	-
	06/21/90	0004			238.	JL	0.002	-
	06/21/90	0005			249.	JL	0.002	-
	01/29/91	0001			231.	L	0.002	-
	06/04/91	0001			267.		5.	-
	02/25/92	0001			256.		5.	-
	02/19/93	0001			248		0.1	-
	06/30/93	0001			249		1	-
	04/24/94	0001			258		1	-
	04/24/94	0002			261		1	-
	12/13/94	0001			261		1	-
	12/13/94	0002			259		1	-
SODIUM (TOTAL)	06/30/93	N001	MG/L		244		1	-
	06/30/93	N002			243		1	-
	04/24/94	N001			225		1	-
	04/24/94	N002			233		1	-
SPECIFIC CONDUCTANCE	04/22/88	0001	UMHO/CM		1650.		-	-
	06/25/89	0001			1660.	L	-	-
	12/01/89	0001			2000.		-	-
	06/21/90	0001			2000.	L	-	-
	06/21/90	0002			2000.	L	-	-
	06/21/90	0003			2000.	L	-	-
	06/21/90	0004			2000.	L	-	-
	06/21/90	0005			2000.	L	-	-
	01/29/91	0001			2790.	L	-	-
	06/04/91	0001			2890.		-	-
	02/25/92	0001			2510		-	-
	11/19/92	0001			2510		-	-
	02/19/93	0001			2510		-	-
	06/30/93	N001			2610		-	-
	04/24/94	N001			2670		-	-
	12/13/94	N001			2650		1	-
STRONTIUM	06/21/90	0001	MG/L		7.55	*JL	0.1	-
	06/21/90	0002			1.59	*JL	0.1	-
	06/21/90	0003			1.57	*JL	0.1	-
	06/21/90	0004			1.62	*JL	0.1	-
	06/21/90	0005			1.69	*JL	0.1	-
	01/29/91	0001			1.8	L	0.1	-
	06/04/91	0001			1.95		0.01	-

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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM	02/25/92	0001	MG/L		1.97		0.01	-
	11/19/92	0001			2.9		0.00035	-
	06/30/93	0001			2.00		0.01	-
	04/24/94	0001			2.19		0.01	-
	04/24/94	0002			2.18		0.01	-
	12/13/94	0001			2.19		0.01	-
	12/13/94	0002			2.13		0.01	-
STRONTIUM (TOTAL)	11/19/92	N001	MG/L		2.4		0.00035	-
	06/30/93	N001			2.10		0.01	-
	06/30/93	N002			2.08		0.01	-
	04/24/94	N001			1.99		0.01	-
	04/24/94	N002			2.08		0.01	-
SULFATE	04/22/88	0001	MG/L		1060.		0.1	-
	06/25/89	0001			1240.	L	0.1	-
	12/01/89	0001			1330.		0.1	-
	06/21/90	0001			1120.	JL	0.1	-
	06/21/90	0002			1457.5	JL	0.1	-
	06/21/90	0003			1460.8	JL	0.1	-
	06/21/90	0004			1360.	JL	0.1	-
	06/21/90	0005			1471.5	JL	0.1	-
	01/29/91	0001			1530.	L	0.1	-
	06/04/91	0001			1520.		10.	-
	02/25/92	0001			1690.		10.	-
	11/19/92	0001			1700		1.0	-
	02/19/93	0001			1790		1	-
	04/24/94	0001			1660		1	-
	04/24/94	0002			1700		1	-
	12/13/94	0001			1800		1	-
	12/13/94	0002			1720		1	-
SULFATE (TOTAL)	11/19/92	N001	MG/L		1600		1.0	-
	06/30/93	N001			1650		1	-
	06/30/93	N002			1660		1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/01/89	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			1.32	J	1.	-
TEMPERATURE	04/22/88	0001	C - DEGREE		16.0		-	-
	06/25/89	0001			17.5	L	-	-
	12/01/89	0001			16.0		-	-
	06/21/90	0001			17.	L	-	-
	06/21/90	0002			17.	L	-	-
	06/21/90	0003			17.	L	-	-
	06/21/90	0004			17.	L	-	-
	06/21/90	0005			17.	L	-	-
	01/29/91	0001			14.9	L	-	-
	06/04/91	0001			16.8		-	-
	02/25/92	0001			15.9		-	-
	11/19/92	0001			15.9		-	-

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0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	02/19/93	0001	C - DEGREE		15.4		-	-
	06/30/93	N001			18.7		-	-
	04/24/94	N001			16.4		-	-
	12/13/94	N001			15.3		0.1	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.01	JL	0.01	-
	06/21/90	0002		<	0.01	JL	0.01	-
	06/21/90	0003		<	0.01	JL	0.01	-
	06/21/90	0004		<	0.01	JL	0.01	-
	06/21/90	0005		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0	L	1.	0.3
	06/04/91	0001			0.3		1.	0.3
TIN	06/25/89	0001	MG/L		0.024	L	0.005	-
	12/01/89	0001		<	0.005		0.005	-
	06/21/90	0001			0.020	JL	0.005	-
	06/21/90	0002			0.019	JL	0.005	-
	06/21/90	0003			0.020	JL	0.005	-
	06/21/90	0004			0.018	JL	0.005	-
	06/21/90	0005			0.019	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.01	I	0.01	-
	02/25/92	0001		<	0.03	I	0.03	-
TOTAL DISSOLVED SOLIDS	04/22/88	0001	MG/L		1730.		10.	-
	06/25/89	0001			2030.	L	10.	-
	12/01/89	0001			2290.		10.	-
	06/21/90	0001			2104.	JL	10.	-
	06/21/90	0002			2068.	JL	10.	-
	06/21/90	0003			2080.	JL	10.	-
	06/21/90	0004			2028.	JL	10.	-
	06/21/90	0005			1956.	JL	10.	-
	01/29/91	0001			2320.	L	10.	-
	06/04/91	0001			2590.		10.	-
	02/25/92	0001			2640.		10.	-
	02/19/93	0001			2820		10	-
	04/24/94	0001			2760		10	-
	04/24/94	0002			2780		10	-
	12/13/94	0001			2970		10	-
	12/13/94	0002			2990		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/30/93	N001	MG/L		2670	H	10	-
	06/30/93	N002			2640	H	10	-
TOTAL ORGANIC CARBON	04/22/88	0001	MG/L		53.5		1.	-
	01/29/91	0001		<	1.	L	1.	-
	06/04/91	0001		<	1.		1.	-
	02/25/92	0001			1.		1.	-

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

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

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
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TURBIDITY	04/24/94	N001	NTU		9		-	-
	12/13/94	N001			14		1	-
URANIUM	04/22/88	0001	MG/L		0.0072		0.003	-
	06/25/89	0001			0.0078	L	0.003	-
	12/01/89	0001			0.009		0.003	-
	06/21/90	0001			0.0068	JL	0.003	-
	06/21/90	0002			0.063	JL	0.003	-
	06/21/90	0003			0.0016	JL	0.003	-
	06/21/90	0004			0.0061	JL	0.003	-
	06/21/90	0005			0.0072	JL	0.003	-
	01/29/91	0001			0.0094	L	0.0003	-
	06/04/91	0001			0.014		0.001	-
	02/26/92	0001			0.010		0.001	-
	11/19/92	0001			0.012		0.001	-
	02/19/93	0001			0.013		0.005	-
	06/30/93	0001			0.011		0.001	-
	04/24/94	0001			0.012		0.001	-
	04/24/94	0002			0.012		0.001	-
	12/13/94	0001			0.006		0.001	-
	12/13/94	0002		<	0.001		0.001	-
URANIUM (TOTAL)	11/19/92	N001	MG/L		0.011		0.001	-
	06/30/93	N001			0.01		0.001	-
	06/30/93	N002			0.01		0.001	-
	04/24/94	N001			0.012		0.001	-
	04/24/94	N002			0.012		0.001	-
VANADIUM	06/25/89	0001	MG/L		0.05	L	0.01	-
	12/01/89	0001		<	0.01		0.01	-
	06/21/90	0001			0.03	JL	0.01	-
	06/21/90	0002			0.02	JL	0.01	-
	06/21/90	0003			0.02	JL	0.01	-
	06/21/90	0004			0.02	JL	0.01	-
	06/21/90	0005			0.02	JL	0.01	-
	01/29/91	0001			0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
	02/25/92	0001		<	0.01		0.01	-
	11/19/92	0001			0.0093		0.0019	-
	06/30/93	0001		<	0.01		0.01	-
	04/24/94	0001		<	0.01		0.01	-
	04/24/94	0002		<	0.01		0.01	-
	12/13/94	0001		<	0.01		0.01	-
	12/13/94	0002		<	0.01		0.01	-
VANADIUM (TOTAL)	11/19/92	N001	MG/L		0.0080		0.0019	-
	06/30/93	N001		<	0.01		0.01	-
	06/30/93	N002		<	0.01		0.01	-
	04/24/94	N001		<	0.01		0.01	-
	04/24/94	N002		<	0.01		0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/01/89	0001		<	0.005		0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0653
NORTH COORDINATE: 61249.3 FT
EAST COORDINATE: 89596.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	06/21/90	0001	MG/L	<	0.005	JL	0.005	-
	06/21/90	0002		<	0.005	JL	0.005	-
	06/21/90	0003		<	0.005	JL	0.005	-
	06/21/90	0004			0.082	JL	0.005	-
	06/21/90	0005		<	0.005	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.005		0.005	-
	02/25/92	0001			0.011		0.005	-
	11/19/92	0001			0.0048		0.0010	-
	06/30/93	0001			0.016	J	0.005	-
ZINC (TOTAL)	11/19/92	N001	MG/L		0.0070		0.0010	-
	06/30/93	N001			0.020	J	0.005	-
	06/30/93	N002			0.020	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
N002 - UNFILTERED REPLICATE SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		179.	L	-	-
	06/09/89	0001			193.	L	-	-
	12/03/89	0001			159.		-	-
	06/21/90	0001			170.	L	-	-
	01/29/91	0001			168.	L	-	-
	06/02/91	0001			176.	L	-	-
	08/12/92	0001			174	L	-	-
	11/22/92	0001			184		-	-
	02/18/93	0001			184		-	-
	06/30/93	N001			175		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001		<	0.05	L	0.05	-
	08/12/92	0001		<	0.2	*L	0.2	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1	L	0.1	-
	06/09/89	0001		<	0.1	L	0.1	-
	12/03/89	0001			0.1		0.1	-
	06/21/90	0001		<	0.1	HL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001			0.2	L	0.1	-
AMMONIUM (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
ANTIMONY	06/09/89	0001	MG/L	<	0.003	L	0.003	-
	12/03/89	0001		<	0.003		0.003	-
	06/21/90	0001		<	0.003	L	0.003	-
	01/29/91	0001		<	0.003	L	0.003	-
	06/02/91	0001		<	0.003	L	0.003	-
	08/12/92	0001		<	0.06	L	0.06	-
ARSENIC	04/26/88	0001	MG/L	<	0.001	JL	0.01	-
	06/09/89	0001		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01	L	0.01	-
	08/12/92	0001		<	0.01	WL	0.01	-
	11/22/92	0001		<	0.0015		0.0015	-
	06/30/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	
	06/30/93	N001		<	0.005	*HJL	0.005	
BARIUM	06/09/89	0001	MG/L		0.1	L	0.1	
	12/03/89	0001			0.1		0.1	
	06/21/90	0001			0.2	L	0.1	
	01/29/91	0001			0.2	L	0.1	
	06/02/91	0001			0.15	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:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BARIUM	08/12/92	0001	MG/L	<	0.2	L	0.2	-
	11/22/92	0001			0.14		0.0015	-
	06/30/93	0001			0.1		0.1	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.14		0.0015	-
	06/30/93	N001			0.1		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	12/03/89	0001		<	0.005		0.005	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.005	L	0.005	-
	08/12/92	0001		<	0.005	L	0.005	-
BORON	06/09/89	0001	MG/L	<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/02/91	0001		<	0.05	L	0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/02/91	0001		<	0.1	L	0.1	-
CADMIUM	04/26/88	0001	MG/L		0.002	L	0.001	-
	06/09/89	0001		<	0.001	L	0.001	-
	12/03/89	0001		<	0.001		0.001	-
	06/21/90	0001		<	0.001	L	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/02/91	0001		<	0.001	L	0.001	-
	08/12/92	0001		<	0.005	L	0.005	-
	11/22/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L		0.00021	NS	0.00013	-
CALCIUM	04/26/88	0001	MG/L		40.9	L	0.01	-
	06/09/89	0001			42.1	L	0.01	-
	12/03/89	0001			42.		0.01	-
	06/21/90	0001			41.9	L	0.01	-
	01/29/91	0001			42.6	L	0.01	-
	06/02/91	0001			45.5	L	0.5	-
	08/12/92	0001			42	L	5	-
	02/18/93	0001			38.1		0.5	-
	06/30/93	0001			41.3		0.5	-
CALCIUM (TOTAL)	06/30/93	N001	MG/L		38.7		0.5	-
CHLORIDE	04/26/88	0001	MG/L		5.7	L	1.	-
	06/09/89	0001			3.6	L	1.	-
	12/03/89	0001			5.4		1.	-
	06/21/90	0001			6.	L	1.	-
	01/29/91	0001		<	1.	JL	1.	-
	06/02/91	0001			5.3	L	0.5	-
	08/12/92	0001			5.6	L	0.016	-
	02/18/93	0001			5.8		0.5	-

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE (TOTAL)	06/30/93	N001	MG/L		6.8		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01	L	0.01	-
	08/12/92	0001		<	0.01	L	0.01	-
	11/22/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05	L	0.05	-
	12/03/89	0001		<	0.05		0.05	-
	06/21/90	0001		<	0.05	L	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
	06/02/91	0001		<	0.03	L	0.03	-
COPPER	06/09/89	0001	MG/L	<	0.02	L	0.02	-
	12/03/89	0001		<	0.02		0.02	-
	06/21/90	0001		<	0.02	L	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/02/91	0001		<	0.01	L	0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
DISSOLVED OXYGEN	06/30/93	N001	MG/L		0.0		-	-
FLUORIDE	06/09/89	0001	MG/L		0.2	L	0.1	-
	12/03/89	0001			0.2		0.1	-
	06/21/90	0001			0.2	L	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/02/91	0001		<	0.1	L	0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		3.0	L	0.2	2.4
	01/29/91	0001			0.2	L	1.	2.1
	06/02/91	0001			1.8	L	1.	4.0
	08/12/92	0001			0.7	L	4.6	2.3
	11/22/92	0001			8.7	N	2.9	3.2
	02/18/93	0001			0		5	5
	06/30/93	0001			0		3	4
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		0.0	N	6.2	3.3
	06/30/93	N001			1		2	4
GROSS BETA	04/26/88	0001	PCI/L		4.3	L	1.	1.4
	01/29/91	0001			2.6	L	0.5	1.7
	06/02/91	0001			7.2	L	0.5	2.6
	08/12/92	0001			2.3	L	3.8	2.3
	11/22/92	0001			0.0	N	5.2	3.0
	02/18/93	0001			0		11	5
	06/30/93	0001			0		4	4
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		3.1	N	4.7	2.9

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA (TOTAL)	06/30/93	N001	PCI/L		0		4	4
IRON	06/09/89	0001	MG/L		0.04	L	0.03	-
	12/03/89	0001		<	0.03		0.03	-
	06/21/90	0001		<	0.03	L	0.03	-
	01/29/91	0001			0.06	L	0.03	-
	06/02/91	0001		<	0.03	L	0.03	-
	08/12/92	0001		<	0.1	L	0.1	-
	02/18/93	0001		<	0.03		0.03	-
	06/30/93	0001			0.03	J	0.03	-
IRON (TOTAL)	06/30/93	N001	MG/L		0.06	J	0.03	-
LEAD	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.005	L	0.005	-
	11/22/92	0001		<	0.0015	W	0.0015	-
LEAD (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/22/92	0001	PCI/L		0.6		2.0	1.2
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		4.7		0.3	0.8
MAGNESIUM	04/26/88	0001	MG/L		17.6	L	0.001	-
	06/09/89	0001			18.1	L	0.001	-
	12/03/89	0001			18.5		0.001	-
	06/21/90	0001			18.5	L	0.001	-
	01/29/91	0001			20.5	L	0.001	-
	06/02/91	0001			19.2	L	0.1	-
	08/12/92	0001			18	L	5	-
	02/18/93	0001			16.5		0.1	-
	06/30/93	0001			17.4		0.1	-
MAGNESIUM (TOTAL)	06/30/93	N001	MG/L		17.4		0.1	-
MANGANESE	06/09/89	0001	MG/L		0.05	L	0.01	-
	12/03/89	0001			0.04		0.01	-
	06/21/90	0001			0.04	L	0.01	-
	01/29/91	0001			0.04	L	0.01	-
	06/02/91	0001			0.04	L	0.01	-
	08/12/92	0001			0.038	L	0.01	-
	11/22/92	0001			0.033		0.0015	-
	02/18/93	0001			0.03		0.01	-
	06/30/93	0001			0.04		0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L		0.029		0.0015	-
	06/30/93	N001			0.03		0.01	-
MERCURY	06/09/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/03/89	0001		<	0.0002		0.0002	-
	06/21/90	0001		<	0.0002	L	0.0002	-

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	04/26/88	0001	MG/L		0.01	L	0.01	-
	06/09/89	0001		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/02/91	0001		<	0.01	L	0.01	-
	08/12/92	0001		<	0.007	L	0.007	-
	11/22/92	0001		<	0.0049	N	0.0049	-
	06/30/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/30/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		2.38		-	-
	01/29/91	0001			-0.35		-	-
	06/02/91	0001			1.46		-	-
	11/22/92	0001			8.01		-	-
	02/18/93	0001			-0.69		-	-
	06/30/93	0001			-0.34		-	-
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-0.69		-	-
	06/30/93	N001			0.66		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04	L	0.04	-
	12/03/89	0001		<	0.04		0.04	-
	06/21/90	0001		<	0.04	L	0.04	-
	01/29/91	0001		<	0.04	L	0.04	-
	06/02/91	0001		<	0.04	L	0.04	-
NITRATE	04/26/88	0001	MG/L		0.3	JL	1.	-
	06/09/89	0001			4.4	L	1.	-
	12/03/89	0001			3.1		1.	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	1.	L	1.	-
	06/02/91	0001			3.5	L	1.	-
	08/12/92	0001			1.7	L	0.075	-
	11/22/92	0001			0.38		0.044	-
	02/18/93	0001		<	1		1	-
NITRATE (TOTAL)	06/30/93	N001	MG/L	<	1		1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L	<	1.	JL	1.	-
	06/02/91	0001			0.79	L	0.05	-
PH	04/26/88	0001	SU		7.77	L	-	-
	06/09/89	0001			7.55	L	-	-
	12/03/89	0001			7.89		-	-
	06/21/90	0001			7.81	L	-	-
	01/29/91	0001			7.69	L	-	-
	06/02/91	0001			7.80	L	-	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0654
NORTH COORDINATE: 59351.4 FT
EAST COORDINATE: 91063.4 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: CROSS GRADIENT (C)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	08/12/92	0001	SU		7.61	L	-	-
	11/22/92	0001			7.74		-	-
	02/18/93	0001			7.69		-	-
	06/30/93	N001			7.86		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6	L	0.1	-
	12/03/89	0001			0.1		0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
PHOSPHATE (TOTAL)	06/30/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	04/26/88	0001	MG/L		2.47	L	0.01	-
	06/09/89	0001			2.5	L	0.01	-
	12/03/89	0001			2.2		0.01	-
	06/21/90	0001			2.5	L	0.01	-
	01/29/91	0001			2.4	L	0.01	-
	06/02/91	0001			2.6	L	0.01	-
	08/12/92	0001			2.2	*L	0.575	-
	02/18/93	0001			2.3		0.1	-
	06/30/93	0001			2.6		0.1	-
POTASSIUM (TOTAL)	06/30/93	N001	MG/L		2.4		0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.3	L	1.	0.2
	12/03/89	0001			0.3		1.	0.2
	06/21/90	0001			0.1	L	1.	0.2
	01/29/91	0001			0.2	L	1.	0.2
	06/02/91	0001			0.4	L	1.	0.4
	08/12/92	0001			0.07	L	0.42	0.04
	11/22/92	0001			0.6		0.3	0.3
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.9		0.3	0.4
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.30			
	12/03/89	0001			0.30			
	06/21/90	0001			0.80			
	01/29/91	0001			1.30			
	06/02/91	0001			0.50			-
	08/12/92	0001			0.47			
	11/22/92	0001			3.40			
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		4.40			
RADIUM-228	06/09/89	0001	PCI/L		0.0	L	1.	0.7
	12/03/89	0001			0.0		1.	1.9
	06/21/90	0001			0.7	L	1.	0.9
	01/29/91	0001			1.1	L	1.	0.8
	06/02/91	0001			0.1	JL	1.	1.5
	08/12/92	0001			0.4	L	2.0	1.0
	11/22/92	0001			2.8		2.5	1.7
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.5		2.0	1.5
REDOX POTENTIAL	11/22/92	0001	mVOLTS		111.7		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0669
NORTH COORDINATE: 60146.3 FT
EAST COORDINATE: 88247.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	06/29/93	N001	UMHO/CM		927	L	-	-
	05/12/94	N001			824		-	-
STRONTIUM	02/24/92	0001	MG/L		0.58	L	0.01	-
	06/29/93	0001			0.57	L	0.01	-
	05/12/94	0001			0.42		0.01	-
STRONTIUM (TOTAL)	06/29/93	N001	MG/L		0.57	L	0.01	-
	05/12/94	N001			0.50		0.01	-
SULFATE	06/25/89	0001	MG/L		365.		0.1	-
	02/24/92	0001			266.	L	30.	-
	05/12/94	0001			182		1	-
SULFATE (TOTAL)	06/29/93	N001	MG/L		232	L	1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1		0.1	-
TEMPERATURE	06/25/89	0001	C - DEGREE		16.9		-	-
	02/24/92	0001			12.7	L	-	-
	06/29/93	N001			24.6	L	-	-
	05/12/94	N001			20.9		-	-
THALLIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
TIN	06/25/89	0001	MG/L	<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	06/25/89	0001	MG/L		786.		10.	-
	02/24/92	0001			647.	L	10.	-
	05/12/94	0001			500		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		600	HL	10	-
TOTAL ORGANIC CARBON	02/24/92	0001	MG/L	<	1.	L	1.	-
URANIUM	06/25/89	0001	MG/L		0.012		0.003	-
	02/24/92	0001			0.009	L	0.001	-
	06/29/93	0001			0.01	L	0.001	-
	05/12/94	0001			0.009		0.001	-
URANIUM (TOTAL)	06/29/93	N001	MG/L		0.01	L	0.001	-
	05/12/94	N001			0.009		0.001	-
VANADIUM	06/25/89	0001	MG/L		0.08		0.01	-
	02/24/92	0001			0.06	L	0.01	-
	06/29/93	0001			0.05	L	0.01	-
	05/12/94	0001			0.04		0.01	-
VANADIUM (TOTAL)	06/29/93	N001	MG/L		0.05	L	0.01	-
	05/12/94	N001			0.05		0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005		0.005	-
	02/24/92	0001		<	0.005	L	0.005	-
	06/29/93	0001			0.022	JL	0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0669
NORTH COORDINATE: 60146.3 FT
EAST COORDINATE: 88247.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NITRATE	06/25/89	0001	MG/L		43.		1.	-
	02/24/92	0001			33.5	L	2.0	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		3	L	1	-
	05/14/94	N001			28		1	-
PH	06/25/89	0001	SU		7.42		-	-
	02/24/92	0001			7.61	L	-	-
	06/29/93	N001			7.18	L	-	-
	05/12/94	N001			7.67		-	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1		0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L		0.2	L	0.1	-
POTASSIUM	06/25/89	0001	MG/L		2.2		0.01	-
	02/24/92	0001			2.93	L	0.01	-
	06/29/93	0001			3.0	L	0.1	-
	05/12/94	0001			2.3		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		3.1	L	0.1	-
	05/12/94	N001			3.1		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.2		1.	0.2
	02/24/92	0001			0.0	L	1.0	0.2
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.20		-	-
	02/24/92	0001			1.60		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.0		1.	0.8
	02/24/92	0001			1.6	L	1.0	1.0
REDOX POTENTIAL	06/29/93	N001	mVOLTS		410	GL	-	-
	05/12/94	N001			308		-	-
SELENIUM	06/25/89	0001	MG/L		0.009		0.005	-
	02/24/92	0001			0.007	L	0.005	-
SILICA - SIO2	06/25/89	0001	MG/L		15.		2.	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		15.0	HL	0.5	-
SILVER	06/25/89	0001	MG/L	<	0.01		0.01	-
SODIUM	06/25/89	0001	MG/L		49.5		0.002	-
	02/24/92	0001			44.	L	1.	-
	06/29/93	0001			44	L	1	-
	05/12/94	0001			37		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		43	L	1	-
	05/12/94	N001			42		1	-
SPECIFIC CONDUCTANCE	06/25/89	0001	UMHO/CM		760.		-	-
	02/24/92	0001			685	L	-	-

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
H - HOLD TIME EXPIRED, VALUE SUSPECT
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0669
NORTH COORDINATE: 60146.3 FT
EAST COORDINATE: 88247.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CYANIDE	06/25/89	0001	MG/L	<	0.01		0.01	-
FLUORIDE	06/25/89	0001	MG/L		0.2		0.1	-
GROSS ALPHA	02/24/92	0001	PCI/L		1.2	L	1.0	6.1
	06/29/93	0001			10	L	5	9
GROSS ALPHA (TOTAL)	06/29/93	N001	PCI/L		9	L	5	9
GROSS BETA	02/24/92	0001	PCI/L		7.2	L	0.5	4.3
	06/29/93	0001			2	L	5	4
GROSS BETA (TOTAL)	06/29/93	N001	PCI/L		4	L	5	4
IRON	06/25/89	0001	MG/L	<	0.03		0.03	-
	02/24/92	0001		<	0.03	L	0.03	-
	06/29/93	0001		<	0.03	JL	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.29	JL	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01		0.01	-
MAGNESIUM	06/25/89	0001	MG/L		71.0		0.001	-
	02/24/92	0001			62.2	L	0.5	-
	06/29/93	0001			54.3	L	0.1	-
	05/12/94	0001			37.0		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		55.4	L	0.1	-
	05/12/94	N001			42.4		0.1	-
MANGANESE	06/25/89	0001	MG/L	<	0.01		0.01	-
	02/24/92	0001		<	0.01	L	0.01	-
	06/29/93	0001		<	0.01	L	0.01	-
	05/12/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/29/93	N001	MG/L		0.01	L	0.01	-
	05/12/94	N001			0.05		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/25/89	0001	MG/L	<	0.01		0.01	-
	02/24/92	0001		<	0.01	L	0.01	-
	06/29/93	0001		<	0.01	L	0.01	-
MOLYBDENUM (TOTAL)	06/29/93	N001	MG/L	<	0.01	L	0.01	-
NET GROSS ALPHA *	02/24/92	0001	PCI/L		-4.97		-	-
	06/29/93	0001			3.14		-	-
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		2.14		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04		0.04	-

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0669
NORTH COORDINATE: 60146.3 FT
EAST COORDINATE: 88247.8 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/25/89	0001	MG/L CACO3		246.		-	-
	02/24/92	0001			218	L	-	-
	06/29/93	N001			204	L	-	-
	05/12/94	N001			202		-	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	02/24/92	0001		<	0.05	L	0.05	-
AMMONIUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	02/24/92	0001			0.4	L	0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L		0.2	L	0.1	-
	05/14/94	N001			0.8		0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	J	0.003	-
	02/24/92	0001		<	0.003	L	0.003	-
ARSENIC	06/25/89	0001	MG/L	<	0.01		0.01	-
	02/24/92	0001		<	0.01	L	0.01	-
	06/29/93	0001		<	0.005	L	0.005	-
ARSENIC (TOTAL)	06/29/93	N001	MG/L	<	0.005	L	0.005	-
BARIUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	02/24/92	0001			0.02	L	0.01	-
	06/29/93	0001		<	0.1	L	0.1	-
BARIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1	L	0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
BORON	06/25/89	0001	MG/L	<	0.1		0.1	-
CADMIUM	06/25/89	0001	MG/L	<	0.001		0.001	-
	02/24/92	0001		<	0.0005	L	0.0005	-
CALCIUM	06/25/89	0001	MG/L		82.7		0.01	-
	02/24/92	0001			80.8	L	0.5	-
	06/29/93	0001			75.4	L	0.5	-
	05/12/94	0001			52.9		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		71.9	L	0.5	-
	05/12/94	N001			62.3		0.5	-
CHLORIDE	06/25/89	0001	MG/L		16.		1.	-
	02/24/92	0001			12.2	L	0.5	-
	05/12/94	0001			10.0		0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		15.0	L	0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
	02/24/92	0001		<	0.01	L	0.01	-
COBALT	06/25/89	0001	MG/L	<	0.05		0.05	-
COPPER	06/25/89	0001	MG/L	<	0.02		0.02	-

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0668
NORTH COORDINATE: 60171.4 FT
EAST COORDINATE: 88287.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	06/25/89	0001	MG/L		2.36	JL	10.	-
	05/11/94	0001			270		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		240	H	10	-
TURBIDITY	05/11/94	N001	NTU		213		-	-
URANIUM	06/25/89	0001	MG/L		0.0017	JL	0.003	-
	06/29/93	0001			0.003		0.001	-
	05/11/94	0001			0.003		0.001	-
URANIUM (TOTAL)	06/29/93	N001	MG/L		0.003		0.001	-
	05/11/94	N001			0.004		0.001	-
VANADIUM	06/25/89	0001	MG/L		0.01	L	0.01	-
	06/29/93	0001		<	0.01		0.01	-
	05/11/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
	05/11/94	N001			0.01		0.01	-
ZINC	06/25/89	0001	MG/L		0.014	L	0.005	-
	06/29/93	0001			0.040	J	0.005	-
ZINC (TOTAL)	06/29/93	N001	MG/L		0.017	J	0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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EAST COORDINATE: 88287.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	06/29/93	0001	MG/L		2.8		0.1	-
	05/11/94	0001			2.3		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		2.7		0.1	-
	05/11/94	N001			6.4		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.0	L	1.	0.1
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.00		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.0	L	1.	0.8
REDOX POTENTIAL	06/29/93	N001	mVOLTS		450		-	-
	05/11/94	N001			245	GL	-	-
SELENIUM	06/25/89	0001	MG/L	<	0.005	L	0.005	-
SILICA - SIO2	06/25/89	0001	MG/L		11.	L	2.	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		11.0	H	0.5	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
SODIUM	06/25/89	0001	MG/L		61.8	L	0.002	-
	06/29/93	0001			53		1	-
	05/11/94	0001			55		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		54		1	-
	05/11/94	N001			60		1	-
SPECIFIC CONDUCTANCE	06/25/89	0001	UMHO/CM		325.	L	-	-
	06/29/93	N001			391		-	-
	05/11/94	N001			407		-	-
STRONTIUM	06/29/93	0001	MG/L		0.51		0.01	-
	05/11/94	0001			0.34		0.01	-
STRONTIUM (TOTAL)	06/29/93	N001	MG/L		0.49		0.01	-
	05/11/94	N001			0.42		0.01	-
SULFATE	06/25/89	0001	MG/L		40.	L	0.1	-
	05/11/94	0001			42		1	-
SULFATE (TOTAL)	06/29/93	N001	MG/L		36		1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	06/25/89	0001	C - DEGREE		17.5	L	-	-
	06/29/93	N001			18.1		-	-
	05/11/94	N001			17.3		-	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
TIN	06/25/89	0001	MG/L	<	0.005	L	0.005	-

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
H - HOLD TIME EXPIRED, VALUE SUSPECT
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0668
NORTH COORDINATE: 60171.4 FT
EAST COORDINATE: 88287.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	06/29/93	0001	PCI/L		3		4	4
GROSS BETA (TOTAL)	06/29/93	N001	PCI/L		2		4	4
IRON	06/25/89	0001	MG/L	<	0.03	L	0.03	-
	06/29/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L	<	0.03	J	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
MAGNESIUM	06/25/89	0001	MG/L		17.6	L	0.001	-
	06/29/93	0001			20.2		0.1	-
	05/11/94	0001			16.7		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		19.7		0.1	-
	05/11/94	N001			23.3		0.1	-
MANGANESE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	06/29/93	0001		<	0.01		0.01	-
	05/11/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
	05/11/94	N001			0.25		0.01	-
MERCURY	06/25/89	0001	MG/L		0.0005	L	0.0002	-
MOLYBDENUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	06/29/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/29/93	N001	MG/L	<	0.01		0.01	-
NET GROSS ALPHA *	06/29/93	0001	PCI/L		3.94		-	-
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		-2.06		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
NITRATE	06/25/89	0001	MG/L		6.7	L	1.	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		2		1	-
	05/14/94	N001			1		1	-
PH	06/25/89	0001	SU		8.78	L	-	-
	06/29/93	N001			7.85		-	-
	05/11/94	N001			7.78		-	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	06/25/89	0001	MG/L		5.4	L	0.01	-

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0668
NORTH COORDINATE: 60171.4 FT
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04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/25/89	0001	MG/L CACO3		178.	L	-	-
	06/29/93	N001			186		-	-
	05/11/94	N001			215		-	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
AMMONIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
	05/14/94	N001		<	0.1		0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	L	0.003	-
ARSENIC	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	06/29/93	0001			0.015		0.005	-
ARSENIC (TOTAL)	06/29/93	N001	MG/L		0.016		0.005	-
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	06/29/93	0001			0.1		0.1	-
BARIUM (TOTAL)	06/29/93	N001	MG/L		0.1		0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-
CADMIUM	06/25/89	0001	MG/L	<	0.001	L	0.001	-
CALCIUM	06/25/89	0001	MG/L		6.04	L	0.01	-
	06/29/93	0001			13.3		0.5	-
	05/11/94	0001			14.3		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		12.4		0.5	-
	05/11/94	N001			34.0		0.5	-
CHLORIDE	06/25/89	0001	MG/L		6.1	L	1.	-
	05/11/94	0001			7.4		0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		5.7		0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
COPPER	06/25/89	0001	MG/L		0.02	L	0.02	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		3.2		-	-
	05/11/94	N001			1.8		-	-
FLUORIDE	06/25/89	0001	MG/L		0.3	L	0.1	-
GROSS ALPHA	06/29/93	0001	PCI/L		6		2	5
GROSS ALPHA (TOTAL)	06/29/93	N001	PCI/L		0		2	4

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0664
NORTH COORDINATE: 61255.9 FT
EAST COORDINATE: 89537.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
STRONTIUM (TOTAL)	06/28/93	N001	MG/L		0.55		0.01	-
	05/12/94	N001			0.57		0.01	-
SULFATE	05/12/94	0001	MG/L		39		1	-
	12/13/94	0001			15	F	1	-
SULFATE (TOTAL)	06/28/93	N001	MG/L		41		1	-
TEMPERATURE	06/28/93	N001	C - DEGREE		20.7		-	-
	05/12/94	N001			17.5		-	-
	12/13/94	N001			13.9	F	0.1	-
TOTAL DISSOLVED SOLIDS	05/12/94	0001	MG/L		300		10	-
	12/13/94	0001			314	F	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/28/93	N001	MG/L		280	H	10	-
TURBIDITY	05/12/94	N001	NTU		0		-	-
	12/13/94	N001		<	1	F	1	-
URANIUM	06/29/93	0001	MG/L		0.011		0.001	-
	05/12/94	0001			0.011		0.001	-
	12/13/94	0001		<	0.001	F	0.001	-
URANIUM (TOTAL)	06/28/93	N001	MG/L		0.01		0.001	-
	05/12/94	N001			0.012		0.001	-
VANADIUM	06/28/93	0001	MG/L	<	0.01		0.01	-
	05/12/94	0001		<	0.01		0.01	-
	12/13/94	0001		<	0.01	F	0.01	-
VANADIUM (TOTAL)	06/28/93	N001	MG/L	<	0.01		0.01	-
	05/12/94	N001		<	0.01		0.01	-
ZINC	06/28/93	0001	MG/L		0.022	J	0.005	-
ZINC (TOTAL)	06/28/93	N001	MG/L		0.030	J	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0664
NORTH COORDINATE: 61255.9 FT
EAST COORDINATE: 89537.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE (TOTAL)	05/12/94	N001	MG/L		0.02		0.01	-
MOLYBDENUM	06/28/93	0001	MG/L	<	0.01		0.01	-
	12/13/94	0001		<	0.01	F	0.01	-
MOLYBDENUM (TOTAL)	06/28/93	N001	MG/L	<	0.01		0.01	-
NET GROSS ALPHA *	06/29/93	0001	PCI/L		1.45		-	-
NET GROSS ALPHA (TOTAL) **	06/28/93	N001	PCI/L		4.14		-	-
NITRATE (TOTAL)	06/28/93	N001	MG/L	<	1		1	-
	05/14/94	N001		<	1		1	-
	12/13/94	N001		<	1	FJN	1	-
PH	06/28/93	N001	SU		8.16		-	-
	05/12/94	N001			7.80		-	-
	12/13/94	N001			8.49	F	0.10	-
PHOSPHATE (TOTAL)	06/28/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	06/28/93	0001	MG/L		3.4		0.1	-
	05/12/94	0001			2.7		0.1	-
	12/13/94	0001			1.6	F	0.1	-
POTASSIUM (TOTAL)	06/28/93	N001	MG/L		3.2		0.1	-
	05/12/94	N001			3.4		0.1	-
REDOX POTENTIAL	06/28/93	N001	mVOLTS		36		-	-
	05/12/94	N001			29		-	-
	12/13/94	N001			228	F	-	-
SILICA - SIO2	12/13/94	0001	MG/L		9.3	F	0.1	-
SILICA - SIO2 (TOTAL)	06/28/93	N001	MG/L		10.5	H	0.5	-
SODIUM	06/28/93	0001	MG/L		70		1	-
	05/12/94	0001			66		1	-
	12/13/94	0001			124	F	1	-
SODIUM (TOTAL)	06/28/93	N001	MG/L		72		1	-
	05/12/94	N001			68		1	-
SPECIFIC CONDUCTANCE	06/28/93	N001	UMHO/CM		458		-	-
	05/12/94	N001			436		-	-
	12/13/94	N001			439	FJ	1	-
STRONTIUM	06/28/93	0001	MG/L		0.56		0.01	-
	05/12/94	0001			0.50		0.01	-
	12/13/94	0001			0.2	FJ	0.01	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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NORTH COORDINATE: 61255.9 FT
EAST COORDINATE: 89537.0 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/28/93	N001	MG/L CACO3		210		-	-
	05/12/94	N001			208		-	-
	12/13/94	N001			253	F	10	-
AMMONIUM (TOTAL)	06/28/93	N001	MG/L	<	0.1		0.1	-
	05/14/94	N001		<	0.1		0.1	-
	12/13/94	N001			0.35	F	0.1	-
ARSENIC	06/28/93	0001	MG/L	<	0.005		0.005	-
ARSENIC (TOTAL)	06/28/93	N001	MG/L	<	0.005		0.005	-
BARIUM	06/28/93	0001	MG/L		0.2		0.1	-
BARIUM (TOTAL)	06/28/93	N001	MG/L		0.2		0.1	-
CALCIUM	06/28/93	0001	MG/L		14.2		0.5	-
	05/12/94	0001			12.8		0.5	-
	12/13/94	0001			5.3	F	0.5	-
CALCIUM (TOTAL)	06/28/93	N001	MG/L		13.6		0.5	-
	05/12/94	N001			14.9		0.5	-
CHLORIDE	05/12/94	0001	MG/L		8.7		0.5	-
	12/13/94	0001			6	F	0.5	-
CHLORIDE (TOTAL)	06/28/93	N001	MG/L		9.0		0.5	-
DISSOLVED OXYGEN	06/28/93	N001	MG/L		0.1		-	-
	05/12/94	N001			0.08		-	-
	12/13/94	N001		<	0.02	F	0.02	-
GROSS ALPHA	06/29/93	0001	PCI/L		9		3	5
GROSS ALPHA (TOTAL)	06/28/93	N001	PCI/L		11		3	6
GROSS BETA	06/29/93	0001	PCI/L		7		4	4
GROSS BETA (TOTAL)	06/28/93	N001	PCI/L		7		4	4
IRON	06/28/93	0001	MG/L		0.05	J	0.03	-
IRON (TOTAL)	06/28/93	N001	MG/L		0.13	J	0.03	-
MAGNESIUM	06/28/93	0001	MG/L		16.6		0.1	-
	05/12/94	0001			14.8		0.1	-
	12/13/94	0001			4	F	0.1	-
MAGNESIUM (TOTAL)	06/28/93	N001	MG/L		16.5		0.1	-
	05/12/94	N001			17.0		0.1	-
MANGANESE	06/28/93	0001	MG/L		0.03		0.01	
	05/12/94	0001			0.02		0.01	
	12/13/94	0001		<	0.01	F	0.01	
MANGANESE (TOTAL)	06/28/93	N001	MG/L		0.03		0.01	

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
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)	12/11/93	N001	MG/L	<	0.01	L	0.01	-
	05/14/94	N001		<	0.01		0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001			0.040	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.005	L	0.005	-
	02/20/92	0001		<	0.005	L	0.005	-
	08/15/92	0001		<	0.02	L	0.02	-
	11/20/92	0001		<	0.0010	L	0.0010	-
	06/24/93	0001		<	0.005	JL	0.005	-
ZINC (TOTAL)	11/20/92	N001	MG/L		0.0070	L	0.0010	-
	06/24/93	N001			0.007	JL	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TOTAL DISSOLVED SOLIDS	12/11/93	0001	MG/L		300	L	10	
	05/14/94	0001			280		10	
	12/12/94	0001			266	F	10	
	12/12/94	0002			342	F	10	
TOTAL DISSOLVED SOLIDS (TOTAL)	06/24/93	N001	MG/L		290	L	10	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		25.0	GL	1.	
	01/29/91	0001		<	1.	JL	1.	
	06/04/91	0001		<	1.	L	1.	
	02/20/92	0001		<	1.	L	1.	
	08/15/92	0001		<	1.0	L	1.0	
TURBIDITY	05/14/94	N001	NTU		1		-	-
	12/12/94	N001			7	F	1	-
URANIUM	04/26/88	0001	MG/L		0.0007	GJL	0.003	
	06/25/89	0001		<	0.0003	JL	0.003	
	12/02/89	0001			0.002	JL	0.003	
	06/25/90	0001			0.0005	JL	0.003	
	01/29/91	0001		<	0.0003	L	0.0003	
	06/04/91	0001		<	0.001	L	0.001	
	02/20/92	0001			0.001	L	0.001	
	08/15/92	0001		<	0.001	L	0.001	
	11/20/92	0001		<	0.001	L	0.001	
	06/24/93	0001		<	0.001	L	0.001	
	12/11/93	0001		<	0.001	L	0.001	
	05/14/94	0001		<	0.001		0.001	
	12/12/94	0001		<	0.001	F	0.001	
	12/12/94	0002		<	0.001	F	0.001	
URANIUM (TOTAL)	11/20/92	N001	MG/L		0.001	L	0.001	
	06/24/93	N001		<	0.001	L	0.001	
	12/11/93	N001		<	0.001	L	0.001	
	05/14/94	N001		<	0.001		0.001	
VANADIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	
	12/02/89	0001		<	0.01	L	0.01	
	06/25/90	0001		<	0.01	JL	0.01	
	01/29/91	0001		<	0.01	L	0.01	
	06/04/91	0001		<	0.01	L	0.01	
	02/20/92	0001		<	0.01	L	0.01	
	08/15/92	0001		<	0.05	*L	0.05	
	11/20/92	0001		<	0.0019	L	0.0019	
	06/24/93	0001		<	0.01	L	0.01	
	12/11/93	0001		<	0.01	L	0.01	
	05/14/94	0001		<	0.01		0.01	
	12/12/94	0001		<	0.01	F	0.01	
	12/12/94	0002		<	0.01	F	0.01	
VANADIUM (TOTAL)	11/20/92	N001	MG/L	<	0.0019	L	0.0019	
	06/24/93	N001		<	0.01	L	0.01	

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	08/15/92	0001	MG/L		43	L	0.059	-
	11/20/92	0001			48	L	1.0	-
	12/11/93	0001			45	L	1	-
	05/14/94	0001			43		1	-
	12/12/94	0001			36	F	1	-
	12/12/94	0002			99	F	1	-
SULFATE (TOTAL)	11/20/92	N001	MG/L		48	L	1.0	-
	06/24/93	N001			46	L	1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	JL	0.1	-
	06/04/91	0001		<	1.	IJL	1.	-
TEMPERATURE	04/26/88	0001	C - DEGREE		16.0	GL	-	-
	06/25/89	0001			18.	L	-	-
	12/02/89	0001			16.0	L	-	-
	06/25/90	0001			17.5	L	-	-
	01/29/91	0001			15.1	L	-	-
	06/04/91	0001			17.7	L	-	-
	02/20/92	0001			15.7	JL	-	-
	08/15/92	0001			16.6	L	-	-
	11/20/92	0001			13.5	L	-	-
	06/24/93	N001			17.6	L	-	-
	12/11/93	N001			15.5	L	-	-
	05/14/94	N001			20.0		-	-
	12/12/94	N001			9.6	F	0.1	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.2	L	1.	0.4
	06/04/91	0001			0.7	L	1.	0.3
TIN	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.01	IL	0.01	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		232.	GL	10.	-
	06/25/89	0001			267.	L	10.	-
	12/02/89	0001			299.	L	10.	-
	06/25/90	0001			264.	JL	10.	-
	01/29/91	0001			244.	L	10.	-
	06/04/91	0001			301.	L	10.	-
	02/20/92	0001			287.	L	10.	-
	08/15/92	0001			290	L	42	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	06/25/90	0001	MG/L		76.7	JL	0.002	-
	01/29/91	0001			78.5	L	0.002	-
	06/04/91	0001			80.	L	1.	-
	02/20/92	0001			75.	L	1.	-
	08/15/92	0001			75	L	5	-
	06/24/93	0001			74	L	1	-
	12/11/93	0001			74	L	1	-
	05/14/94	0001			69		1	-
	12/12/94	0001			73.1	F	1	-
	12/12/94	0002			78.7	F	1	-
SODIUM (TOTAL)	06/24/93	N001	MG/L		70	L	1	-
	12/11/93	N001			73	L	1	-
	05/14/94	N001			74		1	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		300.	GL	-	-
	06/25/89	0001			360.	L	-	-
	12/02/89	0001			380.	L	-	-
	06/25/90	0001			405.	L	-	-
	01/29/91	0001			498.	L	-	-
	06/04/91	0001			502.	L	-	-
	02/20/92	0001			404	L	-	-
	08/15/92	0001			413	L	-	-
	11/20/92	0001			380	L	-	-
	06/24/93	N001			408	L	-	-
	12/11/93	N001			396	L	-	-
	05/14/94	N001			437		-	-
	12/12/94	N001			346	FJ	1	-
STRONTIUM	06/25/90	0001	MG/L		0.53	*JL	0.1	-
	01/29/91	0001			0.5	L	0.1	-
	06/04/91	0001			0.54	L	0.01	-
	02/20/92	0001			0.52	L	0.01	-
	08/15/92	0001			0.57	L	0.2	-
	11/20/92	0001			0.61	L	0.00035	-
	06/24/93	0001			0.50	L	0.01	-
	12/11/93	0001			0.54	L	0.01	-
	05/14/94	0001			0.46		0.01	-
	12/12/94	0001			0.57	FJ	0.01	-
	12/12/94	0002			0.26	FJ	0.01	-
STRONTIUM (TOTAL)	11/20/92	N001	MG/L		0.62	L	0.00035	-
	06/24/93	N001			0.47	L	0.01	-
	12/11/93	N001			0.52	L	0.01	-
	05/14/94	N001			0.49		0.01	-
SULFATE	04/26/88	0001	MG/L		53.	GL	0.1	-
	06/25/89	0001			46.	L	0.1	-
	12/02/89	0001			48.	L	0.1	-
	06/25/90	0001			40.7	JL	0.1	-
	01/29/91	0001			45.3	L	0.1	-
	06/04/91	0001			44.	L	0.1	-
	02/20/92	0001			38.	L	10.	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	06/25/89	0001	PCI/L		0.3	L	1.	0.7
	12/02/89	0001			2.1	L	1.	3.5
	06/25/90	0001			0.6	JL	1.	0.8
	01/29/91	0001			0.9	L	1.	0.7
	06/04/91	0001			2.1	JL	1.	2.2
	02/20/92	0001			0.6	L	1.0	1.5
	08/15/92	0001			0.4	L	1.7	0.9
	11/20/92	0001			0.2	L	3.9	2.3
RADIUM-228 (TOTAL)	11/20/92	N001	PCI/L		3.1	L	2.1	1.5
REDOX POTENTIAL	11/20/92	0001	mVOLTS		164.5	L	-	-
	06/24/93	N001			282	L	-	-
	12/11/93	N001			91	L	-	-
	05/14/94	N001			-72		-	-
	12/12/94	N001			352	F	-	-
SELENIUM	04/26/88	0001	MG/L	<	0.005	GL	0.005	-
	06/25/89	0001		<	0.005	L	0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	JL	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.005	JL	0.005	-
	02/20/92	0001		<	0.005	L	0.005	-
	08/15/92	0001		<	0.005	WL	0.005	-
	11/20/92	0001		<	0.0015	LN	0.0015	-
SELENIUM (TOTAL)	11/20/92	N001	MG/L	<	0.0015	L	0.0015	-
SILICA - SIO2	06/25/89	0001	MG/L		15.	L	2.	-
	12/02/89	0001			15.4	L	2.	-
	06/25/90	0001			13.	JL	2.	-
	01/29/91	0001			12.	L	2.	-
	06/04/91	0001			12.8	L	0.1	-
	12/11/93	0001			14.3	L	0.1	-
	12/12/94	0001			11.5	F	0.1	-
	12/12/94	0002			14.3	F	0.1	-
SILICA - SIO2 (TOTAL)	06/24/93	N001	MG/L		14.3	HL	0.5	-
	12/11/93	N001			14.0	L	0.1	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
SODIUM	04/26/88	0001	MG/L		75.2	GL	0.002	-
	06/25/89	0001			77.6	L	0.002	-
	12/02/89	0001			75.	L	0.002	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MOND1 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	06/04/91	0001	SU		8.13	L		
	02/20/92	0001			8.15	L		
	08/15/92	0001			8.03	L		
	11/20/92	0001			8.20	L		
	06/24/93	N001			8.30	L		
	12/11/93	N001			8.20	L		
	05/14/94	N001			8.27			
	12/12/94	N001			8.06	F	0.10	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	JL	0.1	-
PHOSPHATE (TOTAL)	06/24/93	N001	MG/L	<	0.1	L	0.1	
POTASSIUM	04/26/88	0001	MG/L		2.49	GL	0.01	-
	06/25/89	0001			3.0	L	0.01	-
	12/02/89	0001			2.4	L	0.01	-
	06/25/90	0001			2.4	JL	0.01	-
	01/29/91	0001			2.6	L	0.01	-
	06/04/91	0001			2.8	L	0.01	-
	02/20/92	0001			2.89	L	0.01	-
	08/15/92	0001			3.0	L	0.575	-
	06/24/93	0001			3.1	L	0.1	-
	12/11/93	0001			2.5	L	0.1	-
	05/14/94	0001			2.4		0.1	-
	12/12/94	0001			2.8	F	0.1	-
	12/12/94	0002			3.2	F	0.1	-
POTASSIUM (TOTAL)	06/24/93	N001	MG/L		2.7	L	0.1	-
	12/11/93	N001			2.4	L	0.1	-
	05/14/94	N001			2.9		0.1	-
RADIUM-226	06/25/89	0001	PCI/L				1.	0.2
	12/02/89						1.	0.1
	06/25/90					L	1.	0.2
	01/29/91	0001			0.2	L	1.	0.2
	06/04/91	0001			0.2	L	1.	0.3
	02/20/92	0001			0.0	L	1.0	0.2
	08/15/92	0001			0.3	L	0.5	0.1
	11/20/92	0001			0.8	L	0.3	0.3
RADIUM-226 (TOTAL)	11/20/92	N001	PCI/L		0.2	L	0.3	0.2
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.50		-	-
	12/02/89	0001			2.10		-	-
	06/25/90	0001			0.80		-	-
	01/29/91	0001			1.10		-	-
	06/04/91	0001			2.30		-	-
	02/20/92	0001			0.60		-	-
	08/15/92	0001			0.70		-	-
	11/20/92	0001			1.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/20/92	N001	PCI/L		3.30		-	

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	11/20/92	0001	MG/L	<	0.0049	LN	0.0049	-
	06/24/93	0001		<	0.01	L	0.01	-
	12/12/94	0001		<	0.01	F	0.01	-
	12/12/94	0002			0.02	F	0.01	-
MOLYBDENUM (TOTAL)	11/20/92	N001	MG/L	<	0.0049	LN	0.0049	-
	06/24/93	N001		<	0.01	L	0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		0.52		-	-
	01/29/91	0001			-0.10		-	-
	06/04/91	0001			3.66		-	-
	02/20/92	0001			0.71		-	-
	08/15/92	0001			-0.34		-	-
	11/20/92	0001			1.66		-	-
	06/24/93	0001			0.66		-	-
NET GROSS ALPHA (TOTAL) **	11/20/92	N001	PCI/L		-0.69		-	-
	06/24/93	N001			5.66		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
	12/02/89	0001		<	0.04	L	0.04	-
	06/25/90	0001		<	0.04	JL	0.04	-
	01/29/91	0001		<	0.04	L	0.04	-
	06/04/91	0001		<	0.04	L	0.04	-
NITRATE	04/26/88	0001	MG/L		0.4	GJL	1.	-
	06/25/89	0001			4.8	L	1.	-
	12/02/89	0001			3.5	L	1.	-
	06/25/90	0001		<	0.1	JL	0.1	-
	01/29/91	0001		<	1.	L	1.	-
	06/04/91	0001			3.1	L	1.	-
	02/20/92	0001		<	1.0	L	1.0	-
	08/15/92	0001			3.1	L	0.075	-
	11/20/92	0001			0.20	L	0.044	-
	12/11/93	0001		<	1	L	1	-
NITRATE (TOTAL)	05/18/94	N001	MG/L	<	1	L	1	-
	12/12/94	N001		<	1	FHJN	1	-
	12/12/94	N002			2	FHJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L	<	1.	JL	1.	-
	06/04/91	0001			0.70	L	0.05	-
PH	04/26/88	0001	SU		9.31	GL	-	-
	06/25/89	0001			8.42	L	-	-
	12/02/89	0001			8.48	L	-	-
	06/25/90	0001			8.29	L	-	-
	01/29/91	0001			8.21	L	-	-

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD-210	11/20/92	0001	PCI/L		0.7	L	2.0	1.2
LEAD-210 (TOTAL)	11/20/92	N001	PCI/L		6.0	L	0.3	0.9
MAGNESIUM	04/26/88	0001	MG/L		5.2	GL	0.001	-
	06/25/89	0001			11.0	L	0.001	-
	12/02/89	0001			10.7	L	0.001	-
	06/25/90	0001			13.5	JL	0.001	-
	01/29/91	0001			14.0	L	0.001	-
	06/04/91	0001			13.6	L	0.1	-
	02/20/92	0001			12.0	L	0.1	-
	08/15/92	0001			13	L	5	-
	06/24/93	0001			11.0	L	0.1	-
	12/11/93	0001			11.8	L	0.1	-
	05/14/94	0001			9.5		0.1	-
	12/12/94	0001			13.3	F	0.1	-
	12/12/94	0002			26.2	F	0.1	-
MAGNESIUM (TOTAL)	06/24/93	N001	MG/L		10.3	L	0.1	-
	12/11/93	N001			11.4	L	0.1	-
	05/14/94	N001			10.2		0.1	-
MANGANESE	06/25/89	0001	MG/L		0.03	L	0.01	-
	12/02/89	0001			0.02	L	0.01	-
	06/25/90	0001			0.02	JL	0.01	-
	01/29/91	0001			0.03	L	0.01	-
	06/04/91	0001			0.03	L	0.01	-
	02/20/92	0001			0.02	L	0.01	-
	08/15/92	0001		<	0.1	L	0.01	-
	11/20/92	0001			0.028	L	0.0015	-
	06/24/93	0001			0.03	L	0.01	-
	12/11/93	0001			0.03	L	0.01	-
	05/14/94	0001			0.03		0.01	-
	12/12/94	0001			0.02	F	0.01	-
	12/12/94	0002			0.13	F	0.01	-
MANGANESE (TOTAL)	11/20/92	N001	MG/L		0.022	L	0.0015	-
	06/24/93	N001			0.02	L	0.01	-
	12/11/93	N001			0.03	L	0.01	-
	05/14/94	N001			0.03		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/02/89	0001		<	0.0002	L	0.0002	-
	06/25/90	0001		<	0.0002	JL	0.0002	-
MOLYBDENUM	04/26/88	0001	MG/L		0.01	GL	0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001			0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
	02/20/92	0001		<	0.01	L	0.01	-
	08/15/92	0001		<	0.007	L	0.007	-

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
DISSOLVED OXYGEN	06/24/93	N001	MG/L		0.3	L	-	-
	12/11/93	N001		<	0.6	L	-	-
	05/14/94	N001			3.8		-	-
	12/12/94	N001			1.3	F	0.6	-
FLUORIDE	06/25/89	0001	MG/L		0.2	L	0.1	-
	12/02/89	0001			0.3	L	0.1	-
	06/25/90	0001			6.6	JL	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/04/91	0001			0.2	L	0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		1.0	GL	0.2	2.1
	01/29/91	0001			0.0	L	1.	2.2
	06/04/91	0001			4.0	L	1.	4.3
	02/20/92	0001			1.4	L	1.0	3.8
	08/15/92	0001			0.0	L	3.2	1.2
	11/20/92	0001			2.0	LN	2.7	2.0
	06/24/93	0001			1	L	2	4
GROSS ALPHA (TOTAL)	11/20/92	N001	PCI/L		0.0	LN	6.5	3.4
	06/24/93	N001			6	L	2	5
GROSS BETA	04/26/88	0001	PCI/L		3.0	GL	1.	1.4
	01/29/91	0001			2.8	L	0.5	1.7
	06/04/91	0001			4.6	L	0.5	2.5
	02/20/92	0001			4.2	L	0.5	2.3
	08/15/92	0001			0.0	L	3.6	2.0
	11/20/92	0001			15.6	LN	24.9	15.4
	06/24/93	0001			9	L	4	4
GROSS BETA (TOTAL)	11/20/92	N001	PCI/L		26.7	LN	4.7	3.8
	06/24/93	N001			5	L	4	4
IRON	06/25/89	0001	MG/L	<	0.03	L	0.03	-
	12/02/89	0001		<	0.03	L	0.03	-
	06/25/90	0001		<	0.03	JL	0.03	-
	01/29/91	0001		<	0.03	L	0.03	-
	06/04/91	0001		<	0.03	L	0.03	-
	02/20/92	0001		<	0.03	L	0.03	-
	08/15/92	0001		<	0.1	L	0.1	-
	06/24/93	0001		<	0.03	JL	0.03	-
IRON (TOTAL)	06/24/93	N001	MG/L		0.03	JL	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.005	L	0.005	-
	11/20/92	0001		<	0.0015	L	0.0015	-
LEAD (TOTAL)	11/20/92	N001	MG/L	<	0.0015	L	0.0015	-

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

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OTHER PARAMETER VALUE FLAGS:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
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NORTH COORDINATE: 59069.6 FT
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04/21/88 TO 12/13/94
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FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CALCIUM	02/20/92	0001	MG/L		15.1	L	0.1	-
	08/15/92	0001			17	L	5	-
	06/24/93	0001			14.3	L	0.5	-
	12/11/93	0001			15.2	L	0.5	-
	05/14/94	0001			13.0		0.5	-
	12/12/94	0001			17.9	F	0.5	-
	12/12/94	0002			22.5	F	0.5	-
CALCIUM (TOTAL)	06/24/93	N001	MG/L		14.2	L	0.5	-
	12/11/93	N001			15.4	L	0.5	-
	05/14/94	N001			14.2		0.5	-
CHLORIDE	04/26/88	0001	MG/L		11.	GL	1.	-
	06/25/89	0001			8.6	L	1.	-
	12/02/89	0001			9.7	L	1.	-
	06/25/90	0001			10.	JL	1.	-
	01/29/91	0001			7.	JL	1.	-
	06/04/91	0001			9.8	L	0.5	-
	02/20/92	0001			9.5	L	0.5	-
	08/15/92	0001			8.8	L	0.016	-
	12/11/93	0001			9.2	L	0.5	-
	05/14/94	0001			10.3		0.5	-
	12/12/94	0001			6	F	0.5	-
	12/12/94	0002			6	F	0.5	-
CHLORIDE (TOTAL)	06/24/93	N001	MG/L		9.4	L	0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
	02/20/92	0001		<	0.01	L	0.01	-
	08/15/92	0001		<	0.01	L	0.01	-
	11/20/92	0001		<	0.0053	L	0.0053	-
CHROMIUM (TOTAL)	11/20/92	N001	MG/L	<	0.0053	L	0.0053	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
	12/02/89	0001		<	0.05	L	0.05	-
	06/25/90	0001		<	0.05	JL	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
	06/04/91	0001		<	0.03	L	0.03	-
COPPER	06/25/89	0001	MG/L	<	0.02	L	0.02	-
	12/02/89	0001		<	0.02	L	0.02	-
	06/25/90	0001		<	0.02	JL	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/04/91	0001		<	0.01	L	0.01	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
DISSOLVED OXYGEN	11/20/92	0001	MG/L		1.6	L	-	-

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

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FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ARSENIC	06/24/93	0001	MG/L	<	0.005	L	0.005	-
ARSENIC (TOTAL)	11/20/92	N001	MG/L	<	0.0015	L	0.0015	-
	06/24/93	N001		<	0.005	L	0.005	-
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			0.07	L	0.01	-
	02/20/92	0001			0.07	L	0.01	-
	08/15/92	0001		<	0.2	L	0.2	-
	11/20/92	0001			0.077	L	0.0015	-
	06/24/93	0001		<	0.1	L	0.1	-
BARIUM (TOTAL)	11/20/92	N001	MG/L		0.080	L	0.0015	-
	06/24/93	N001		<	0.1	L	0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.005	L	0.005	-
	08/15/92	0001		<	0.005	L	0.005	-
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			0.05	L	0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/04/91	0001		<	0.1	L	0.1	-
CADMIUM	04/26/88	0001	MG/L		0.003	GL	0.001	-
	06/25/89	0001		<	0.001	GL	0.001	-
	12/02/89	0001		<	0.001	L	0.001	-
	06/25/90	0001		<	0.001	JL	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/04/91	0001		<	0.001	L	0.001	-
	02/20/92	0001		<	0.0005	L	0.0005	-
	08/15/92	0001		<	0.005	EL	0.005	-
	11/20/92	0001		<	0.00013	L	0.00013	-
CADMIUM (TOTAL)	11/20/92	N001	MG/L	<	0.00013	LNW	0.00013	-
CALCIUM	04/26/88	0001	MG/L		7.99	GL	0.01	-
	06/25/89	0001			14.8	L	0.01	-
	12/02/89	0001			12.6	L	0.01	-
	06/25/90	0001			16.4	JL	0.01	-
	01/29/91	0001			16.4	L	0.01	-
	06/04/91	0001			16.8	L	0.1	-

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

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

OTHER PARAMETER VALUE FLAGS:
E - ESTIMATED VALUE BECAUSE OF INTERFERENCE, SEE CASE NARRATIVE
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0663
NORTH COORDINATE: 59069.6 FT
EAST COORDINATE: 88593.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		141.	GL	-	-
	06/25/89	0001			187.	L	-	-
	12/02/89	0001			187.	L	-	-
	06/25/90	0001			167.0	JL	-	-
	01/29/91	0001			207.	L	-	-
	06/04/91	0001			190.	L	-	-
	02/20/92	0001			206	L	-	-
	08/15/92	0001			172	L	-	-
	11/20/92	0001			192	L	-	-
	06/24/93	N001			189	L	-	-
	12/11/93	N001			172	L	-	-
	12/12/94	N001			187	F	10	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.05	L	0.05	-
	02/20/92	0001		<	0.05	L	0.05	-
	08/15/92	0001		<	0.2	L	0.2	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1	GL	0.1	-
	06/25/89	0001		<	0.1	L	0.1	-
	12/02/89	0001			0.1	L	0.1	-
	06/25/90	0001			0.8	HJL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			0.1	L	0.1	-
	02/20/92	0001		<	0.1	L	0.1	-
	12/11/93	0001		<	0.1	L	0.1	-
AMMONIUM (TOTAL)	06/24/93	N001	MG/L	<	0.1	L	0.1	-
	05/18/94	N001		<	0.1		0.1	-
	12/12/94	N001			0.13	FH	0.1	-
	12/12/94	N002			0.44	FH	0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	L	0.003	-
	12/02/89	0001		<	0.003	L	0.003	-
	06/25/90	0001		<	0.003	JL	0.003	-
	01/29/91	0001		<	0.003	L	0.003	-
	06/04/91	0001		<	0.003	L	0.003	-
	02/20/92	0001		<	0.003	L	0.003	-
	08/15/92	0001		<	0.06	WL	0.06	-
ARSENIC	04/26/88	0001	MG/L		0.002	GJL	0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	JL	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01	L	0.01	-
	02/20/92	0001		<	0.01	L	0.01	-
	08/15/92	0001		<	0.01	WL	0.01	-
	11/20/92	0001		<	0.0015	L	0.0015	-

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TIN	06/25/89	0001	MG/L	<	0.005		0.005	-
	06/05/91	0001		<	0.01	I	0.01	-
TOTAL DISSOLVED SOLIDS	06/25/89	0001	MG/L		1070.		10.	-
	06/05/91	0001			1070.		10.	-
	02/26/92	0001			1060.		10.	-
	02/18/93	0001			990		10	-
	12/15/93	0001			1320		10	-
	04/23/94	0001			1350	L	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		1170	H	10	-
TOTAL ORGANIC CARBON	02/26/92	0001	MG/L	<	1.		1.	-
TURBIDITY	04/23/94	N001	NTU		36	L	-	-
URANIUM	06/25/89	0001	MG/L		0.025		0.003	-
	06/05/91	0001			0.013		0.001	-
	02/26/92	0001			0.017		0.001	-
	11/23/92	0001			0.020		0.001	-
	02/18/93	0001			0.020		0.001	-
	06/29/93	0001			0.019		0.001	-
	12/15/93	0001			0.019		0.001	-
	04/23/94	0001			0.019	L	0.001	-
URANIUM (TOTAL)	11/23/92	N001	MG/L		0.018		0.001	-
	06/29/93	N001			0.017		0.001	-
	12/15/93	N001			0.028		0.001	-
	04/23/94	N001			0.020	L	0.001	-
VANADIUM	06/25/89	0001	MG/L		0.05		0.01	-
	06/05/91	0001			0.02		0.01	-
	02/26/92	0001		<	0.01		0.01	-
	11/23/92	0001			0.025		0.0019	-
	06/29/93	0001			0.02		0.01	-
	12/15/93	0001			0.02		0.01	-
	04/23/94	0001			0.02	L	0.01	-
VANADIUM (TOTAL)	11/23/92	N001	MG/L		0.030		0.0019	-
	06/29/93	N001			0.02		0.01	-
	12/15/93	N001			0.19		0.01	-
	04/23/94	N001			0.02	L	0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005		0.005	-
	06/05/91	0001		<	0.005		0.005	-
	02/26/92	0001			0.049		0.005	-
	11/23/92	0001			0.0056		0.0010	-
	06/29/93	0001			0.053	J	0.005	-
ZINC (TOTAL)	11/23/92	N001	MG/L		0.010		0.0010	-
	06/29/93	N001			0.057	J	0.005	-

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

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

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SODIUM	12/15/93	0001	MG/L		36		1	-
	04/23/94	0001			38	L	1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		39		1	-
	12/15/93	N001			39		1	-
	04/23/94	N001			35	L	1	-
SPECIFIC CONDUCTANCE	06/25/89	0001	UMHO/CM		920.		-	-
	06/05/91	0001			1450.		-	-
	02/26/92	0001			1182		-	-
	11/23/92	0001			1095		-	-
	02/18/93	0001			1161		-	-
	06/29/93	N001			1420		-	-
	12/15/93	N001			1346		-	-
	04/23/94	N001			1465	L	-	-
STRONTIUM	06/05/91	0001	MG/L		1.00		0.01	-
	02/26/92	0001			0.92		0.01	-
	11/23/92	0001			1.1		0.00035	-
	06/29/93	0001			1.10		0.01	-
	12/15/93	0001			1.16		0.01	-
	04/23/94	0001			1.21	L	0.01	-
STRONTIUM (TOTAL)	11/23/92	N001	MG/L		1.1		0.00035	-
	06/29/93	N001			1.07		0.01	-
	12/15/93	N001			2.01		0.01	-
	04/23/94	N001			1.11	L	0.01	-
SULFATE	06/25/89	0001	MG/L		418.		0.1	-
	06/05/91	0001			356.		0.1	-
	02/26/92	0001			404.		40.	-
	11/23/92	0001			420		1.0	-
	02/18/93	0001			412		1	-
	12/15/93	0001			584		1	-
	04/23/94	0001			635	L	1	-
SULFATE (TOTAL)	11/23/92	N001	MG/L		380		1.0	-
	06/29/93	N001			524		1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001			11.7	J	1.	-
TEMPERATURE	06/25/89	0001	C - DEGREE		17.8		-	-
	06/05/91	0001			12.3		-	-
	02/26/92	0001			15.1		-	-
	11/23/92	0001			14.3		-	-
	02/18/93	0001			15.5		-	-
	06/29/93	N001			22.2		-	-
	12/15/93	N001			15.5		-	-
	04/23/94	N001			18.2	L	-	-
THALLIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.01		0.01	-
THORIUM-230	06/05/91	0001	PCI/L		0.2		1.	0.2

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	04/23/94	0001	MG/L		2.9	L	0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		2.8		0.1	-
	12/15/93	N001			1.7		0.1	-
	04/23/94	N001			3.2	L	0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.2		1.	0.2
	06/05/91	0001			0.1		1.	0.3
	02/26/92	0001			0.0		1.0	0.3
	11/23/92	0001			0.9		0.3	0.3
RADIUM-226 (TOTAL)	11/23/92	N001	PCI/L		0.7		0.3	0.3
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.90		-	-
	06/05/91	0001			3.00		-	-
	02/26/92	0001			0.30		-	-
	11/23/92	0001			5.60		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/23/92	N001	PCI/L		2.60		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.7		1.	0.9
	06/05/91	0001			2.9	J	1.	2.2
	02/26/92	0001			0.3		1.0	1.6
	11/23/92	0001			4.7		2.1	1.7
RADIUM-228 (TOTAL)	11/23/92	N001	PCI/L		1.9		2.0	1.4
REDOX POTENTIAL	11/23/92	0001	mVOLTS		431.0		-	-
	06/29/93	N001			426		-	-
	04/23/94	N001			357	L	-	-
SELENIUM	06/25/89	0001	MG/L		0.006		0.005	-
	06/05/91	0001			0.006	JL	0.005	-
	02/26/92	0001			0.007		0.005	-
	11/23/92	0001			0.0070	NS	0.0015	-
SELENIUM (TOTAL)	11/23/92	N001	MG/L		0.0039		0.0015	-
SILICA - SIO2	06/25/89	0001	MG/L		20.		2.	-
	06/05/91	0001			19.0		0.1	-
	12/15/93	0001			18.0		0.1	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		19.0	H	0.5	-
	12/15/93	N001			131		0.1	-
SILVER	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.01		0.01	-
SODIUM	06/25/89	0001	MG/L		35.2		0.002	-
	06/05/91	0001			35.		1.	-
	02/26/92	0001			33.		1.	-
	02/18/93	0001			35.9		0.1	-
	06/29/93	0001			38		1	-

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

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	06/05/91	0001	MG/L	<	0.01		0.01	-
	02/26/92	0001		<	0.01		0.01	-
	11/23/92	0001		<	0.0049	N	0.0049	-
	06/29/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/23/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/29/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	06/05/91	0001	PCI/L		-0.42		-	-
	02/26/92	0001			15.64		-	-
	11/23/92	0001			-4.92		-	-
	02/18/93	0001			-13.72		-	-
	06/29/93	0001			-9.03		-	-
NET GROSS ALPHA (TOTAL) **	11/23/92	N001	PCI/L		-12.35		-	-
	06/29/93	N001			-10.66		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04		0.04	-
	06/05/91	0001		<	0.04		0.04	-
NITRATE	06/25/89	0001	MG/L		98.		1.	-
	06/05/91	0001			72.2		1.	-
	02/26/92	0001			88.1		5.0	-
	11/23/92	0001			80		0.044	-
	02/18/93	0001			78		1	-
	12/15/93	0001			95		1	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		80		1	-
	04/23/94	N001			74	L	1	-
NITRITE AND NITRATE	06/05/91	0001	MG/L		16.3		0.05	-
PH	06/25/89	0001	SU		7.20		-	-
	06/05/91	0001			6.94		-	-
	02/26/92	0001			7.12		-	-
	11/23/92	0001			7.24		-	-
	02/18/93	0001			7.10		-	-
	06/29/93	N001			7.03		-	-
	12/15/93	N001			7.02		-	-
	04/23/94	N001			6.99	L	-	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1		0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
POTASSIUM	06/25/89	0001	MG/L		3.1		0.01	-
	06/05/91	0001			3.0		0.01	-
	02/26/92	0001			2.83		0.01	-
	02/18/93	0001			2.6		0.1	-
	06/29/93	0001			2.8		0.1	-
	12/15/93	0001			2.4		0.1	-

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

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
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	02/26/92	0001	PCI/L		13.8		0.5	7.7
	11/23/92	0001			0.0	N	12.0	6.9
	02/18/93	0001			0		23	10
	06/29/93	0001			8		5	5
GROSS BETA (TOTAL)	11/23/92	N001	PCI/L		14.8	N	10.7	7.1
	06/29/93	N001			10		5	5
IRON	06/25/89	0001	MG/L		0.04		0.03	-
	06/05/91	0001		<	0.03		0.03	-
	02/26/92	0001		<	0.03		0.03	-
	02/18/93	0001		<	0.03		0.03	-
	06/29/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.26	J	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.005		0.005	-
	11/23/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/23/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/23/92	0001	PCI/L		0.0		4.8	2.9
LEAD-210 (TOTAL)	11/23/92	N001	PCI/L		6.1		0.3	0.9
MAGNESIUM	06/25/89	0001	MG/L		101.		0.001	-
	06/05/91	0001			105.		0.5	-
	02/26/92	0001			96.2		0.5	-
	02/18/93	0001			86.5		0.1	-
	06/29/93	0001			99.1		0.1	-
	12/15/93	0001			105		0.1	-
	04/23/94	0001			109	L	0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		97.9		0.1	-
	12/15/93	N001			149		0.1	-
	04/23/94	N001			106	L	0.1	-
MANGANESE	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.01		0.01	-
	02/26/92	0001		<	0.01		0.01	-
	11/23/92	0001		<	0.0015		0.0015	-
	02/18/93	0001		<	0.01		0.01	-
	06/29/93	0001		<	0.01		0.01	-
	12/15/93	0001		<	0.01		0.01	-
	04/23/94	0001		<	0.01	L	0.01	-
MANGANESE (TOTAL)	11/23/92	N001	MG/L		0.039		0.0015	-
	06/29/93	N001		<	0.01		0.01	-
	12/15/93	N001			1.14		0.01	-
	04/23/94	N001			0.02	L	0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002		0.0002	-
MOLYBDENUM	06/25/89	0001	MG/L	<	0.01		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM (TOTAL)	11/23/92	N001	MG/L	<	0.00013	L	0.00013	-
CALCIUM	06/25/89	0001	MG/L		143.		0.01	-
	06/05/91	0001			167.		0.5	-
	02/26/92	0001			153.		0.5	-
	02/18/93	0001			143		0.5	-
	06/29/93	0001			173		0.5	-
	12/15/93	0001			171		0.5	-
	04/23/94	0001			186	L	0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		166		0.5	-
	12/15/93	N001			395		0.5	-
	04/23/94	N001			200	L	0.5	-
CHLORIDE	06/25/89	0001	MG/L		20.		1.	-
	06/05/91	0001			17.4		0.5	-
	02/26/92	0001			16.8		0.5	-
	02/18/93	0001			18.3		0.5	-
	12/15/93	0001			14.8		0.5	-
	04/23/94	0001			14.6	L	0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		18.2		0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.01		0.01	-
	02/26/92	0001		<	0.01		0.01	-
	11/23/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/23/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/25/89	0001	MG/L	<	0.05		0.05	-
	06/05/91	0001		<	0.03		0.03	-
COPPER	06/25/89	0001	MG/L	<	0.02		0.02	-
	06/05/91	0001		<	0.01		0.01	-
CYANIDE	06/25/89	0001	MG/L	<	0.01		0.01	-
DISSOLVED OXYGEN	11/23/92	0001	MG/L		9.2		-	-
	06/29/93	N001			8.0		-	-
	04/23/94	N001			8.6	L	-	-
FLUORIDE	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001		<	0.1		0.1	-
GROSS ALPHA	06/05/91	0001	PCI/L		8.5		1.	12.2
	02/26/92	0001			27.3		1.0	15.2
	11/23/92	0001			8.8	N	6.4	5.6
	02/18/93	0001			0		16	17
	06/29/93	0001			4		3	5
GROSS ALPHA (TOTAL)	11/23/92	N001	PCI/L		0.0	N	14.0	7.5
	06/29/93	N001			1		4	7
GROSS BETA	06/05/91	0001	PCI/L		9.7		0.5	6.7

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0662
NORTH COORDINATE: 59236.5 FT
EAST COORDINATE: 87577.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/25/89	0001	MG/L CACO3		396.		-	-
	06/05/91	0001			353.		-	-
	02/26/92	0001			343		-	-
	11/23/92	0001			325		-	-
	02/18/93	0001			322		-	-
	06/29/93	N001			292		-	-
	12/15/93	N001			592		-	-
	04/23/94	N001			267	L	-	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001		<	0.05		0.05	-
	02/26/92	0001		<	0.05		0.05	-
AMMONIUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001			0.1		0.1	-
	02/26/92	0001		<	0.1		0.1	-
	12/15/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1		0.1	-
	04/23/94	N001		<	0.1	L	0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	J	0.003	-
	06/05/91	0001		<	0.003		0.003	-
	02/26/92	0001		<	0.003		0.003	-
ARSENIC	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.01		0.01	-
	02/26/92	0001		<	0.01		0.01	-
	11/23/92	0001		<	0.0015		0.0015	-
	06/29/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/23/92	N001	MG/L	<	0.0015		0.0015	-
	06/29/93	N001		<	0.005		0.005	-
BARIUM	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001			0.03		0.01	-
	02/26/92	0001			0.02		0.01	-
	11/23/92	0001			0.023		0.0015	-
	06/29/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/23/92	N001	MG/L		0.051		0.0015	-
	06/29/93	N001		<	0.1		0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01		0.01	-
	06/05/91	0001		<	0.005		0.005	-
BORON	06/25/89	0001	MG/L	<	0.1		0.1	-
	06/05/91	0001			0.05		0.05	-
BROMIDE	06/05/91	0001	MG/L		0.2		0.1	-
CADMIUM	06/25/89	0001	MG/L	<	0.001		0.001	-
	06/05/91	0001		<	0.001		0.001	-
	02/26/92	0001		<	0.001		0.001	-
	11/23/92	0001		<	0.00013		0.00013	-

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM (TOTAL)	06/27/93	N001	MG/L	<	0.001	G	0.001	-
	04/25/94	N001		<	0.001	L	0.001	-
VANADIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/27/93	0001		<	0.01	G	0.01	-
	04/25/94	0001		<	0.01	L	0.01	-
	12/13/94	0001		<	0.01	F	0.01	-
VANADIUM (TOTAL)	06/27/93	N001	MG/L	<	0.01	G	0.01	-
	04/25/94	N001		<	0.01	L	0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/01/89	0001		<	0.005	L	0.005	-
	06/25/90	0001			0.006	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/27/93	0001		<	0.005	GJ	0.005	-
ZINC (TOTAL)	06/27/93	N001	MG/L		0.005	GJ	0.005	-

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE (TOTAL)	06/27/93	N001	MG/L		28	G	1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/01/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	JL	0.1	-
TEMPERATURE	04/21/88	0001	C - DEGREE		16.0	L	-	-
	06/25/89	0001			17.5	L	-	-
	12/01/89	0001			16.0	L	-	-
	06/25/90	0001			17.5	L	-	-
	01/29/91	0001			15.6	L	-	-
	02/01/93	0001			15.2		-	-
	06/27/93	N001			18.8	G	-	-
	04/25/94	N001			15.9	L	-	-
	12/13/94	N001			15.7	F	0.1	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0	L	1.	0.2
TIN	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/01/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
TOTAL DISSOLVED SOLIDS	04/21/88	0001	MG/L		281.	L	10.	-
	06/25/89	0001			285.	L	10.	-
	12/01/89	0001			296.	L	10.	-
	06/25/90	0001			268.	L	10.	-
	01/29/91	0001			260.	L	10.	-
	02/01/93	0001			280		10	-
	04/25/94	0001			280	L	10	-
	12/13/94	0001			266	F	10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/27/93	N001	MG/L		280	G	10	-
TOTAL ORGANIC CARBON	04/21/88	0001	MG/L		55.7	L	1.	-
	01/29/91	0001		<	1.	JL	1.	-
TURBIDITY	12/13/94	N001	NTU	<	1	F	1	-
URANIUM	04/21/88	0001	MG/L		0.0005	JL	0.003	-
	06/25/89	0001		<	0.0003	JL	0.003	-
	12/01/89	0001			0.021	L	0.003	-
	06/25/90	0001			0.0004	JL	0.003	-
	01/29/91	0001		<	0.0003	L	0.0003	-
	02/01/93	0001		<	0.001		0.001	-
	06/27/93	0001		<	0.001	G	0.001	-
	04/25/94	0001		<	0.001	L	0.001	-
	12/13/94	0001		<	0.001	F	0.001	-

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILICA - SIO2	06/25/89	0001	MG/L		12.	L	2.	-
	12/01/89	0001			12.6	L	2.	-
	06/25/90	0001			13.	L	2.	-
	01/29/91	0001			12.	L	2.	-
	12/13/94	0001			12.7	F	0.1	-
SILICA - SIO2 (TOTAL)	06/27/93	N001	MG/L		11.8	GH	0.5	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
SODIUM	04/21/88	0001	MG/L		101.	L	0.002	-
	06/25/89	0001			114.	L	0.002	-
	12/01/89	0001			113.	L	0.002	-
	06/25/90	0001			111.	L	0.002	-
	01/29/91	0001			113.	L	0.002	-
	02/01/93	0001			111		0.1	-
	06/27/93	0001			106	G	1	-
	04/25/94	0001			113	L	1	-
	12/13/94	0001			117	F	1	-
SODIUM (TOTAL)	06/27/93	N001	MG/L		110	G	1	-
	04/25/94	N001			99	L	1	-
SPECIFIC CONDUCTANCE	04/21/88	0001	UMHO/CM		360.	L	-	-
	06/25/89	0001			345.	L	-	-
	12/01/89	0001			390.	L	-	-
	06/25/90	0001			399.	L	-	-
	01/29/91	0001			492.	L	-	-
	02/01/93	0001			399		-	-
	06/27/93	N001			432	G	-	-
	04/25/94	N001			404	L	-	-
	12/13/94	N001			300	F	1	-
STRONTIUM	06/25/90	0001	MG/L		0.04	*JL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/27/93	0001			0.04	G	0.01	-
	04/25/94	0001			0.04	L	0.01	-
	12/13/94	0001			0.03	FJ	0.01	-
STRONTIUM (TOTAL)	06/27/93	N001	MG/L		0.04	G	0.01	-
	04/25/94	N001			0.04	L	0.01	-
SULFATE	04/21/88	0001	MG/L		23.	L	0.1	-
	06/25/89	0001			27.	L	0.1	-
	12/01/89	0001			29.	L	0.1	-
	06/25/90	0001			25.9	L	0.1	-
	01/29/91	0001			27.2	L	0.1	-
	02/01/93	0001			24		1	-
	04/25/94	0001			27	L	1	-
	12/13/94	0001			19	F	1	-

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

SAMPLE ID CODES:
D001 - FILTERED SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCAT
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	04/21/88	0001	SU		8.69	L		
	06/25/89	0001			8.25	L		
	12/01/89	0001			8.88	L		
	06/25/90	0001			8.73	L		
	01/29/91	0001			8.62	L		
	02/01/93	0001			8.63			
	06/27/93	N001			9.01	G		
	04/25/94	N001			8.62	L		
	12/13/94	N001			8.88	F	0.10	
PHOSPHATE	06/25/89	0001	MG/L	<	0.1	L	0.1	
	12/01/89	0001			0.3	L	0.1	
	06/25/90	0001		<	0.1	L	0.1	
PHOSPHATE (TOTAL)	06/27/93	N001	MG/L	<	0.1	G	0.1	
POTASSIUM	04/21/88	0001	MG/L		0.58	L	0.01	
	06/25/89	0001			0.7	L	0.01	
	12/01/89	0001			0.63	L	0.01	
	06/25/90	0001			0.51	L	0.01	
	01/29/91	0001			0.7	L	0.01	
	02/01/93	0001			0.6		0.1	
	06/27/93	0001			0.8	G	0.1	
	04/25/94	0001			0.8	L	0.1	
	12/13/94	0001			0.7	FJ	0.1	
POTASSIUM (TOTAL)	06/27/93	N001	MG/L		0.7	G	0.1	
	04/25/94	N001			0.7	L	0.1	
RADIUM-226	06/25/89	0001	PCI/L		0.5	L	1.	0.3
	12/01/89	0001			0.0	L	1.	0.1
	06/25/90	0001			0.8	L	1.	0.3
	01/29/91	0001			0.6	L	1.	0.3
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.70			
	12/01/89	0001			2.10			
	06/25/90	0001			1.80			
	01/29/91	0001			1.50			
RADIUM-228	06/25/89	0001	PCI/L		0.2	L	1.	0.7
	12/01/89	0001			2.1	L	1.	3.5
	06/25/90	0001			1.0	L	1.	0.8
	01/29/91	0001			0.9	L	1.	0.7
REDOX POTENTIAL	06/27/93	N001	MVOLTS		64	G		
	04/25/94	N001			-25	L		
	12/13/94	N001			-57	F		
SELENIUM	04/21/88	0001	MG/L	<	0.005	L	0.005	
	06/25/89	0001		<	0.005	L	0.005	
	12/01/89	0001		<	0.005	L	0.005	
	06/25/90	0001		<	0.005	L	0.005	
	01/29/91	0001		<	0.005	L	0.005	

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	12/01/89	0001	MG/L	<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	02/01/93	0001		<	0.01		0.01	-
	06/27/93	0001		<	0.01	G	0.01	-
	04/25/94	0001		<	0.01	L	0.01	-
	12/13/94	0001		<	0.01	F	0.01	-
MANGANESE (TOTAL)	06/27/93	N001	MG/L	<	0.01	G	0.01	-
	04/25/94	N001		<	0.01	L	0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/01/89	0001		<	0.0002	L	0.0002	-
	06/25/90	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	04/21/88	0001	MG/L		0.01	L	0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/01/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/27/93	0001		<	0.01	G	0.01	-
	12/13/94	0001		<	0.01	F	0.01	-
MOLYBDENUM (TOTAL)	06/27/93	N001	MG/L	<	0.01	G	0.01	-
NET GROSS ALPHA *	04/21/88	0001	PCI/L		1.66		-	-
	01/29/91	0001			-0.10		-	-
	02/01/93	0001			-0.34		-	-
	06/27/93	0001			-0.34		-	-
NET GROSS ALPHA (TOTAL) **	06/27/93	N001	PCI/L		4.66		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
	12/01/89	0001		<	0.04	L	0.04	-
	06/25/90	0001		<	0.04	L	0.04	-
	01/29/91	0001		<	0.04	L	0.04	-
NITRATE	04/21/88	0001	MG/L		0.7	JL	1.	-
	06/25/89	0001			2.9	L	1.	-
	12/01/89	0001			5.8	L	1.	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001			4.	L	1.	-
	02/01/93	0001		<	1		1	-
NITRATE (TOTAL)	06/27/93	N001	MG/L	<	1	G	1	-
	04/25/94	N001		<	1	L	1	-
	12/13/94	N001		<	1	FJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L	<	1.	JL	1.	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CYANIDE	12/01/89	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	06/27/93	N001	MG/L		0.4	G	-	-
	04/25/94	N001			0.029	L	-	-
	12/13/94	N001		<	0.6	F	0.6	-
FLUORIDE	06/25/89	0001	MG/L		0.3	L	0.1	-
	12/01/89	0001			0.4	L	0.1	-
	06/25/90	0001			0.2	L	0.1	-
	01/29/91	0001			0.4	L	0.1	-
GROSS ALPHA	04/21/88	0001	PCI/L		2.0	L	0.2	2.7
	01/29/91	0001			0.0	L	1.	2.2
	02/01/93	0001			0		5	5
	06/27/93	0001			0	G	2	4
GROSS ALPHA (TOTAL)	06/27/93	N001	PCI/L		5	G	2	4
GROSS BETA	04/21/88	0001	PCI/L		1.6	L	1.	1.4
	01/29/91	0001			1.9	L	0.5	1.7
	02/01/93	0001			0		11	5
	06/27/93	0001			2	G	4	4
GROSS BETA (TOTAL)	06/27/93	N001	PCI/L		4	G	4	4
IRON	06/25/89	0001	MG/L	<	0.03	L	0.03	-
	12/01/89	0001		<	0.03	L	0.03	-
	06/25/90	0001		<	0.03	L	0.03	-
	01/29/91	0001		<	0.03	L	0.03	-
	02/01/93	0001		<	0.03		0.03	-
	06/27/93	0001		<	0.03	GJ	0.03	-
IRON (TOTAL)	06/27/93	N001	MG/L	<	0.03	GJ	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
MAGNESIUM	04/21/88	0001	MG/L		1.70	L	0.001	-
	06/25/89	0001			1.76	L	0.001	-
	12/01/89	0001			1.64	L	0.001	-
	06/25/90	0001			1.64	L	0.001	-
	01/29/91	0001			1.84	L	0.001	-
	02/01/93	0001			1.6		0.1	-
	06/27/93	0001			1.7	G	0.1	-
	04/25/94	0001			1.5	L	0.1	-
	12/13/94	0001			1.4	F	0.1	-
MAGNESIUM (TOTAL)	06/27/93	N001	MG/L		1.6	G	0.1	-
	04/25/94	N001			1.5	L	0.1	-
MANGANESE	06/25/89	0001	MG/L	<	0.01	L	0.01	-

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/01/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
CADMIUM	04/21/88	0001	MG/L		0.004	L	0.001	-
	06/25/89	0001		<	0.001	L	0.001	-
	12/01/89	0001		<	0.001	L	0.001	-
	06/25/90	0001		<	0.001	L	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
CALCIUM	04/21/88	0001	MG/L		2.92	L	0.01	-
	06/25/89	0001			3.00	L	0.01	-
	12/01/89	0001			2.57	L	0.01	-
	06/25/90	0001			2.77	L	0.01	-
	01/29/91	0001			2.83	L	0.01	-
	02/01/93	0001			2.6		0.5	-
	06/27/93	0001			2.9	G	0.5	-
	04/25/94	0001			2.5	L	0.5	-
	12/13/94	0001			2.7	F	0.5	-
CALCIUM (TOTAL)	06/27/93	N001	MG/L		2.6	G	0.5	
	04/25/94	N001			2.9	L	0.5	
CHLORIDE	04/21/88	0001	MG/L		8.9	L	1.	
	06/25/89	0001			7.4	L	1.	
	12/01/89	0001			8.2	L	1.	
	06/25/90	0001			8.	L	1.	
	01/29/91	0001			5.	JL	1.	
	02/01/93	0001			8.1		0.5	
	04/25/94	0001			7.1	L	0.5	
	12/13/94	0001			6	F	0.5	
CHLORIDE (TOTAL)	06/27/93	N001	MG/L		7.7	G	0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/01/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
	12/01/89	0001		<	0.05	L	0.05	-
	06/25/90	0001		<	0.05	L	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
COPPER	06/25/89	0001	MG/L	<	0.02	L	0.02	-
	12/01/89	0001		<	0.02	L	0.02	-
	06/25/90	0001		<	0.02	L	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCAT
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0660
NORTH COORDINATE: 61303.4 FT
EAST COORDINATE: 89584.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/21/88	0001	MG/L CACO3		211.	L		
	06/25/89	0001			219.	L		
	12/01/89	0001			226.	L		
	06/25/90	0001			213.	L		
	01/29/91	0001			201.	L		
	02/01/93	0001			234			
	06/27/93	N001			209	G		
	04/25/94	N001			217	L		
	12/13/94	N001			207	F	10	
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	
	12/01/89	0001		<	0.1	L	0.1	
	06/25/90	0001		<	0.1	L	0.1	
	01/29/91	0001		<	0.1	L	0.1	
AMMONIUM	04/21/88	0001	MG/L	<	0.1	L	0.1	
	06/25/89	0001		<	0.1	L	0.1	
	12/01/89	0001		<	0.1	L	0.1	
	06/25/90	0001		<	0.1	HL	0.1	
	01/29/91	0001		<	0.1	L	0.1	
AMMONIUM (TOTAL)	06/27/93	N001	MG/L	<	0.1	G	0.1	
	04/25/94	N001		<	0.1	L	0.1	
	12/13/94	N001		<	0.1	F	0.1	
ANTIMONY	06/25/89	0001	MG/L	<	0.003	L	0.003	
	12/01/89	0001		<	0.003	L	0.003	
	06/25/90	0001		<	0.003	L	0.003	
	01/29/91	0001			0.004	L	0.003	
ARSENIC	04/21/88	0001	MG/L		0.004	JL	0.01	
	06/25/89	0001		<	0.01	L	0.01	
	12/01/89	0001		<	0.01	L	0.01	
	06/25/90	0001		<	0.01	L	0.01	
	01/29/91	0001		<	0.01	L	0.01	
	06/27/93	0001		<	0.005	GW	0.005	
ARSENIC (TOTAL)	06/27/93	N001	MG/L		0.005	G	0.005	
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	
	12/01/89	0001		<	0.1	L	0.1	
	06/25/90	0001		<	0.1	L	0.1	
	01/29/91	0001		<	0.1	L	0.1	
	06/27/93	0001		<	0.1	G	0.1	
BARIUM (TOTAL)	06/27/93	N001	MG/L	<	0.1	G	0.1	
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	
	12/01/89	0001		<	0.005	L	0.005	
	06/25/90	0001		<	0.01	L	0.01	
	01/29/91	0001		<	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:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
G - PH > 9, POSSIBLE GROUT CONTAMINATION
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY I
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
VANADIUM	06/21/90	0001	MG/L	<	0.01	L	0.01	
	01/29/91	0001		<	0.01	L	0.01	
	06/04/91	0001		<	0.01		0.01	
	02/22/92	0001		<	0.01		0.01	
	08/13/92	0001		<	0.05	L	0.05	
	11/18/92	0001		<	0.0019		0.0019	
	04/22/94	0001		<	0.01		0.01	
	12/12/94	0001		<	0.01	F	0.01	
VANADIUM (TOTAL)	11/18/92	N001	MG/L		0.0020		0.0019	
	04/22/94	N001		<	0.01		0.01	
ZINC	06/25/89	0001	MG/L		0.015	L	0.005	
	12/02/89	0001		<	0.005	L	0.005	
	06/21/90	0001		<	0.005	L	0.005	
	01/29/91	0001		<	0.005	L	0.005	
	06/04/91	0001		<	0.005		0.005	
	02/22/92	0001		<	0.005		0.005	
	08/13/92	0001		<	0.02	L	0.02	
	11/18/92	0001			0.17		0.0010	
ZINC (TOTAL)	11/18/92	N001	MG/L		0.0090		0.0010	

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TEMPERATURE	04/22/94	N001	C - DEGREE		17.0		-	-
	12/12/94	N001			14.8	F	0.1	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0	L	1.	0.3
	06/04/91	0001			0.3		1.	0.3
TIN	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/21/90	0001		<	0.005	L	0.005	
	01/29/91	0001		<	0.005	L	0.005	
	06/04/91	0001		<	0.01	I	0.01	
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		340.		10.	
	06/25/89	0001			348.	L	10.	
	12/02/89	0001			355.	L	10.	
	06/21/90	0001			340.	L	10.	
	01/29/91	0001			316.	L	10.	
	06/04/91	0001			388.		10.	
	02/22/92	0001			383.		10.	
	08/13/92	0001			410	L	42	
	04/22/94	0001			410		10	
	12/12/94	0001			358	F	10	
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		44.0		1.	
	01/29/91	0001		<	1.	JL	1.	
	06/04/91	0001		<	1.		1.	
	02/22/92	0001		<	1.		1.	
	08/13/92	0001		<	1.0	L	1.0	
TURBIDITY	04/22/94	N001	NTU		0			
URANIUM	04/26/88	0001	MG/L		0.0016	J	0.003	
	06/25/89	0001			0.0015	JL	0.003	
	12/02/89	0001			0.001	JL	0.003	
	06/21/90	0001			0.0022	JL	0.003	
	01/29/91	0001			0.0017	L	0.0003	
	06/04/91	0001		<	0.001		0.001	
	02/22/92	0001			0.002		0.001	
	11/18/92	0001			0.003		0.001	
	04/22/94	0001			0.002		0.001	
	12/12/94	0001		<	0.001	F	0.001	
URANIUM (TOTAL)	11/18/92	N001	MG/L		0.001		0.001	
	04/22/94	N001			0.002		0.001	
VANADIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	
	12/02/89	0001		<	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:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		410.		-	-
	06/25/89	0001			455.	L	-	-
	12/02/89	0001			455.	L	-	-
	06/21/90	0001			470.	L	-	-
	01/29/91	0001			614.	L	-	-
	06/04/91	0001			628.		-	-
	02/22/92	0001			524		-	-
	08/13/92	0001			539	L	-	-
	11/18/92	0001			510		-	-
	04/22/94	N001			548		-	-
	12/12/94	N001			280	F	1	-
STRONTIUM	06/21/90	0001	MG/L		0.24	*L	0.1	-
	01/29/91	0001			0.2	L	0.1	-
	06/04/91	0001			0.27		0.01	-
	02/22/92	0001			0.26		0.01	-
	08/13/92	0001			0.28	L	0.2	-
	11/18/92	0001			0.25		0.00035	-
	04/22/94	0001			0.27		0.01	-
	12/12/94	0001			0.27	FJ	0.01	-
STRONTIUM (TOTAL)	11/18/92	N001	MG/L		0.30		0.00035	-
	04/22/94	N001			0.25		0.01	-
SULFATE	04/26/88	0001	MG/L		84.		0.1	-
	06/25/89	0001			109.	L	0.1	-
	12/02/89	0001			99.	L	0.1	-
	06/21/90	0001			145.7	L	0.1	-
	01/29/91	0001			113.	L	0.1	-
	06/04/91	0001			104.		0.1	-
	02/22/92	0001			112.		10.	-
	08/13/92	0001			110	L	0.059	-
	11/18/92	0001			120		1.0	-
	04/22/94	0001			128		1	-
	12/12/94	0001			99	F	1	-
SULFATE (TOTAL)	11/18/92	N001	MG/L		120		1.0	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	JL	0.1	-
	06/04/91	0001		<	1.	IJ	1.	-
TEMPERATURE	04/26/88	0001	C - DEGREE		16.0		-	-
	06/25/89	0001			18.0	L	-	-
	12/02/89	0001			16.5	L	-	-
	06/21/90	0001			17.0	L	-	-
	01/29/91	0001			15.4	L	-	-
	06/04/91	0001			16.8		-	-
	02/22/92	0001			15.8		-	-
	08/13/92	0001			17.2	L	-	-
	11/18/92	0001			15.4		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	12/02/89	0001	PCI/L		2.0	L	1.	3.5
	06/21/90	0001			1.6	L	1.	0.9
	01/29/91	0001			1.2	L	1.	0.9
	06/04/91	0001			4.2	J	1.	2.1
	02/22/92	0001			1.5		1.0	1.0
	08/13/92	0001			1.9	L	2.0	1.1
	11/18/92	0001			4.4		2.1	1.7
	06/26/93	0001			2		2	1
RADIUM-228 (TOTAL)	11/18/92	N001	PCI/L		4.9		2.1	1.7
	06/26/93	N001			3		2	1
REDOX POTENTIAL	04/22/94	N001	mVOLTS		148		-	-
	12/12/94	N001			237	F	-	-
SELENIUM	04/26/88	0001	MG/L	<	0.005		0.005	-
	06/25/89	0001		<	0.005	L	0.005	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/21/90	0001		<	0.005	L	0.005	-
	01/29/91	0001		<	0.005	L	0.005	-
	06/04/91	0001		<	0.005	J	0.005	-
	02/22/92	0001		<	0.005		0.005	-
	08/13/92	0001		<	0.005	WL	0.005	-
	11/18/92	0001		<	0.0015	NW	0.0015	-
SELENIUM (TOTAL)	11/18/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/25/89	0001	MG/L		14.	L	2.	-
	12/02/89	0001			14.4	L	2.	-
	06/21/90	0001			14.	L	2.	-
	01/29/91	0001			14.	L	2.	-
	06/04/91	0001			14.0		0.1	-
	12/12/94	0001			14.3	F	0.1	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
SODIUM	04/26/88	0001	MG/L		68.6		0.002	-
	06/25/89	0001			76.0	L	0.002	-
	12/02/89	0001			72.	L	0.002	-
	06/21/90	0001			73.6	L	0.002	-
	01/29/91	0001			77.5	L	0.002	-
	06/04/91	0001			77.		1.	-
	02/22/92	0001			74.		1.	-
	08/13/92	0001			75	L	5	-
	04/22/94	0001			79		1	-
	12/12/94	0001			80.4	F	1	-
SODIUM (TOTAL)	04/22/94	N001	MG/L		70		1	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	06/25/89	0001	SU		7.43	L	-	-
	12/02/89	0001			7.63	L	-	-
	06/21/90	0001			7.33	L	-	-
	01/29/91	0001			7.44	L	-	-
	06/04/91	0001			7.41		-	-
	02/22/92	0001			7.45		-	-
	08/13/92	0001			7.25	L	-	-
	11/18/92	0001			7.36		-	-
	04/22/94	N001			7.30		-	-
	12/12/94	N001			7.60	F	0.10	-
PHOSPHATE	06/25/89	0001	MG/L		1.2	L	0.1	-
	12/02/89	0001			1.1	L	0.1	-
	06/21/90	0001			1.4	L	0.1	-
POTASSIUM	04/26/88	0001	MG/L		2.56		0.01	-
	06/25/89	0001			3.7	L	0.01	-
	12/02/89	0001			2.6	L	0.01	-
	06/21/90	0001			3.0	L	0.01	-
	01/29/91	0001			3.1	L	0.01	-
	06/04/91	0001			3.5		0.01	-
	02/22/92	0001			3.87		0.01	-
	08/13/92	0001			2.8	*L	0.575	-
	04/22/94	0001			3.4		0.1	-
	12/12/94	0001			3.2	F	0.1	-
POTASSIUM (TOTAL)	04/22/94	N001	MG/L		3.3		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		3.9	L	1.	0.7
	12/02/89	0001			2.9	L	1.	0.7
	06/21/90	0001			5.5	L	1.	0.8
	01/29/91	0001			4.9	L	1.	0.8
	06/04/91	0001			6.9		1.	1.3
	02/22/92	0001			4.0		1.0	0.7
	08/13/92	0001			5.1	L	0.5	0.2
	11/18/92	0001			8.1		0.3	0.9
	06/26/93	0001			7		1	1
RADIUM-226 (TOTAL)	11/18/92	N001	PCI/L		6.4		0.3	0.8
	06/26/93	N001			6		1	1
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		4.70		-	-
	12/02/89	0001			4.90		-	-
	06/21/90	0001			7.10		-	-
	01/29/91	0001			6.10		-	-
	06/04/91	0001			11.10		-	-
	02/22/92	0001			5.50		-	-
	08/13/92	0001			7.00		-	-
	11/18/92	0001			12.50		-	-
	06/26/93	0001			9.00		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/18/92	N001	PCI/L		11.30		-	-
	06/26/93	N001			9.00		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.8	L	1.	0.8

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

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OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE (TOTAL)	04/22/94	N001	MG/L		0.13		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/02/89	0001		<	0.0002	L	0.0002	-
	06/21/90	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	04/26/88	0001	MG/L		0.04		0.01	-
	06/25/89	0001			0.02	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/21/90	0001			0.03	L	0.01	-
	01/29/91	0001			0.03	L	0.01	-
	06/04/91	0001			0.02		0.01	-
	02/22/92	0001			0.02		0.01	-
	08/13/92	0001			0.018	L	0.007	-
	11/18/92	0001			0.020	N	0.0049	-
	12/12/94	0001			0.01	F	0.01	-
MOLYBDENUM (TOTAL)	11/18/92	N001	MG/L		0.016	N	0.0049	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		17.90		-	-
	01/29/91	0001			8.83		-	-
	06/04/91	0001			4.96		-	-
	02/22/92	0001			7.23		-	-
	11/18/92	0001			10.94		-	-
NET GROSS ALPHA (TOTAL) **	11/18/92	N001	PCI/L		3.11		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
	12/02/89	0001		<	0.04	L	0.04	-
	06/21/90	0001		<	0.04	L	0.04	-
	01/29/91	0001		<	0.04	L	0.04	-
	06/04/91	0001		<	0.04		0.04	-
NITRATE	04/26/88	0001	MG/L		2.5		1.	-
	06/25/89	0001			7.3	L	1.	-
	12/02/89	0001			4.0	L	1.	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	1.	L	1.	-
	06/04/91	0001			4.6		1.	-
	02/22/92	0001			1.9		1.0	-
	08/13/92	0001			3.5	L	0.075	-
	11/18/92	0001			3.3		0.044	-
NITRATE (TOTAL)	04/22/94	N001	MG/L		2		1	-
	12/12/94	N001		<	1	FHJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L	<	1.	JL	1.	-
	06/04/91	0001			1.05		0.05	-
PH	04/26/88	0001	SU		7.46		-	-

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

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS BETA	01/29/91	0001	PCI/L		5.0	L	0.5	1.9
	06/04/91	0001			7.8		0.5	3.0
	02/22/92	0001			11.2		0.5	3.1
	08/13/92	0001			7.8	L	4.7	3.3
	11/18/92	0001			13.6		3.8	2.9
GROSS BETA (TOTAL)	11/18/92	N001	PCI/L		7.7	N	5.1	3.4
IRON	06/25/89	0001	MG/L		0.15	L	0.03	-
	12/02/89	0001			0.12	L	0.03	-
	06/21/90	0001			0.19	L	0.03	-
	01/29/91	0001			0.21	L	0.03	-
	06/04/91	0001			0.18		0.03	-
	02/22/92	0001			0.10		0.03	-
	08/13/92	0001			0.17	L	0.1	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.005		0.005	-
	11/18/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/18/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/18/92	0001	PCI/L		1.6		2.0	1.2
LEAD-210 (TOTAL)	11/18/92	N001	PCI/L		2.0		2.0	1.3
MAGNESIUM	04/26/88	0001	MG/L		20.9		0.001	-
	06/25/89	0001			27.1	L	0.001	-
	12/02/89	0001			24.	L	0.001	-
	06/21/90	0001			24.1	L	0.001	-
	01/29/91	0001			29.1	L	0.001	-
	06/04/91	0001			27.8		0.1	-
	02/22/92	0001			26.3		0.1	-
	08/13/92	0001			27	L	5	-
	04/22/94	0001			26.6		0.1	-
	12/12/94	0001			26.4	F	0.1	-
MAGNESIUM (TOTAL)	04/22/94	N001	MG/L		25.2		0.1	-
MANGANESE	06/25/89	0001	MG/L		0.12	L	0.01	-
	12/02/89	0001			0.10	L	0.01	-
	06/21/90	0001			0.10	L	0.01	-
	01/29/91	0001			0.12	L	0.01	-
	06/04/91	0001			0.11		0.01	-
	02/22/92	0001			0.11		0.01	-
	08/13/92	0001			0.12	L	0.01	-
	11/18/92	0001			0.10		0.0015	-
	04/22/94	0001			0.13		0.01	-
	12/12/94	0001			0.13	F	0.01	-
MANGANESE (TOTAL)	11/18/92	N001	MG/L		0.10		0.0015	-

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

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OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	06/21/90	0001	MG/L		9.	L	1.	-
	01/29/91	0001			6.	JL	1.	-
	06/04/91	0001			9.6		0.5	-
	02/22/92	0001			9.9		0.5	-
	08/13/92	0001			8.8	L	0.016	-
	04/22/94	0001			9.1		0.5	-
	12/12/94	0001			6	F	0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/13/92	0001		<	0.01	L	0.01	-
	11/18/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/18/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
	12/02/89	0001		<	0.05	L	0.05	-
	06/21/90	0001		<	0.05	L	0.05	-
	01/29/91	0001		<	0.05	L	0.05	-
	06/04/91	0001		<	0.03		0.03	-
COPPER	06/25/89	0001	MG/L	<	0.02	L	0.02	-
	12/02/89	0001		<	0.02	L	0.02	-
	06/21/90	0001		<	0.02	L	0.02	-
	01/29/91	0001		<	0.02	L	0.02	-
	06/04/91	0001		<	0.01		0.01	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
DISSOLVED OXYGEN	04/22/94	N001	MG/L		0.065		-	-
	12/12/94	N001		<	0.6	F	0.6	-
FLUORIDE	06/25/89	0001	MG/L		0.4	L	0.1	-
	12/02/89	0001			0.4	L	0.1	-
	06/21/90	0001			0.3	L	0.1	-
	01/29/91	0001			0.4	L	0.1	-
	06/04/91	0001			0.2		0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		19.		0.2	5.
	01/29/91	0001			10.	L	1.	3.
	06/04/91	0001			5.3		1.	5.2
	02/22/92	0001			8.6		1.0	4.8
	08/13/92	0001			8.5	L	3.9	4.3
	11/18/92	0001			13.0		2.7	3.7
GROSS ALPHA (TOTAL)	11/18/92	N001	PCI/L		3.8	N	6.9	4.5
GROSS BETA	04/26/88	0001	PCI/L		8.3		1.	1.6

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

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F - LOW-FLOW SAMPLING/DEDICATED PUMP
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BARIUM	12/02/89	0001	MG/L	<	0.1	L	0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			0.04		0.01	-
	02/22/92	0001			0.04		0.01	-
	08/13/92	0001		<	0.2	L	0.2	-
	11/18/92	0001			0.038		0.0015	-
BARIUM (TOTAL)	11/18/92	N001	MG/L		0.046		0.0015	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/02/89	0001		<	0.005	L	0.005	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.005		0.005	-
	08/13/92	0001		<	0.005	L	0.005	-
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.05		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1	L	0.1	-
	06/04/91	0001		<	0.1		0.1	-
CADMIUM	04/26/88	0001	MG/L		0.004		0.001	-
	06/25/89	0001		<	0.001	L	0.001	-
	12/02/89	0001		<	0.001	L	0.001	-
	06/21/90	0001		<	0.001	L	0.001	-
	01/29/91	0001		<	0.001	L	0.001	-
	06/04/91	0001		<	0.001		0.001	-
	02/22/92	0001		<	0.0005		0.0005	-
	08/13/92	0001		<	0.005	L	0.005	-
	11/18/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/18/92	N001	MG/L		0.00020	N	0.00013	-
CALCIUM	04/26/88	0001	MG/L		19.3		0.01	-
	06/25/89	0001			23.7	L	0.01	-
	12/02/89	0001			18.4	L	0.01	-
	06/21/90	0001			20.1	L	0.01	-
	01/29/91	0001			22.2	L	0.01	-
	06/04/91	0001			25.0		0.5	-
	02/22/92	0001			22.7		0.5	-
	08/13/92	0001			23	L	5	-
	04/22/94	0001			22.5		0.5	-
	12/12/94	0001			22.9	F	0.5	-
CALCIUM (TOTAL)	04/22/94	N001	MG/L		23.7		0.5	-
CHLORIDE	04/26/88	0001	MG/L		11.		1.	-
	06/25/89	0001			8.6	L	1.	-
	12/02/89	0001			9.5	L	1.	-

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

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

OTHER PARAMETER VALUE FLAGS:
F - LOW-FLOW SAMPLING/DEDICATED PUMP
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0659
NORTH COORDINATE: 59069.8 FT
EAST COORDINATE: 88670.3 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: SHINARUMP MEMBER OF THE CHINLE FORMATION (SR)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		191.		-	-
	06/25/89	0001			198.	L	-	-
	12/02/89	0001			181.	L	-	-
	06/21/90	0001			185.	L	-	-
	01/29/91	0001			187.	L	-	-
	06/04/91	0001			192.		-	-
	02/22/92	0001			199		-	-
	08/13/92	0001			188	L	-	-
	11/18/92	0001			195		-	-
	12/12/94	N001			186	F	10	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/21/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001		<	0.05		0.05	-
	02/22/92	0001		<	0.05		0.05	-
	08/13/92	0001		<	0.2	*L	0.2	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1		0.1	-
	06/25/89	0001		<	0.1	L	0.1	-
	12/02/89	0001		<	0.1	L	0.1	-
	06/21/90	0001		<	0.1	HL	0.1	-
	01/29/91	0001		<	0.1	L	0.1	-
	06/04/91	0001			0.4		0.1	-
	02/22/92	0001			0.3		0.1	-
AMMONIUM (TOTAL)	04/22/94	N001	MG/L	<	0.1		0.1	-
	12/12/94	N001			0.19	FH	0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	L	0.003	-
	12/02/89	0001		<	0.003	L	0.003	-
	06/21/90	0001		<	0.003	L	0.003	-
	01/29/91	0001		<	0.003	L	0.003	-
	06/04/91	0001		<	0.003		0.003	-
	02/22/92	0001		<	0.003		0.003	-
	08/13/92	0001		<	0.06	L	0.06	-
ARSENIC	04/26/88	0001	MG/L		0.005	J	0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/02/89	0001		<	0.01	L	0.01	-
	06/21/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01	L	0.01	-
	06/04/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/13/92	0001		<	0.01	WL	0.01	-
	11/18/92	0001			0.0062		0.0015	-
ARSENIC (TOTAL)	11/18/92	N001	MG/L		0.0059		0.0015	-
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
F - LOW-FLOW SAMPLING/DEDICATED PUMP
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TURBIDITY	12/09/94	N001	NTU	<	1		1	-
URANIUM	04/26/88	0001	MG/L		0.0395		0.003	-
	06/25/89	0001			0.040	L	0.003	-
	12/04/89	0001			0.056	L	0.003	-
	06/25/90	0001			0.061	L	0.003	-
	01/29/91	0001			0.0663		0.0003	-
	02/18/93	0001			0.068		0.001	-
	06/29/93	0001			0.076	L	0.001	-
	12/13/93	0001			0.080		0.001	-
	04/23/94	0001			0.078		0.001	-
	12/09/94	0001			0.039		0.001	-
URANIUM (TOTAL)	06/29/93	N001	MG/L		0.007	L	0.001	-
	12/13/93	N001			0.083		0.001	-
	04/23/94	N001			0.084		0.001	-
VANADIUM	06/25/89	0001	MG/L		0.07	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001			0.07	L	0.01	-
	01/29/91	0001			0.06		0.01	-
	06/29/93	0001			0.06	L	0.01	-
	12/13/93	0001			0.05		0.01	-
	04/23/94	0001			0.06		0.01	-
	12/09/94	0001			0.06		0.01	-
VANADIUM (TOTAL)	06/29/93	N001	MG/L		0.05	L	0.01	-
	12/13/93	N001		<	0.06		0.01	-
	04/23/94	N001			0.05		0.01	-
ZINC	06/25/89	0001	MG/L		0.012	L	0.005	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	L	0.005	-
	01/29/91	0001		<	0.005		0.005	-
	06/29/93	0001			0.048	JL	0.005	-
ZINC (TOTAL)	06/29/93	N001	MG/L		0.197	JL	0.005	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFATE	04/26/88	0001	MG/L		127.		0.1	-
	06/25/89	0001			122.	L	0.1	-
	12/04/89	0001			153.	L	0.1	-
	06/25/90	0001			187.6	L	0.1	-
	01/29/91	0001			149.		0.1	-
	02/18/93	0001			138		1	-
	12/13/93	0001			122		1	-
	04/23/94	0001			125		1	-
	12/09/94	0001			97		1	-
SULFATE (TOTAL)	06/29/93	N001	MG/L		130	L	1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1	J	0.1	-
TEMPERATURE	04/26/88	0001	C - DEGREE		16.0		-	-
	06/25/89	0001			18.5	L	-	-
	12/04/89	0001			16.5	L	-	-
	06/25/90	0001			17.5	L	-	-
	01/29/91	0001			15.5		-	-
	02/18/93	0001			15.9		-	-
	06/29/93	N001			20.7	L	-	-
	12/13/93	N001			15.7		-	-
	04/23/94	N001			19.0		-	-
	12/09/94	N001			15.0		0.1	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0		1.	0.3
TIN	06/25/89	0001	MG/L		0.034	L	0.005	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	L	0.005	-
	01/29/91	0001		<	0.005		0.005	-
TOTAL DISSOLVED SOLIDS	04/26/88	0001	MG/L		416.		10.	-
	06/25/89	0001			392.	L	10.	-
	12/04/89	0001			484.	L	10.	-
	06/25/90	0001			430.	L	10.	-
	01/29/91	0001			408.		10.	-
	02/18/93	0001			410		10	-
	12/13/93	0001			430		10	-
	04/23/94	0001			430		10	-
	12/09/94	0001			420		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		410	HL	10	-
TOTAL ORGANIC CARBON	04/26/88	0001	MG/L		45.0		1.	-
	01/29/91	0001		<	1.	J	1.	-
TURBIDITY	04/23/94	N001	NTU		0.0		-	-

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

OTHER PARAMETER VALUE FLAGS:
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J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SELENIUM	01/29/91	0001	MG/L	<	0.005		0.005	-
SILICA - SIO2	06/25/89	0001	MG/L		14.	L	2.	-
	12/04/89	0001			13.9	L	2.	-
	06/25/90	0001			14.	L	2.	-
	01/29/91	0001			13.		2.	-
	12/13/93	0001			13.4		0.1	-
	12/09/94	0001			14.1		0.1	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		13.2	HL	0.5	-
	12/13/93	N001			13.5		0.1	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
SODIUM	04/26/88	0001	MG/L		14.7		0.002	-
	06/25/89	0001			15.4	L	0.002	-
	12/04/89	0001			17.	L	0.002	-
	06/25/90	0001			16.0	L	0.002	-
	01/29/91	0001			16.4		0.002	-
	02/18/93	0001			13.9		0.1	-
	06/29/93	0001			14	L	1	-
	12/13/93	0001			14		1	-
	04/23/94	0001			15		1	-
	12/09/94	0001			14.9		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		15	L	1	-
	12/13/93	N001			14		1	-
	04/23/94	N001			14		1	-
SPECIFIC CONDUCTANCE	04/26/88	0001	UMHO/CM		470.		-	-
	06/25/89	0001			410.	L	-	-
	12/04/89	0001			450.	L	-	-
	06/25/90	0001			510.	L	-	-
	01/29/91	0001			698.		-	-
	02/18/93	0001			546		-	-
	06/29/93	N001			595	L	-	-
	12/13/93	N001			536		-	-
	04/23/94	N001			573		-	-
	12/09/94	N001			521	J	1	-
STRONTIUM	06/25/90	0001	MG/L		0.51	*L	0.1	-
	01/29/91	0001			0.5		0.1	-
	06/29/93	0001			0.51	L	0.01	-
	12/13/93	0001			0.48		0.01	-
	04/23/94	0001			0.52		0.01	-
	12/09/94	0001			0.51	J	0.01	-
STRONTIUM (TOTAL)	06/29/93	N001	MG/L		0.49	L	0.01	-
	12/13/93	N001			0.48		0.01	-
	04/23/94	N001			0.48		0.01	-

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

SAMPLE ID CODES:
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N001 - UNFILTERED SAMPLE

OTHER PARAMETER VALUE FLAGS:
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H - HOLD TIME EXPIRED, VALUE SUSPECT
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
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04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	04/26/88	0001	SU		7.33		-	-
	06/25/89	0001			7.41	L	-	-
	12/04/89	0001			7.37	L	-	-
	06/25/90	0001			7.48	L	-	-
	01/29/91	0001			7.29		-	-
	02/18/93	0001			7.53		-	-
	06/29/93	N001			7.45	L	-	-
	12/13/93	N001			7.33		-	-
	04/23/94	N001			7.36		-	-
	12/09/94	N001			7.50		0.10	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L	<	0.1	L	0.1	-
POTASSIUM	04/26/88	0001	MG/L		1.69		0.01	-
	06/25/89	0001			2.1	L	0.01	-
	12/04/89	0001			1.74	L	0.01	-
	06/25/90	0001			1.8	L	0.01	-
	01/29/91	0001			1.8		0.01	-
	02/18/93	0001			1.8		0.1	-
	06/29/93	0001			2.1	L	0.1	-
	12/13/93	0001			1.6		0.1	-
	04/23/94	0001			2.0		0.1	-
	12/09/94	0001			2		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		1.9	L	0.1	-
	12/13/93	N001			1.4		0.1	-
	04/23/94	N001			1.9		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.0	L	1.	0.1
	12/04/89	0001			0.3	L	1.	0.2
	06/25/90	0001			0.4	L	1.	0.2
	01/29/91	0001			0.1		1.	0.2
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.00		-	-
	12/04/89	0001			0.30		-	-
	06/25/90	0001			1.40		-	-
	01/29/91	0001			1.10		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.0	L	1.	0.7
	12/04/89	0001			0.0	L	1.	1.9
	06/25/90	0001			1.0	L	1.	0.9
	01/29/91	0001			1.0		1.	0.9
REDOX POTENTIAL	06/29/93	N001	mVOLTS		430	L	-	-
	12/13/93	N001			447		-	-
	04/23/94	N001			340		-	-
	12/09/94	N001			431		-	-
SELENIUM	04/26/88	0001	MG/L	<	0.005		0.005	-
	06/25/89	0001		<	0.005	L	0.005	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.005	L	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MANGANESE	12/04/89	0001	MG/L	<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
	02/18/93	0001		<	0.01		0.01	-
	06/29/93	0001		<	0.01	L	0.01	-
	12/13/93	0001		<	0.01		0.01	-
	04/23/94	0001		<	0.01		0.01	-
	12/09/94	0001		<	0.01		0.01	-
MANGANESE (TOTAL)	06/29/93	N001	MG/L	<	0.01	L	0.01	-
	12/13/93	N001		<	0.01		0.01	-
	04/23/94	N001		<	0.01		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
	12/04/89	0001		<	0.0002	L	0.0002	-
	06/25/90	0001		<	0.0002	L	0.0002	-
MOLYBDENUM	04/26/88	0001	MG/L		0.02		0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001			0.01	L	0.01	-
	01/29/91	0001			0.01		0.01	-
	06/29/93	0001		<	0.01	L	0.01	-
	12/09/94	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	06/29/93	N001	MG/L	<	0.01	L	0.01	-
NET GROSS ALPHA *	04/26/88	0001	PCI/L		11.90		-	-
	01/29/91	0001			3.52		-	-
	02/18/93	0001			3.35		-	-
	06/29/93	0001			-7.14		-	-
NET GROSS ALPHA (TOTAL) **	06/29/93	N001	PCI/L		49.20		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
	12/04/89	0001		<	0.04	L	0.04	-
	06/25/90	0001		<	0.04	L	0.04	-
	01/29/91	0001		<	0.04		0.04	-
NITRATE	04/26/88	0001	MG/L		22.		1.	-
	06/25/89	0001			29.	L	1.	-
	12/04/89	0001			23.9	L	1.	-
	06/25/90	0001			19.9	L	1.	-
	01/29/91	0001			19.		1.	-
	02/18/93	0001			19		1	-
	12/13/93	0001			19		1	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		19	L	1	-
	04/23/94	N001			19		1	-
	12/09/94	N001			20	HJN	1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		19.	J	1.	-

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

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

SAMPLE ID CODES:
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OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECKELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CYANIDE	12/04/89	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		7.0	L	-	-
	12/13/93	N001			6.8		-	-
	04/23/94	N001			6.6		-	-
	12/09/94	N001		<	0.6		0.6	-
FLUORIDE	06/25/89	0001	MG/L		0.2	L	0.1	-
	12/04/89	0001			0.2	L	0.1	-
	06/25/90	0001			0.1	L	0.1	-
	01/29/91	0001			0.2		0.1	-
GROSS ALPHA	04/26/88	0001	PCI/L		39.		0.2	7.
	01/29/91	0001			49.		1.	7.
	02/18/93	0001			50		7	12
	06/29/93	0001			45	L	4	11
GROSS ALPHA (TOTAL)	06/29/93	N001	PCI/L		54	L	4	11
GROSS BETA	04/26/88	0001	PCI/L		19.		1.	2.
	01/29/91	0001			14.		0.5	2.
	02/18/93	0001			15		12	6
	06/29/93	0001			22	L	5	5
GROSS BETA (TOTAL)	06/29/93	N001	PCI/L		29	L	5	5
IRON	06/25/89	0001	MG/L	<	0.03	L	0.03	-
	12/04/89	0001		<	0.03	L	0.03	-
	06/25/90	0001		<	0.03	L	0.03	-
	01/29/91	0001		<	0.03		0.03	-
	02/18/93	0001		<	0.03		0.03	-
	06/29/93	0001		<	0.03	JL	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.06	JL	0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
MAGNESIUM	04/26/88	0001	MG/L		38.1		0.001	-
	06/25/89	0001			42.3	L	0.001	-
	12/04/89	0001			48.	L	0.001	-
	06/25/90	0001			42.9	L	0.001	-
	01/29/91	0001			50.4		0.001	-
	02/18/93	0001			38.4		0.1	-
	06/29/93	0001			41.2	L	0.1	-
	12/13/93	0001			38.6		0.1	-
	04/23/94	0001			39.6		0.1	-
	12/09/94	0001			41.2		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		40.1	L	0.1	-
	12/13/93	N001			39.1		0.1	-
	04/23/94	N001			38.4		0.1	-
MANGANESE	06/25/89	0001	MG/L		0.02	L	0.01	-

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

OTHER PARAMETER VALUE FLAGS:
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SAMPLE ID CODES:
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
NORTH COORDINATE: 59266.0 FT
EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BORON	12/04/89	0001	MG/L	<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1		0.1	-
BROMIDE	01/29/91	0001	MG/L	<	0.1		0.1	-
CADMIUM	04/26/88	0001	MG/L		0.005		0.001	-
	06/25/89	0001		<	0.001	L	0.001	-
	12/04/89	0001		<	0.001	L	0.001	-
	06/25/90	0001		<	0.001	L	0.001	-
	01/29/91	0001		<	0.001		0.001	-
CALCIUM	04/26/88	0001	MG/L		62.2		0.01	-
	06/25/89	0001			65.5	L	0.01	-
	12/04/89	0001			69.	L	0.01	-
	06/25/90	0001			64.8	L	0.01	-
	01/29/91	0001			69.6		0.01	-
	02/18/93	0001			59.1		0.5	-
	06/29/93	0001			63.9	L	0.5	-
	12/13/93	0001			57.2		0.5	-
	04/23/94	0001			60.7		0.5	-
	12/09/94	0001			64.5		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		60.7	L	0.5	-
	12/13/93	N001			62.6		0.5	-
	04/23/94	N001			63.7		0.5	-
CHLORIDE	04/26/88	0001	MG/L		8.2		1.	-
	06/25/89	0001			7.4	L	1.	-
	12/04/89	0001			8.5	L	1.	-
	06/25/90	0001			8.	L	1.	-
	01/29/91	0001			5.	J	1.	-
	02/18/93	0001			7.6		0.5	-
	12/13/93	0001			7.6		0.5	-
	04/23/94	0001			7.2		0.5	-
	12/09/94	0001			4		0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		9.7	L	0.5	-
CHROMIUM	06/25/89	0001	MG/L		0.01	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-
	12/04/89	0001		<	0.05	L	0.05	-
	06/25/90	0001		<	0.05	L	0.05	-
	01/29/91	0001		<	0.05		0.05	-
COPPER	06/25/89	0001	MG/L	<	0.02	L	0.02	-
	12/04/89	0001		<	0.02	L	0.02	-
	06/25/90	0001		<	0.02	L	0.02	-
	01/29/91	0001		<	0.02		0.02	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0657
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EAST COORDINATE: 87596.5 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: DECHELLEY MEMBER OF THE CUTLER FORMATION (DC)
HYDRAULIC FLOW RELATIONSHIP: ON-SITE (O)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/26/88	0001	MG/L CACO3		194.		-	-
	06/25/89	0001			200.	L	-	-
	12/04/89	0001			193.	L	-	-
	06/25/90	0001			189.	L	-	-
	01/29/91	0001			207.		-	-
	02/18/93	0001			190		-	-
	06/29/93	N001			186	L	-	-
	12/13/93	N001			193		-	-
	04/23/94	N001			189		-	-
	12/09/94	N001			195		10	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001		<	0.1	L	0.1	-
	01/29/91	0001		<	0.1		0.1	-
AMMONIUM	04/26/88	0001	MG/L	<	0.1		0.1	-
	06/25/89	0001		<	0.1	L	0.1	-
	12/04/89	0001		<	0.1	L	0.1	-
	06/25/90	0001			1.4	HL	0.1	-
	01/29/91	0001		<	0.1		0.1	-
	12/13/93	0001		<	0.1		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L	<	0.1	L	0.1	-
	04/23/94	N001		<	0.1		0.1	-
	12/09/94	N001		<	0.1	H	0.1	-
ANTIMONY	06/25/89	0001	MG/L	<	0.003	L	0.003	-
	12/04/89	0001		<	0.003	L	0.003	-
	06/25/90	0001		<	0.003	L	0.003	-
	01/29/91	0001		<	0.003		0.003	-
ARSENIC	04/26/88	0001	MG/L		0.001	J	0.01	-
	06/25/89	0001		<	0.01	L	0.01	-
	12/04/89	0001		<	0.01	L	0.01	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/29/93	0001		<	0.005	L	0.005	-
ARSENIC (TOTAL)	06/29/93	N001	MG/L	<	0.005	L	0.005	-
BARIUM	06/25/89	0001	MG/L		0.2	L	0.1	-
	12/04/89	0001			0.2	L	0.1	-
	06/25/90	0001			0.2	L	0.1	-
	01/29/91	0001			0.2		0.1	-
	06/29/93	0001			0.2	L	0.1	-
BARIUM (TOTAL)	06/29/93	N001	MG/L		0.2	L	0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	12/04/89	0001		<	0.005	L	0.005	-
	06/25/90	0001		<	0.01	L	0.01	-
	01/29/91	0001		<	0.01		0.01	-
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0656
NORTH COORDINATE: 59545.2 FT
EAST COORDINATE: 89175.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	11/22/92	0001	MG/L		0.008		0.001	-
	02/19/93	0001			0.008		0.001	-
	06/29/93	0001			0.008		0.001	-
URANIUM (TOTAL)	11/22/92	N001	MG/L		0.008		0.001	-
	06/29/93	N001			0.007		0.001	-
VANADIUM	06/25/89	0001	MG/L		0.03	L	0.01	-
	11/22/92	0001		<	0.0019		0.0019	-
	06/29/93	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/22/92	N001	MG/L		0.0020		0.0019	-
	06/29/93	N001		<	0.01		0.01	-
ZINC	06/25/89	0001	MG/L	<	0.005	L	0.005	-
	11/22/92	0001		<	0.0010		0.0010	-
	06/29/93	0001			0.006	J	0.005	-
ZINC (TOTAL)	11/22/92	N001	MG/L		0.0050		0.0010	-
	06/29/93	N001			0.019	J	0.005	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
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LOCATION: 0656
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FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
REDOX POTENTIAL	06/29/93	N001	mVOLTS		410		-	-
SELENIUM	06/25/89	0001	MG/L		0.011	L	0.005	-
	11/22/92	0001		<	0.0015	NW	0.0015	-
SELENIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/25/89	0001	MG/L		13.	L	2.	-
SILICA - SIO2 (TOTAL)	06/29/93	N001	MG/L		13.7	H	0.5	-
SILVER	06/25/89	0001	MG/L	<	0.01	L	0.01	-
SODIUM	06/25/89	0001	MG/L		148.	L	0.002	-
	02/19/93	0001			118		0.1	-
	06/29/93	0001			119		1	-
SODIUM (TOTAL)	06/29/93	N001	MG/L		119		1	-
SPECIFIC CONDUCTANCE	06/25/89	0001	UMHO/CM		1700.	L	-	-
	11/22/92	0001			1650		-	-
	02/19/93	0001			1645		-	-
	06/29/93	N001			1868		-	-
STRONTIUM	11/22/92	0001	MG/L		0.71	S	0.00035	-
	06/29/93	0001			0.63		0.01	-
STRONTIUM (TOTAL)	11/22/92	N001	MG/L		0.71	S	0.00035	-
	06/29/93	N001			0.61		0.01	-
SULFATE	06/25/89	0001	MG/L		571.	L	0.1	-
	11/22/92	0001			440		1.0	-
	02/19/93	0001			466		1	-
SULFATE (TOTAL)	11/22/92	N001	MG/L		440		1.0	-
	06/29/93	N001			414		1	-
SULFIDE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
TEMPERATURE	06/25/89	0001	C - DEGREE		18.0	L	-	-
	11/22/92	0001			14.8		-	-
	02/19/93	0001			15.3		-	-
	06/29/93	N001			20.9		-	-
THALLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
TIN	06/25/89	0001	MG/L	<	0.005	L	0.005	-
TOTAL DISSOLVED SOLIDS	06/25/89	0001	MG/L		1340.	L	10.	-
	02/19/93	0001			990		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/29/93	N001	MG/L		990	H	10	-
URANIUM	06/25/89	0001	MG/L		0.0087	L	0.003	-

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H - HOLD TIME EXPIRED, VALUE SUSPECT
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0656
NORTH COORDINATE: 59545.2 FT
EAST COORDINATE: 89175.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MOLYBDENUM	11/22/92	0001	MG/L	<	0.0049	N	0.0049	-
	06/29/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/22/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/29/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	11/22/92	0001	PCI/L		3.01		-	-
	02/19/93	0001			-5.49		-	-
	06/29/93	0001			-5.49		-	-
NET GROSS ALPHA (TOTAL) **	11/22/92	N001	PCI/L		-5.49		-	-
	06/29/93	N001			-0.80		-	-
NICKEL	06/25/89	0001	MG/L	<	0.04	L	0.04	-
NITRATE	06/25/89	0001	MG/L		460.	L	1.	-
	11/22/92	0001			415		0.044	-
	02/19/93	0001			339		1	-
NITRATE (TOTAL)	06/29/93	N001	MG/L		254		1	-
PH	06/25/89	0001	SU		7.44	L	-	-
	11/22/92	0001			7.68		-	-
	02/19/93	0001			7.55		-	-
	06/29/93	N001			7.29		-	-
PHOSPHATE	06/25/89	0001	MG/L	<	0.1	L	0.1	-
PHOSPHATE (TOTAL)	06/29/93	N001	MG/L		0.2		0.1	-
POTASSIUM	06/25/89	0001	MG/L		18.3	L	0.01	-
	02/19/93	0001			14		0.1	-
	06/29/93	0001			15.4		0.1	-
POTASSIUM (TOTAL)	06/29/93	N001	MG/L		14.3		0.1	-
RADIUM-226	06/25/89	0001	PCI/L		0.1	L	1.	0.2
	11/22/92	0001			0.3		0.3	0.2
RADIUM-226 (TOTAL)	11/22/92	N001	PCI/L		0.8		0.3	0.3
RADIUM-226 + RADIUM-228	06/25/89	0001	PCI/L		0.10		-	-
	11/22/92	0001			1.80		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		3.40		-	-
RADIUM-228	06/25/89	0001	PCI/L		0.0	L	1.	0.8
	11/22/92	0001			1.5		2.9	1.8
RADIUM-228 (TOTAL)	11/22/92	N001	PCI/L		2.6		2.0	1.4
REDOX POTENTIAL	11/22/92	0001	MVOLTS		423.7		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0656
NORTH COORDINATE: 59545.2 FT
EAST COORDINATE: 89175.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COPPER	06/25/89	0001	MG/L		0.03	L	0.02	-
CYANIDE	06/25/89	0001	MG/L	<	0.01	L	0.01	-
DISSOLVED OXYGEN	06/29/93	N001	MG/L		0.0		-	-
FLUORIDE	06/25/89	0001	MG/L		0.2	L	0.1	-
GROSS ALPHA	11/22/92	0001	PCI/L		8.5	N	4.8	4.5
	02/19/93	0001			0		13	14
	06/29/93	0001			0		4	7
GROSS ALPHA (TOTAL)	11/22/92	N001	PCI/L		0.0	N	12.3	6.6
	06/29/93	N001			4		3	6
GROSS BETA	11/22/92	0001	PCI/L		8.7	N	8.9	5.7
	02/19/93	0001			4		23	10
	06/29/93	0001			14		5	5
GROSS BETA (TOTAL)	11/22/92	N001	PCI/L		13.2	N	9.1	6.0
	06/29/93	N001			15		5	5
IRON	06/25/89	0001	MG/L	<	0.03	L	0.03	-
	02/19/93	0001		<	0.03		0.03	-
	06/29/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/29/93	N001	MG/L		0.52		0.03	-
LEAD	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	11/22/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
LEAD-210	11/22/92	0001	PCI/L		1.0		2.0	1.2
LEAD-210 (TOTAL)	11/22/92	N001	PCI/L		5.9		0.3	0.9
MAGNESIUM	06/25/89	0001	MG/L		65.7	L	0.001	-
	02/19/93	0001			50.6		0.1	-
	06/29/93	0001			52.0		0.1	-
MAGNESIUM (TOTAL)	06/29/93	N001	MG/L		50.3		0.1	-
MANGANESE	06/25/89	0001	MG/L		0.01	L	0.01	-
	11/22/92	0001			0.0044		0.0015	-
	02/19/93	0001		<	0.01		0.01	-
	06/29/93	0001		<	0.01	J	0.01	-
MANGANESE (TOTAL)	11/22/92	N001	MG/L		0.0070		0.0015	-
	06/29/93	N001			0.01		0.01	-
MERCURY	06/25/89	0001	MG/L	<	0.0002	L	0.0002	-
MOLYBDENUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0656
NORTH COORDINATE: 59545.2 FT
EAST COORDINATE: 89175.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	06/25/89	0001	MG/L CACO3		262.	L	-	-
	11/22/92	0001			260		-	-
	02/19/93	0001			260		-	-
	06/29/93	N001			241		-	-
ALUMINUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
AMMONIUM	06/25/89	0001	MG/L		120.	L	0.1	-
	02/19/93	0001			117		0.1	-
AMMONIUM (TOTAL)	06/29/93	N001	MG/L		118		0.1	-
ANTIMONY	06/25/89	0001	MG/L		0.008	JL	0.003	-
ARSENIC	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	11/22/92	0001		<	0.0015		0.0015	-
	06/29/93	0001		<	0.005		0.005	-
ARSENIC (TOTAL)	11/22/92	N001	MG/L	<	0.0015		0.0015	-
	06/29/93	N001		<	0.005		0.005	-
BARIUM	06/25/89	0001	MG/L	<	0.1	L	0.1	-
	11/22/92	0001			0.028		0.0015	-
	06/29/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/22/92	N001	MG/L		0.040		0.0015	-
	06/29/93	N001		<	0.1		0.1	-
BERYLLIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
BORON	06/25/89	0001	MG/L	<	0.1	L	0.1	-
CADMIUM	06/25/89	0001	MG/L		0.002	L	0.001	-
	11/22/92	0001		<	0.00013		0.00013	-
CADMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.00013	N	0.00013	-
CALCIUM	06/25/89	0001	MG/L		74.7	L	0.01	-
	02/19/93	0001			61.1		0.5	-
	06/29/93	0001			65.0		0.5	-
CALCIUM (TOTAL)	06/29/93	N001	MG/L		61.3		0.5	-
CHLORIDE	06/25/89	0001	MG/L		21.	L	1.	-
	02/19/93	0001			18.1		0.5	-
CHLORIDE (TOTAL)	06/29/93	N001	MG/L		17.1		0.5	-
CHROMIUM	06/25/89	0001	MG/L	<	0.01	L	0.01	-
	11/22/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/22/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/25/89	0001	MG/L	<	0.05	L	0.05	-

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

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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ZINC	12/03/89	0002	MG/L	<	0.005		0.005	-
	12/03/89	0003		<	0.005		0.005	-
	12/03/89	0004		<	0.005		0.005	-
	12/03/89	0005		<	0.005		0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	06/02/91	0001		<	0.005		0.005	-
	02/22/92	0001			0.059		0.005	-
	08/13/92	0001			0.030	L	0.02	-
	11/19/92	0001			0.0071		0.0010	-
	06/26/93	0001			0.019	J	0.005	-
ZINC (TOTAL)	11/19/92	N001	MG/L		0.0050		0.0010	-
	06/26/93	N001			0.033	J	0.005	-

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

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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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
URANIUM	04/21/88	0004	MG/L		0.0310	L	0.003	-
	04/21/88	0005			0.0318	L	0.003	-
	06/09/89	0001			0.028	L	0.003	-
	06/09/89	0002			0.028	L	0.003	-
	06/09/89	0003			0.027	L	0.003	-
	06/09/89	0004			0.028	L	0.003	-
	06/09/89	0005			0.031	L	0.003	-
	12/03/89	0001			0.030		0.003	-
	12/03/89	0002			0.028		0.003	-
	12/03/89	0003			0.029		0.003	-
	12/03/89	0004			0.028		0.003	-
	12/03/89	0005			0.028		0.003	-
	06/25/90	0001			0.019		0.003	-
	01/29/91	0001			0.0299		0.0003	-
	06/02/91	0001			0.020		0.001	-
	02/24/92	0001			0.024		0.001	-
	11/19/92	0001			0.029		0.001	-
	02/19/93	0001			0.028		0.005	-
	06/26/93	0001			0.026		0.001	-
	04/24/94	0001			0.027		0.001	-
URANIUM (TOTAL)	11/19/92	N001	MG/L		0.026		0.001	-
	06/26/93	N001			0.025		0.001	-
	04/24/94	N001			0.027		0.001	-
VANADIUM	06/09/89	0001	MG/L		0.08	L	0.01	-
	06/09/89	0002			0.08	L	0.01	-
	06/09/89	0003			0.08	L	0.01	-
	06/09/89	0004			0.07	L	0.01	-
	06/09/89	0005			0.08	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
	06/25/90	0001			0.02		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/22/92	0001			0.02		0.01	-
	08/13/92	0001		<	0.05	L	0.05	-
	11/19/92	0001			0.0083		0.0019	-
	06/26/93	0001		<	0.01		0.01	-
	04/24/94	0001		<	0.01		0.01	-
VANADIUM (TOTAL)	11/19/92	N001	MG/L		0.0070		0.0019	-
	06/26/93	N001		<	0.01		0.01	-
	04/24/94	N001		<	0.01		0.01	-
ZINC	06/09/89	0001	MG/L	<	0.005	L	0.005	-
	06/09/89	0002		<	0.005	L	0.005	-
	06/09/89	0003		<	0.005	L	0.005	-
	06/09/89	0004		<	0.005	L	0.005	-
	06/09/89	0005		<	0.005	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
TIN	06/09/89	0002	MG/L	<	0.005	L	0.005	-
	06/09/89	0003		<	0.005	L	0.005	-
	06/09/89	0004		<	0.005	L	0.005	-
	06/09/89	0005		<	0.005	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-
	12/03/89	0002		<	0.005		0.005	-
	12/03/89	0003		<	0.005		0.005	-
	12/03/89	0004		<	0.005		0.005	-
	12/03/89	0005		<	0.005		0.005	-
	06/25/90	0001			0.063		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	06/02/91	0001		<	0.01	I	0.01	-
	02/22/92	0001		<	0.03	I	0.03	-
TOTAL DISSOLVED SOLIDS	04/21/88	0001	MG/L		4400.	L	10.	-
	04/21/88	0002			4350.	L	10.	-
	04/21/88	0003			4390.	L	10.	-
	04/21/88	0004			4420.	L	10.	-
	04/21/88	0005			4430.	L	10.	-
	06/09/89	0001			4490.	L	10.	-
	06/09/89	0002			4680.	L	10.	-
	06/09/89	0003			4500.	L	10.	-
	06/09/89	0004			4550.	L	10.	-
	06/09/89	0005			4640.	L	10.	-
	12/03/89	0001			4410.		10.	-
	12/03/89	0002			4440.		10.	-
	12/03/89	0003			4460.		10.	-
	12/03/89	0004			4440.		10.	-
	12/03/89	0005			4400.		10.	-
	06/25/90	0001			3940.		10.	-
	01/29/91	0001			4170.		10.	-
	06/02/91	0001			4160.		10.	-
	02/22/92	0001			3790.		10.	-
	08/13/92	0001			4200	L	42	-
	02/19/93	0001			3870		10	-
	04/24/94	0001			3410		10	-
TOTAL DISSOLVED SOLIDS (TOTAL)	06/26/93	N001	MG/L		3680		10	-
TOTAL ORGANIC CARBON	04/21/88	0001	MG/L		101.	L	1.	-
	04/21/88	0002			96.0	L	1.	-
	04/21/88	0003			91.5	L	1.	-
	04/21/88	0004			91.5	L	1.	-
	04/21/88	0005			98.8	L	1.	-
	01/29/91	0001			1.2		1.	-
	06/02/91	0001			3.		1.	-
	02/22/92	0001			1.		1.	-
	08/13/92	0001			1.5	L	1.0	-
TURBIDITY	04/24/94	N001	NTU		0		-	-
URANIUM	04/21/88	0001	MG/L		0.0326	L	0.003	-
	04/21/88	0002			0.0318	L	0.003	-
	04/21/88	0003			0.0343	L	0.003	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

SAMPLE ID CODES:
0001 - FILTERED SAMPLE (.45 MICRONS)
0002 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
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GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SULFIDE	06/09/89	0002	MG/L	<	0.1	L	0.1	-
	06/09/89	0003		<	0.1	L	0.1	-
	06/09/89	0004		<	0.1	L	0.1	-
	06/09/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	12/03/89	0002		<	0.1		0.1	-
	12/03/89	0003		<	0.1		0.1	-
	12/03/89	0004		<	0.1		0.1	-
	12/03/89	0005		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	06/02/91	0001			5.6	J	1.	-
TEMPERATURE	04/21/88	0001	C - DEGREE		16.0	L	-	-
	04/21/88	0002			16.0	L	-	-
	04/21/88	0003			16.0	L	-	-
	04/21/88	0004			16.0	L	-	-
	04/21/88	0005			16.0	L	-	-
	06/09/89	0001			17.0	L	-	-
	06/09/89	0002			17.0	L	-	-
	06/09/89	0003			17.0	L	-	-
	06/09/89	0004			17.0	L	-	-
	06/09/89	0005			17.0	L	-	-
	12/03/89	0001			16.0		-	-
	12/03/89	0002			16.0		-	-
	12/03/89	0003			16.0		-	-
	12/03/89	0004			16.0		-	-
	12/03/89	0005			16.0		-	-
	06/25/90	0001			18.0		-	-
	01/29/91	0001			14.0		-	-
	06/02/91	0001			15.8		-	-
	02/22/92	0001			15.3		-	-
	08/13/92	0001			19.3	L	-	-
	11/19/92	0001			16.2		-	-
	02/19/93	0001			14.1		-	-
	06/26/93	N001			20.5		-	-
	04/24/94	N001			16.4		-	-
THALLIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	06/09/89	0002		<	0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.1		0.1	-
	12/03/89	0002			0.1		0.1	-
	12/03/89	0003			0.1		0.1	-
	12/03/89	0004		<	0.1		0.1	-
	12/03/89	0005			0.1		0.1	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
THORIUM-230	01/29/91	0001	PCI/L		0.0		1.	0.2
	06/02/91	0001			0.7		1.	0.3
TIN	06/09/89	0001	MG/L	<	0.005	L	0.005	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PVI	PARAMETER VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SPECIFIC CONDUCTANCE	12/03/89	0005	UMHO/CM		4650.		-	-
	06/25/90	0001			4550.		-	-
	01/29/91	0001			5300.		-	-
	06/02/91	0001			5190.		-	-
	02/22/92	0001			4260		-	-
	08/13/92	0001			449	L	-	-
	11/19/92	0001			3990		-	-
	02/19/93	0001			3910		-	-
	06/26/93	N001			424	R	-	-
	04/24/94	N001			3770		-	-
STRONTIUM	06/25/90	0001	MG/L		2.68	*	0.1	-
	01/29/91	0001			3.0		0.1	-
	06/02/91	0001			2.98		0.01	-
	02/22/92	0001			2.54		0.01	-
	08/13/92	0001			3.0	L	0.2	-
	11/19/92	0001			3.2	S	0.00035	-
	06/26/93	0001			2.55		0.01	-
	04/24/94	0001			2.88		0.01	-
STRONTIUM (TOTAL)	11/19/92	N001	MG/L		3.4		0.00035	-
	06/26/93	N001			2.50		0.01	-
	04/24/94	N001			2.73		0.01	-
SULFATE	04/21/88	0001	MG/L		2950.	L	0.1	-
	04/21/88	0002			2910.	L	0.1	-
	04/21/88	0003			2950.	L	0.1	-
	04/21/88	0004			2960.	L	0.1	-
	04/21/88	0005			2930.	L	0.1	-
	06/09/89	0001			2770.	L	0.1	-
	06/09/89	0002			2790.	L	0.1	-
	06/09/89	0003			2780.	L	0.1	-
	06/09/89	0004			2790.	L	0.1	-
	06/09/89	0005			2800.	L	0.1	-
	12/03/89	0001			2730.		0.1	-
	12/03/89	0002			2670.		0.1	-
	12/03/89	0003			2660.		0.1	-
	12/03/89	0004			2590.		0.1	-
	12/03/89	0005			2410.		0.1	-
	06/25/90	0001			2660.		0.1	-
	01/29/91	0001			2760.		0.1	-
	06/02/91	0001			3540.		10.	-
	02/22/92	0001			2370.		10.	-
	08/13/92	0001			2000	IL	0.59	-
	11/19/92	0001			2400		1.0	-
	02/19/93	0001			2470		1	-
	04/24/94	0001			1950		1	-
SULFATE (TOTAL)	11/19/92	N001	MG/L		2400		1.0	-
	06/26/93	N001			2140		1	-
SULFIDE	06/09/89	0001	MG/L	<	0.1	L	0.1	-

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

OTHER PARAMETER VALUE FLAGS:
* - DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
R - UNUSABLE DATA POINT
S - REPORTED VALUE DETERMINED USING METHOD OF STD ADDITION (MSA)

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
SOWP Rev. 0 Date
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
SILVER	06/09/89	0002	MG/L	<	0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
SODIUM	04/21/88	0001	MG/L		149.	L	0.002	-
	04/21/88	0002			144.	L	0.002	-
	04/21/88	0003			145.	L	0.002	-
	04/21/88	0004			140.	L	0.002	-
	04/21/88	0005			137.	L	0.002	-
	06/09/89	0001			177.	L	0.002	-
	06/09/89	0002			163.	L	0.002	-
	06/09/89	0003			158.	L	0.002	-
	06/09/89	0004			169.	L	0.002	-
	06/09/89	0005			165.	L	0.002	-
	12/03/89	0001			166.		0.002	-
	12/03/89	0002			170.		0.002	-
	12/03/89	0003			172.		0.002	-
	12/03/89	0004			167.		0.002	-
	12/03/89	0005			166.		0.002	-
	06/25/90	0001			165.		0.002	-
	01/29/91	0001			185.		0.002	-
	06/02/91	0001			190.		5.	-
	02/22/92	0001			163.		5.	-
	08/13/92	0001			170	L	5	-
	02/19/93	0001			157		0.1	-
	06/26/93	0001			150		1	-
	04/24/94	0001			143		1	-
SODIUM (TOTAL)	06/26/93	N001	MG/L		154		1	-
	04/24/94	N001			129		1	-
SPECIFIC CONDUCTANCE	04/21/88	0001	UMHO/CM		4950.	L	-	-
	04/21/88	0002			4950.	L	-	-
	04/21/88	0003			4950.	JL	-	-
	04/21/88	0004			4950.	L	-	-
	04/21/88	0005			4950.	L	-	-
	06/09/89	0001			4150.	L	-	-
	06/09/89	0002			4150.	L	-	-
	06/09/89	0003			4150.	L	-	-
	06/09/89	0004			4150.	L	-	-
	06/09/89	0005			4150.	L	-	-
	12/03/89	0001			4650.		-	-
	12/03/89	0002			4650.		-	-
	12/03/89	0003			4650.		-	-
	12/03/89	0004			4650.		-	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
RADIUM-228	01/29/91	0001	PCI/L		1.0		1.	0.9
	06/02/91	0001			0.0	J	1.	1.7
	02/24/92	0001			2.6		1.0	1.1
	08/13/92	0001			0.8	L	1.8	1.0
	11/19/92	0001			4.1		2.1	1.7
RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		2.7		2.0	1.4
REDOX POTENTIAL	11/19/92	0001	mVOLTS		457.9		-	-
	06/26/93	N001			460		-	-
	04/24/94	N001			415		-	-
SELENIUM	04/21/88	0001	MG/L		0.010	L	0.005	-
	04/21/88	0002			0.009	L	0.005	-
	04/21/88	0003			0.010	L	0.005	-
	04/21/88	0004			0.010	L	0.005	-
	04/21/88	0005			0.010	L	0.005	-
	06/09/89	0001			0.006	L	0.005	-
	06/09/89	0002			0.019	L	0.005	-
	06/09/89	0003			0.020	L	0.005	-
	06/09/89	0004			0.020	L	0.005	-
	06/09/89	0005			0.020	L	0.005	-
	12/03/89	0001		<	0.005		0.005	-
	12/03/89	0002		<	0.005		0.005	-
	12/03/89	0003		<	0.005		0.005	-
	12/03/89	0004		<	0.005		0.005	-
	12/03/89	0005		<	0.005		0.005	-
	06/25/90	0001		<	0.005		0.005	-
	01/29/91	0001		<	0.005		0.005	-
	06/02/91	0001		<	0.005	J	0.005	-
	02/22/92	0001		<	0.005		0.005	-
	08/13/92	0001		<	0.005	L	0.005	-
	11/19/92	0001		<	0.015	IN	0.015	-
SELENIUM (TOTAL)	11/19/92	N001	MG/L	<	0.0015		0.0015	-
SILICA - SIO2	06/09/89	0001	MG/L		16.	L	2.	-
	06/09/89	0002			16.	L	2.	-
	06/09/89	0003			16.	L	2.	-
	06/09/89	0004			16.	L	2.	-
	06/09/89	0005			16.	L	2.	-
	12/03/89	0001			15.6		2.	-
	12/03/89	0002			16.3		2.	-
	12/03/89	0003			15.0		2.	-
	12/03/89	0004			15.4		2.	-
	12/03/89	0005			14.1		2.	-
	06/25/90	0001			16.		2.	-
	01/29/91	0001			14.		2.	-
	06/02/91	0001			15.7		0.1	-
SILICA - SIO2 (TOTAL)	06/26/93	N001	MG/L		14.9	H	0.5	-
SILVER	06/09/89	0001	MG/L	<	0.01	L	0.01	-

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

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
POTASSIUM	04/24/94	0001	MG/L		23.5		0.1	
POTASSIUM (TOTAL)	06/26/93	N001	MG/L		25.3		0.1	-
	04/24/94	N001			22.9		0.1	-
RADIUM-226	06/09/89	0001	PCI/L		0.1	L	1.	0.2
	06/09/89	0002			0.1	L	1.	0.1
	06/09/89	0003			0.3	L	1.	0.2
	06/09/89	0004			0.1	L	1.	0.1
	06/09/89	0005			0.2	L	1.	0.2
	12/03/89	0001			0.1		1.	0.2
	12/03/89	0002			0.2		1.	0.2
	12/03/89	0003			0.1		1.	0.2
	12/03/89	0004			0.1		1.	0.2
	12/03/89	0005			0.1		1.	0.2
	06/25/90	0001			0.0		1.	0.1
	01/29/91	0001			0.1		1.	0.6
	06/02/91	0001			0.4		1.	0.4
	02/24/92	0001			0.1		1.0	0.2
	08/13/92	0001			0.1	L	0.5	0.1
	11/19/92	0001			0.7	L	0.3	0.3
RADIUM-226 (TOTAL)	11/19/92	N001	PCI/L		0.2		0.3	0.2
RADIUM-226 + RADIUM-228	06/09/89	0001	PCI/L		0.50		-	-
	06/09/89	0002			0.20		-	-
	06/09/89	0003			0.70		-	-
	06/09/89	0004			0.50		-	-
	06/09/89	0005			0.50		-	-
	12/03/89	0001			0.10		-	-
	12/03/89	0002			0.20		-	-
	12/03/89	0003			0.10		-	-
	12/03/89	0004			0.10		-	-
	12/03/89	0005			0.20		-	-
	06/25/90	0001			1.50		-	-
	01/29/91	0001			1.10		-	-
	06/02/91	0001			0.40		-	-
	02/24/92	0001			2.70		-	-
	08/13/92	0001			0.90		-	-
	11/19/92	0001			4.80		-	-
RADIUM-226 + RADIUM-228 (TOTAL)	11/19/92	N001	PCI/L		2.90		-	-
RADIUM-228	06/09/89	0001	PCI/L		0.4	L	1.	1.0
	06/09/89	0002			0.1	L	1.	0.8
	06/09/89	0003			0.4	L	1.	1.0
	06/09/89	0004			0.4	L	1.	1.0
	06/09/89	0005			0.3	L	1.	1.0
	12/03/89	0001			0.0		1.	1.9
	12/03/89	0002			0.0		1.	2.3
	12/03/89	0003			0.0		1.	1.7
	12/03/89	0004			0.0		1.	1.7
	12/03/89	0005			0.1		1.	1.7
	06/25/90	0001			1.5		1.	0.9

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
PH	06/09/89	0003	SU		7.50	L	-	-
	06/09/89	0004			7.50	L	-	-
	06/09/89	0005			7.50	L	-	-
	12/03/89	0001			7.21		-	-
	12/03/89	0002			7.21		-	-
	12/03/89	0003			7.21		-	-
	12/03/89	0004			7.21		-	-
	12/03/89	0005			7.21		-	-
	06/25/90	0001			7.04		-	-
	01/29/91	0001			7.08	L	-	-
	06/02/91	0001			7.26		-	-
	02/22/92	0001			7.05		-	-
	08/13/92	0001			7.31	L	-	-
	11/19/92	0001			7.33		-	-
	02/19/93	0001			7.14		-	-
	06/26/93	N001			7.23		-	-
	04/24/94	N001			7.06		-	-
PHOSPHATE	06/09/89	0001	MG/L		0.6	L	0.1	-
	06/09/89	0002		<	0.1	L	0.1	-
	06/09/89	0003		<	0.1	L	0.1	-
	06/09/89	0004			0.6	L	0.1	-
	06/09/89	0005			0.6	L	0.1	-
	12/03/89	0001			0.3		0.1	-
	12/03/89	0002			0.3		0.1	-
	12/03/89	0003			0.3		0.1	-
	12/03/89	0004			0.4		0.1	-
	12/03/89	0005			0.3		0.1	-
	06/25/90	0001			0.4		0.1	-
PHOSPHATE (TOTAL)	06/26/93	N001	MG/L		0.3		0.1	-
POTASSIUM	04/21/88	0001	MG/L		43.4	L	0.01	-
	04/21/88	0002			41.8	L	0.01	-
	04/21/88	0003			42.5	L	0.01	-
	04/21/88	0004			45.9	L	0.01	-
	04/21/88	0005			42.2	L	0.01	-
	06/09/89	0001			36.6	L	0.01	-
	06/09/89	0002			352.	L	0.01	-
	06/09/89	0003			34.3	L	0.01	-
	06/09/89	0004			36.1	L	0.01	-
	06/09/89	0005			35.7	L	0.01	-
	12/03/89	0001			30.		0.01	-
	12/03/89	0002			31.		0.01	-
	12/03/89	0003			31.		0.01	-
	12/03/89	0004			30.		0.01	-
	12/03/89	0005			30.		0.01	-
	06/25/90	0001			32.8		0.01	-
	01/29/91	0001			25.8		0.01	-
	06/02/91	0001			27.		5.	-
	02/22/92	0001			25.		5.	-
	08/13/92	0001			30	*L	0.575	-
	02/19/93	0001			26.7		0.1	-
	06/26/93	0001			26.6		0.1	-

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

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
NET GROSS ALPHA (TOTAL) **	06/26/93	N001	PCI/L		7.85		-	-
NICKEL	06/09/89	0001	MG/L	<	0.04	L	0.04	-
	06/09/89	0002		<	0.04	L	0.04	-
	06/09/89	0003		<	0.04	L	0.04	-
	06/09/89	0004		<	0.04	L	0.04	-
	06/09/89	0005		<	0.04	L	0.04	-
	12/03/89	0001		<	0.04		0.04	-
	12/03/89	0002		<	0.04		0.04	-
	12/03/89	0003		<	0.04		0.04	-
	12/03/89	0004		<	0.04		0.04	-
	12/03/89	0005		<	0.04		0.04	-
	06/25/90	0001		<	0.04		0.04	-
	01/29/91	0001		<	0.04		0.04	-
	06/02/91	0001		<	0.04		0.04	-
NITRATE	04/21/88	0001	MG/L		1140.	L	1.	-
	04/21/88	0002			1130.	L	1.	-
	04/21/88	0003			1070.	L	1.	-
	04/21/88	0004			1110.	L	1.	-
	04/21/88	0005			1110.	L	1.	-
	06/09/89	0001			830.	L	1.	-
	06/09/89	0002			830.	L	1.	-
	06/09/89	0003			830.	L	1.	-
	06/09/89	0004			830.	L	1.	-
	06/09/89	0005			810.	L	1.	-
	12/03/89	0001			753.		1.	-
	12/03/89	0002			753.		1.	-
	12/03/89	0003			797.		1.	-
	12/03/89	0004			775.		1.	-
	12/03/89	0005			753.		1.	-
	06/25/90	0001			656.		1.	-
	01/29/91	0001			655.		1.	-
	06/02/91	0001			478.		1.	-
	02/22/92	0001			581.		75.	-
	08/13/92	0001			620	IL	0.75	-
	11/19/92	0001			530		0.044	-
	02/19/93	0001			648		1	-
NITRATE (TOTAL)	06/26/93	N001	MG/L		598		1	-
	04/24/94	N001			574		1	-
NITRITE AND NITRATE	01/29/91	0001	MG/L		655.		1.	-
	06/02/91	0001			108.		0.05	-
PH	04/21/88	0001	SU		7.15	L	-	-
	04/21/88	0002			7.15	L	-	-
	04/21/88	0003			7.15	L	-	-
	04/21/88	0004			7.15	L	-	-
	04/21/88	0005			7.15	L	-	-
	06/09/89	0001			7.50	L	-	-
	06/09/89	0002			7.50	L	-	-

** NET GROSS ALPHA (TOTAL) (TOTAL GROSS ALPHA - TOTAL URANIUM)

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MOW01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER VALUE PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
MERCURY	06/09/89	0001	MG/L	<	0.0002	L	0.0002	-
	06/09/89	0002		<	0.0002	L	0.0002	-
	06/09/89	0003		<	0.0002	L	0.0002	-
	06/09/89	0004			0.0003	L	0.0002	-
	06/09/89	0005		<	0.0002	L	0.0002	-
	12/03/89	0001		<	0.0002		0.0002	-
	12/03/89	0002		<	0.0002		0.0002	-
	12/03/89	0003		<	0.0002		0.0002	-
	12/03/89	0004		<	0.0002		0.0002	-
	12/03/89	0005		<	0.0002		0.0002	-
	06/25/90	0001		<	0.0002		0.0002	-
MOLYBDENUM	04/21/88	0001	MG/L		0.10	L	0.01	-
	04/21/88	0002			0.09	L	0.01	-
	04/21/88	0003			0.09	L	0.01	-
	04/21/88	0004			0.09	L	0.01	-
	04/21/88	0005			0.11	L	0.01	-
	06/09/89	0001		<	0.01	L	0.01	-
	06/09/89	0002			0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001			0.06		0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/13/92	0001			0.010	L	0.007	-
	11/19/92	0001		<	0.0049	N	0.0049	-
	06/26/93	0001		<	0.01		0.01	-
MOLYBDENUM (TOTAL)	11/19/92	N001	MG/L	<	0.0049	N	0.0049	-
	06/26/93	N001		<	0.01		0.01	-
NET GROSS ALPHA *	04/21/88	0001	PCI/L		97.64		-	-
	04/21/88	0002			38.19		-	-
	04/21/88	0003			16.47		-	-
	04/21/88	0004			6.73		-	-
	04/21/88	0005			14.19		-	-
	01/29/91	0001			-3.51		-	-
	06/02/91	0001			-11.22		-	-
	02/24/92	0001			-16.46		-	-
	11/19/92	0001			6.61		-	-
	02/19/93	0001			-19.21		-	-
	06/26/93	0001			-3.84		-	-
NET GROSS ALPHA (TOTAL) **	11/19/92	N001	PCI/L		-17.84		-	-

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

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
LEAD-210	11/19/92	0001	PCI/L		0.3		2.0	1.2
LEAD-210 (TOTAL)	11/19/92	N001	PCI/L		5.2		0.3	0.8
MAGNESIUM	04/21/88	0001	MG/L		295.	L	0.001	-
	04/21/88	0002			290.	L	0.001	-
	04/21/88	0003			294.	L	0.001	-
	04/21/88	0004			288.	L	0.001	-
	04/21/88	0005			300.	L	0.001	-
	06/09/89	0001			311.	L	0.001	-
	06/09/89	0002			313.	L	0.001	-
	06/09/89	0003			306.	L	0.001	-
	06/09/89	0004			321.	L	0.001	-
	06/09/89	0005			317.	L	0.001	-
	12/03/89	0001			321.		0.001	-
	12/03/89	0002			319.		0.001	-
	12/03/89	0003			326.		0.001	-
	12/03/89	0004			311.		0.001	-
	12/03/89	0005			310.		0.001	-
	06/25/90	0001			306.		0.001	-
	01/29/91	0001			319.		0.001	-
	06/02/91	0001			350.		0.5	-
	02/22/92	0001			301.		0.5	-
	08/13/92	0001			320	L	5	-
	02/19/93	0001			288		0.1	-
	06/26/93	0001			271		0.1	-
	04/24/94	0001			254		0.1	-
MAGNESIUM (TOTAL)	06/26/93	N001	MG/L		266		0.1	-
	04/24/94	N001			249		0.1	-
MANGANESE	06/09/89	0001	MG/L		0.12	L	0.01	-
	06/09/89	0002			0.12	L	0.01	-
	06/09/89	0003			0.12	L	0.01	-
	06/09/89	0004			0.12	L	0.01	-
	06/09/89	0005			0.12	L	0.01	-
	12/03/89	0001			0.07		0.01	-
	12/03/89	0002			0.07		0.01	-
	12/03/89	0003			0.07		0.01	-
	12/03/89	0004			0.07		0.01	-
	12/03/89	0005			0.07		0.01	-
	06/25/90	0001			0.08		0.01	-
	01/29/91	0001			0.08		0.01	-
	06/02/91	0001			0.08		0.01	-
	02/22/92	0001			0.04		0.01	-
	08/13/92	0001			0.068	L	0.01	-
	11/19/92	0001			0.055		0.0015	-
	02/19/93	0001			0.04		0.01	-
	06/26/93	0001			0.05		0.01	-
	04/24/94	0001			0.04		0.01	-
MANGANESE (TOTAL)	11/19/92	N001	MG/L		0.051		0.0015	-
	06/26/93	N001			0.05		0.01	-
	04/24/94	N001			0.05		0.01	-

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
GROSS ALPHA (TOTAL)	06/26/93	N001	PCI/L		25		26	45
GROSS BETA	04/21/88	0001	PCI/L		62.	L	1.	16.
	04/21/88	0002			67.	L	1.	13.
	04/21/88	0003			60.	L	1.	13.
	04/21/88	0004			67.	L	1.	15.
	04/21/88	0005			60.	L	1.	17.
	01/29/91	0001			37.		0.5	24.
	06/02/91	0001			24.1		0.5	21.3
	02/24/92	0001			24.8		0.5	22.0
	08/13/92	0001			15	L	71	41
	11/19/92	0001			0.0	N	42.7	24.9
	02/19/93	0001			1		59	26
	06/26/93	0001			35		44	42
GROSS BETA (TOTAL)	11/19/92	N001	PCI/L		25.5	N	39.0	24.4
	06/26/93	N001			0		44	40
IRON	06/09/89	0001	MG/L		0.09	L	0.03	-
	06/09/89	0002			0.08	L	0.03	-
	06/09/89	0003			0.09	L	0.03	-
	06/09/89	0004			0.08	L	0.03	-
	06/09/89	0005			0.52	L	0.03	-
	12/03/89	0001		<	0.03		0.03	-
	12/03/89	0002		<	0.03		0.03	-
	12/03/89	0003		<	0.03		0.03	-
	12/03/89	0004		<	0.03		0.03	-
	12/03/89	0005		<	0.03		0.03	-
	06/25/90	0001			0.09		0.03	-
	01/29/91	0001			0.09		0.03	-
	06/02/91	0001		<	0.03		0.03	-
	02/22/92	0001		<	0.03		0.03	-
	08/13/92	0001		<	0.1	L	0.1	-
	02/19/93	0001		<	0.03		0.03	-
	06/26/93	0001		<	0.03	J	0.03	-
IRON (TOTAL)	06/26/93	N001	MG/L		0.06	J	0.03	-
LEAD	06/09/89	0001	MG/L		0.01	L	0.01	-
	06/09/89	0002			0.01	L	0.01	-
	06/09/89	0003			0.01	L	0.01	-
	06/09/89	0004			0.01	L	0.01	-
	06/09/89	0005			0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
	06/25/90	0001		<	0.01	J	0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.005		0.005	-
	11/19/92	0001		<	0.0015		0.0015	-
LEAD (TOTAL)	11/19/92	N001	MG/L	<	0.0015	W	0.0015	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
COPPER	06/09/89	0003	MG/L		0.02	L	0.02	-
	06/09/89	0004		<	0.02	L	0.02	-
	06/09/89	0005			0.02	L	0.02	-
	12/03/89	0001		<	0.02		0.02	-
	12/03/89	0002		<	0.02		0.02	-
	12/03/89	0003		<	0.02		0.02	-
	12/03/89	0004		<	0.02		0.02	-
	12/03/89	0005		<	0.02		0.02	-
	06/25/90	0001		<	0.02		0.02	-
	01/29/91	0001		<	0.02		0.02	-
	06/02/91	0001		<	0.01		0.01	-
CYANIDE	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
DISSOLVED OXYGEN	11/19/92	0001	MG/L		5.3		-	-
	06/26/93	N001			3.2		-	-
	04/24/94	N001			1.8		-	-
FLUORIDE	06/09/89	0001	MG/L		0.2	L	0.1	-
	06/09/89	0002			0.1	L	0.1	-
	06/09/89	0003			0.1	L	0.1	-
	06/09/89	0004			0.1	L	0.1	-
	06/09/89	0005			0.1	L	0.1	-
	12/03/89	0001			0.1		0.1	-
	12/03/89	0002			0.2		0.1	-
	12/03/89	0003			0.2		0.1	-
	12/03/89	0004			0.2		0.1	-
	12/03/89	0005			0.2		0.1	-
	06/25/90	0001			0.1		0.1	-
	01/29/91	0001			0.2		0.1	-
	06/02/91	0001		<	0.1		0.1	-
GROSS ALPHA	04/21/88	0001	PCI/L		120.	L	0.2	40.
	04/21/88	0002			60.	L	0.2	27.
	04/21/88	0003			40.	L	0.2	27.
	04/21/88	0004			28.	L	0.2	26.
	04/21/88	0005			36.	L	0.2	33.
	01/29/91	0001			17.		1.	35.
	06/02/91	0001			2.5		1.	36.4
	02/24/92	0001			0.0		1.0	31.0
	08/13/92	0001			10	L	61	30
	11/19/92	0001			26.5	N	25.0	20.3
	02/19/93	0001			0		48	48
	06/26/93	0001			14		29	48
GROSS ALPHA (TOTAL)	11/19/92	N001	PCI/L		0.0	N	52.8	28.3

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

OTHER PARAMETER VALUE FLAGS:
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CHLORIDE	06/09/89	0001	MG/L		36.	L	1.	-
	06/09/89	0002			36.	L	1.	-
	06/09/89	0003			36.	L	1.	-
	06/09/89	0004			36.	L	1.	-
	06/09/89	0005			36.	L	1.	-
	12/03/89	0001			26.6		1.	-
	12/03/89	0002			31.		1.	-
	12/03/89	0003			32.		1.	-
	12/03/89	0004			31.		1.	-
	12/03/89	0005			31.		1.	-
	06/25/90	0001			35.		1.	-
	01/29/91	0001			38.	J	1.	-
	06/02/91	0001			33.		0.5	-
	02/22/92	0001			30.		1.	-
	08/13/92	0001			29	L	0.016	-
	02/19/93	0001			29.8		0.5	-
	04/24/94	0001			25.8		0.5	-
CHLORIDE (TOTAL)	06/26/93	N001	MG/L		27.7		0.5	-
CHROMIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.01		0.01	-
	12/03/89	0002		<	0.01		0.01	-
	12/03/89	0003		<	0.01		0.01	-
	12/03/89	0004		<	0.01		0.01	-
	12/03/89	0005		<	0.01		0.01	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.01		0.01	-
	02/22/92	0001		<	0.01		0.01	-
	08/13/92	0001		<	0.01	L	0.01	-
	11/19/92	0001		<	0.0053		0.0053	-
CHROMIUM (TOTAL)	11/19/92	N001	MG/L	<	0.0053		0.0053	-
COBALT	06/09/89	0001	MG/L	<	0.05	L	0.05	-
	06/09/89	0002		<	0.05	L	0.05	-
	06/09/89	0003		<	0.05	L	0.05	-
	06/09/89	0004		<	0.05	L	0.05	-
	06/09/89	0005		<	0.05	L	0.05	-
	12/03/89	0001		<	0.05		0.05	-
	12/03/89	0002		<	0.05		0.05	-
	12/03/89	0003		<	0.05		0.05	-
	12/03/89	0004		<	0.05		0.05	-
	12/03/89	0005		<	0.05		0.05	-
	06/25/90	0001		<	0.05		0.05	-
	01/29/91	0001		<	0.05		0.05	-
	06/02/91	0001		<	0.03		0.03	-
COPPER	06/09/89	0001	MG/L		0.02	L	0.02	-
	06/09/89	0002			0.02	L	0.02	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
CADMIUM	04/21/88	0004	MG/L		0.030	L	0.001	-
	04/21/88	0005			0.031	L	0.001	-
	06/09/89	0001			0.120	L	0.001	-
	06/09/89	0002		<	0.12	IL	0.12	-
	06/09/89	0003		<	0.001	L	0.001	-
	06/09/89	0004		<	0.001	L	0.001	-
	06/09/89	0005		<	0.001	L	0.001	-
	12/03/89	0001		<	0.001		0.001	-
	12/03/89	0002		<	0.001		0.001	-
	12/03/89	0003		<	0.001		0.001	-
	12/03/89	0004		<	0.001		0.001	-
	12/03/89	0005		<	0.001		0.001	-
	06/25/90	0001		<	0.001		0.001	-
	01/29/91	0001		<	0.001		0.001	-
	06/02/91	0001		<	0.001		0.001	-
	02/22/92	0001		<	0.0005		0.0005	-
	08/13/92	0001		<	0.005	WL	0.005	-
	11/19/92	0001		<	0.00013	W	0.00013	-
CADMIUM (TOTAL)	11/19/92	N001	MG/L	<	0.00013	NW	0.00013	-
CALCIUM	04/21/88	0001	MG/L		518.	L	0.01	-
	04/21/88	0002			521.	L	0.01	-
	04/21/88	0003			530.	L	0.01	-
	04/21/88	0004			539.	L	0.01	-
	04/21/88	0005			506.	L	0.01	-
	06/09/89	0001			429.	L	0.01	-
	06/09/89	0002			405.	L	0.01	-
	06/09/89	0003			407.	L	0.01	-
	06/09/89	0004			411.	L	0.01	-
	06/09/89	0005			416.	L	0.01	-
	12/03/89	0001			433.		0.01	-
	12/03/89	0002			417.		0.01	-
	12/03/89	0003			426.		0.01	-
	12/03/89	0004			406.		0.01	-
	12/03/89	0005			404.		0.01	-
	06/25/90	0001			395.		0.01	-
	01/29/91	0001			420.		0.01	-
	06/02/91	0001			463.		0.5	-
	02/22/92	0001			390.		0.5	-
	08/13/92	0001			410	L	5	-
	02/19/93	0001			372		0.5	-
	06/26/93	0001			370		0.5	-
	04/24/94	0001			375		0.5	-
CALCIUM (TOTAL)	06/26/93	N001	MG/L		350		0.5	-
	04/24/94	N001			427		0.5	-
CHLORIDE	04/21/88	0001	MG/L		34.	L	1.	-
	04/21/88	0002			34.	L	1.	-
	04/21/88	0003			35.	L	1.	-
	04/21/88	0004			35.	L	1.	-
	04/21/88	0005			35.	L	1.	-

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

OTHER PARAMETER VALUE FLAGS:
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
N - SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
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)
0003 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
0004 - FILTERED REPLICATE SAMPLE (.45 MICRONS)
N001 - UNFILTERED SAMPLE

GROUNDWATER QUALITY DATA BY LOCATION
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
BARIUM	06/09/89	0002	MG/L	<	0.001	JL	0.1	-
	06/09/89	0003		<	0.1	L	0.1	-
	06/09/89	0004		<	0.1	L	0.1	-
	06/09/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	12/03/89	0002		<	0.1		0.1	-
	12/03/89	0003		<	0.1		0.1	-
	12/03/89	0004		<	0.1		0.1	-
	12/03/89	0005		<	0.1		0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	06/02/91	0001			0.02		0.01	-
	02/22/92	0001			0.02		0.01	-
	08/13/92	0001		<	0.2	L	0.2	-
	11/19/92	0001			0.018		0.0015	-
	06/26/93	0001		<	0.1		0.1	-
BARIUM (TOTAL)	11/19/92	N001	MG/L		0.020		0.0015	-
	06/26/93	N001		<	0.1		0.1	-
BERYLLIUM	06/09/89	0001	MG/L	<	0.01	L	0.01	-
	06/09/89	0002		<	0.01	L	0.01	-
	06/09/89	0003		<	0.01	L	0.01	-
	06/09/89	0004		<	0.01	L	0.01	-
	06/09/89	0005		<	0.01	L	0.01	-
	12/03/89	0001		<	0.005		0.005	-
	12/03/89	0002		<	0.005		0.005	-
	12/03/89	0003		<	0.005		0.005	-
	12/03/89	0004		<	0.005		0.005	-
	12/03/89	0005		<	0.005		0.005	-
	06/25/90	0001		<	0.01		0.01	-
	01/29/91	0001		<	0.01		0.01	-
	06/02/91	0001		<	0.005		0.005	-
	08/13/92	0001		<	0.005	L	0.005	-
BORON	06/09/89	0001	MG/L	<	0.1	L	0.1	-
	06/09/89	0002		<	0.1	L	0.1	-
	06/09/89	0003		<	0.1	L	0.1	-
	06/09/89	0004		<	0.1	L	0.1	-
	06/09/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	12/03/89	0002		<	0.1		0.1	-
	12/03/89	0003		<	0.1		0.1	-
	12/03/89	0004		<	0.1		0.1	-
	12/03/89	0005		<	0.1		0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	06/02/91	0001		<	0.05		0.05	-
BROMIDE	01/29/91	0001	MG/L	<	0.1		0.1	-
	06/02/91	0001			0.5		0.1	-
CADMIUM	04/21/88	0001	MG/L		0.030	L	0.001	-
	04/21/88	0002			0.030	L	0.001	-
	04/21/88	0003			0.029	L	0.001	-

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

OTHER PARAMETER VALUE FLAGS:
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
AMMONIUM	12/03/89	0004	MG/L		340.		0.1	
	12/03/89	0005			330.		0.1	
	06/25/90	0001			297.	H	0.1	
	01/29/91	0001			239.		0.1	
	06/02/91	0001			43.4		0.1	
	02/22/92	0001			184.		10.	
	02/19/93	0001			245		0.1	
AMMONIUM (TOTAL)	06/26/93	N001	MG/L		189		0.1	
	04/24/94	N001			154		0.1	
ANTIMONY	06/09/89	0001	MG/L	<	0.0003	JL	0.003	
	06/09/89	0002		<	0.003	JL	0.003	
	06/09/89	0003		<	0.0003	JL	0.003	
	06/09/89	0004		<	0.003	JL	0.003	
	06/09/89	0005		<	0.003	JL	0.003	
	12/03/89	0001		<	0.003		0.003	
	12/03/89	0002		<	0.003		0.003	
	12/03/89	0003		<	0.003		0.003	
	12/03/89	0004		<	0.003		0.003	
	12/03/89	0005		<	0.003		0.003	
	06/25/90	0001		<	0.003		0.003	
	01/29/91	0001		<	0.003		0.003	
	06/02/91	0001		<	0.003		0.003	
	02/22/92	0001		<	0.003		0.003	
	08/13/92	0001		<	0.06	L	0.06	
ARSENIC	04/21/88	0001	MG/L		0.012	L	0.01	
	04/21/88	0002			0.013	L	0.01	
	04/21/88	0003			0.016	L	0.01	
	04/21/88	0004			0.015	L	0.01	
	04/21/88	0005			0.014	L	0.01	
	06/09/89	0001		<	0.01	L	0.01	
	06/09/89	0002		<	0.01	L	0.01	
	06/09/89	0003		<	0.01	L	0.01	
	06/09/89	0004		<	0.01	L	0.01	
	06/09/89	0005		<	0.01	L	0.01	
	12/03/89	0001		<	0.01		0.01	
	12/03/89	0002		<	0.01		0.01	
	12/03/89	0003		<	0.01		0.01	
	12/03/89	0004		<	0.01		0.01	
	12/03/89	0005		<	0.01		0.01	
	06/25/90	0001		<	0.01	J	0.01	
	01/29/91	0001		<	0.01		0.01	
	06/02/91	0001		<	0.05	I	0.05	
	02/22/92	0001		<	0.01		0.01	
	08/13/92	0001		<	0.01	WL	0.01	
	11/19/92	0001		<	0.0015		0.0015	
	06/26/93	0001		<	0.005		0.005	
ARSENIC (TOTAL)	11/19/92	N001	MG/L	<	0.0015		0.0015	
	06/26/93	N001		<	0.005		0.005	
BARIUM	06/09/89	0001	MG/L	<	0.1	L	0.1	

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

OTHER PARAMETER VALUE FLAGS:
H - HOLD TIME EXPIRED, VALUE SUSPECT
I - INCREASED DETECTION LIMIT DUE TO REQUIRED DILUTION
J - ESTIMATED VALUE
L - LESS THAN THREE BORE VOLUMES REMOVED BEFORE SAMPLING
W - POST-DIGEST SPIKE OUT OF CNTR LIM WHILE SAMP ABS < 50% SPIKE

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
SOWP Rev. 0 Data
SITE: MON01 MONUMENT VALLEY
LOCATION: 0655
NORTH COORDINATE: 59754.6 FT
EAST COORDINATE: 88624.1 FT
04/21/88 TO 12/13/94
REPORT DATE: 06/20/95

FORMATION OF COMPLETION: ALLUVIUM (AL)
HYDRAULIC FLOW RELATIONSHIP: DOWN GRADIENT (D)

PARAMETER NAME	LOG DATE	SAMPLE ID	UNITS OF MEASURE	PARAMETER PVI	VALUE	FLAGS	DETECTION LIMIT	PARAMETER UNCERTAINTY
ALKALINITY	04/21/88	0001	MG/L CACO3		358.	L	-	-
	04/21/88	0002			358.	L	-	-
	04/21/88	0003			358.	L	-	-
	04/21/88	0004			358.	L	-	-
	04/21/88	0005			358.	L	-	-
	06/09/89	0001			325.	L	-	-
	06/09/89	0002			325.	L	-	-
	06/09/89	0003			325.	L	-	-
	06/09/89	0004			325.	L	-	-
	06/09/89	0005			325.	L	-	-
	12/03/89	0001			325.		-	-
	12/03/89	0002			325.		-	-
	12/03/89	0003			325.		-	-
	12/03/89	0004			325.		-	-
	12/03/89	0005			325.		-	-
	06/25/90	0001			347.		-	-
	01/29/91	0001			299.		-	-
	06/02/91	0001			356.		-	-
	02/22/92	0001			313		-	-
	08/13/92	0001			282	L	-	-
	11/19/92	0001			300		-	-
	02/19/93	0001			293		-	-
	06/26/93	N001			296		-	-
	04/24/94	N001			287		-	-
ALUMINUM	06/09/89	0001	MG/L	<	0.1	L	0.1	-
	06/09/89	0002		<	0.1	L	0.1	-
	06/09/89	0003		<	0.1	L	0.1	-
	06/09/89	0004		<	0.1	L	0.1	-
	06/09/89	0005		<	0.1	L	0.1	-
	12/03/89	0001		<	0.1		0.1	-
	12/03/89	0002		<	0.1		0.1	-
	12/03/89	0003		<	0.1		0.1	-
	12/03/89	0004		<	0.1		0.1	-
	12/03/89	0005		<	0.1		0.1	-
	06/25/90	0001		<	0.1		0.1	-
	01/29/91	0001		<	0.1		0.1	-
	06/02/91	0001		<	0.05		0.05	-
	02/22/92	0001		<	0.05		0.05	-
	08/13/92	0001		<	0.2	*L	0.2	-
AMMONIUM	04/21/88	0001	MG/L		460.	L	0.1	-
	04/21/88	0002			460.	L	0.1	-
	04/21/88	0003			430.	L	0.1	-
	04/21/88	0004			440.	L	0.1	-
	04/21/88	0005			440.	L	0.1	-
	06/09/89	0001			290.	L	0.1	-
	06/09/89	0002			320.	L	0.1	-
	06/09/89	0003			310.	L	0.1	-
	06/09/89	0004			320.	L	0.1	-
	06/09/89	0005			310.	L	0.1	-
	12/03/89	0001			340.		0.1	-
	12/03/89	0002			340.		0.1	-
	12/03/89	0003			330.		0.1	-

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

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

STATIC GROUNDWATER LEVELS
SITE: MON01 MONUMENT VALLEY
REPORT DATE: 06/21/95

LOCATION ID	NORTH COORDINATE (FT)	EAST COORDINATE (FT)	FORMATION OF COMPLETION	FLOW CODE	CASING ELEVATION (FT MSL)	GROUND ELEVATION (FT MSL)	LOG DATE	LOG TIME	DEPTH FROM TOP OF CASING (FT)	DEPTH FROM GROUND (FT)	GROUNDWATER ELEVATION (FT MSL)
0669	60146.3	88247.8	AL	D	4865.78	4863.19	06/24/89	11:00	48.80	46.21	4816.98
							02/24/92	08:50	49.07	46.48	4816.71
							08/13/92	16:33	49.10	46.51	4816.68
							11/24/92	12:24	48.89	46.30	4816.89
							02/18/93	11:52	48.67	46.08	4817.11
							06/29/93	14:08	48.90	46.31	4816.88
							12/09/93	13:56	49.39	46.80	4816.39
							04/20/94	09:23	49.08	46.49	4816.70
							12/07/94	13:45	48.84	46.25	4816.94
							12/14/94	09:57	48.86	46.27	4816.92
							04/19/95	09:34	48.76	46.17	4817.02

FORMATION OF COMPLETION CODE:
AL - ALLUVIUM

FLOW RELATIONSHIP CODE:
D - DOWN GRADIENT

DATA FILE: \DART\MON01\GWL10005.DAT

FIELDS DISPLAYED WITH A DASH INDICATE THE DATA IS UNAVAILABLE

APPENDIX C

WELL POINTS WORK PLAN

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TO: JMcBee

THROUGH: AHolm

FROM: TJackson/JMarshall[redacted]

DATE: May 3, 1995

SUBJECT: Work Plan for Installation of Shallow Wells, Monument Valley UMTRA Site

PURPOSE

To determine the source of uranium, chloride, sulfate, and TDS (indicator parameters) along Cane Valley Wash in the vicinity of the Monument Valley Uranium Mill Tailings Remedial Action (UMTRA) Project site. The work will also aid in determining the nature of the ground water and surface water interactions along Cane Valley Wash. Additionally, if the depth to water is not too great, the downgradient extent of the ground water contaminant plume (between wells 650 and 653) will be investigated.

SCOPE OF WORK

All work will be performed and documented in accordance with applicable standard operating procedures and quality assurance/quality control standards. There will be two phases of work consisting of field activities and office activities.

This plan is a modification to the work plan dated April 14, 1994. The earlier version specified well points that would be installed using hand augers and/or a backhoe and front-end loader. The methods and materials presented in this plan are the same, except that a loader or backhoe will not be used. A hand-held power auger may be used if needed. The reason for the modification to the plan is to minimize damage to the ground surface. Evaluating the extent of the plume between wells 650 and 653 has been added to the plan also.

Installation of the following shallow wells is proposed:

- Installation of 12 shallow wells adjacent to Cane Valley Wash. Wells will be installed approximately a) 50 feet east, b) 50 feet west, and c) 100 to 150 feet west of sampling locations 623 (upgradient), 624 (downgradient), 627 (downgradient), and a location upgradient (south) of 623, near well 658.

The well configurations will result in transects approximately perpendicular to the wash. Each transect extends toward the west further than an easterly direction because the potential source of ground water contamination is toward the west. Figure 1 shows existing sampling locations, Figure 2 is a schematic of the proposed well configurations, and Figure 3 is a well construction schematic.

- Installation of 4 shallow wells in Cane Valley Wash at sampling locations 623, 624, 627, and the additional upgradient location near well 658. The purpose of these wells is to assess possible changes to water quality due to the sampling methods. Because surface water is occasionally absent in the wash, samples from the surface locations have sometimes been taken by hand-digging a hole at the location and collecting the ground water that flows into the hole. The additional purpose of these three wells is to obtain water-level information in the wash to assess horizontal and vertical gradients.

- Installation of 3 shallow wells between wells 650 and 653 to evaluate water shallow water quality. The limiting factor will be the depth to water and the maximum depth the well points can be driven. The depth to water may be as little as 10 feet or great as 30 feet below land surface.

The following research activities (i.e. office activities) are proposed:

- Records from surface assessment and remediation will be obtained. These will include R-Track, vicinity property completion reports, surface and ground water quality analyses, surface water flow measurements, and surface water discharge records.

- The records will be reviewed and evaluated to determine potential sources of the indicator parameters, surface water and ground water interactions, and surface water flow rates.

SITE CONDITIONS

Depth to the water table nearby the wash is anticipated to be within 5 feet of land surface, based on field observations during surface water sampling and comparing depth to water measurements and ground surface elevations (Figure 4). Therefore, the total depth of the wells 50 feet east and west of the wash will be about 10 feet below grade. Depth to water up to 150 feet west of the wash is anticipated to be within 10 feet of land surface, therefore the maximum depth of those wells should be 15 feet below grade. Depth to water between wells 650 and 653 may range between 15 and 30 feet below grade.

Well logs from monitor wells from wells close to the wash (605, 651, 652, 653, and 654), show that the materials from land surface to at least 30 feet below land surface are medium- to fine-grained sand, with some clay and silt. Therefore, the proposed installation methods are appropriate.

SHALLOW WELL CONSTRUCTION AND INSTALLATION METHODS

Each shallow well will consist of 5 feet of PVC or steel well screen and PVC or steel pipe, 1.5- or 2-inches in diameter. The smaller diameter screen and pipe will be easier to install to greater depths and will still allow the use of a bailer for well development and sampling.

The wells will be installed to a total depth of approximately 5 feet below the water table. Well construction materials and tools (including rental of a level, tripod, and rod for surveying) will be supplied through Jacobs Engineering Group by a local Albuquerque vendor(s) prior to mobilization to the site.

Wells will be installed in an augured or dug hole and then driven into the soils to the total depth. The wells will be driven by hand with a sliding hammer (similar to a fence post driver).

The upper 3 to 5 feet of borehole annulus (i.e. the portion that was dug or augured) will be filled with bentonite pellets or chips to create a surface seal. The bentonite will be hydrated with potable water in accordance with applicable SOPs. Within one day following placement of the bentonite, a protective, lockable steel casing (4- to 6-inch diameter) and a concrete pad (2-feet by 2-feet by 4-inches thick) will be installed at the well head. The protective steel casing will be approximately 6-feet long, and placed so that 3 feet are above grade and 3 feet are below grade. The wells will be secured at all times using locks with the same key as the other site wells.

WELL DEVELOPMENT

The wells will be developed by bailing and surging with the bailer until the discharge is clear. A hand operated pump may also be used if the wells will produce a sufficient volume of water. Discharge of 20 gallons per well or less is anticipated.

The amount of water removed and approximate well yields will be recorded. Water will be discharged to ground surface nearby each well. Specific conductance and pH measurements will be taken to evaluate water quality during development. Well development and discharge of water to the land surface will be discontinued if project guidelines for the disposal of investigative-derived wastes are exceeded. Exceedance of the guidelines is not anticipated.

WATER SAMPLING AND ANALYSIS

Filtered and non-filtered water samples will be taken from each newly installed shallow well and surface water sampling location. Field analyses will be performed for pH, temperature, turbidity, and alkalinity. Laboratory analyses will be performed for the following indicator parameters: uranium, nitrate, chloride, sulfate, TDS, strontium, and vanadium.

SITE RESTORATION

The installation methods were chosen to minimize site disturbance, therefore very little site disturbance is anticipated. However, areas of disturbed soil will be raked smooth by hand, all trash will be collected immediately, and established roadways and paths will be used whenever possible.

FIELD DOCUMENTATION

- The well points and surface water sampling locations will be photographed and located on a map relative to nearby, established landmarks (e.g. existing wells). The elevations of the top-of-casing for each well point and the surface water elevations will be surveyed by the TAC field representatives. Horizontal control is anticipated to be within a 20 foot radius; vertical control is anticipated to be within 0.1 feet.

- Water-level measurements at each transect (well points and surface water elevations), and from each existing monitor well will be recorded on several occasions.

PERMITTING

Permits and access agreements for well point installation will be obtained as part of this scope of work. Well point locations are being reviewed to confirm that archeological surveys have been performed and that the work can be implemented. Based on the attached map (Figure 5), it appears that archeological surveys may be required in some of the proposed work areas. However, Figure 5 does not include all surveys that may have been performed to support surface cleanup activities.

SCHEDULE

Records research and planning the field work can be initiated immediately. The field work described above (installation and sampling of the well points and water-level measurements from the entire monitor well network), can be performed as soon as approvals are received.

The field work is anticipated to require two TAC personnel for 15 days, including obtaining equipment, supplies, and mobilization/demobilization.

ANTI-CONTAMINATION MEASURES

Before being taken onto the site, all well installation materials will be cleaned with potable water and laboratory soap, and then rinsed with potable water. The cleaned equipment will then be wrapped in plastic. Materials will be cleaned at the sample preparation facility prior to departing for the site. Extra water will be taken to the field for additional cleaning, as required.

HEALTH AND SAFETY

Personnel involved with well point installation will have the following equipment:

- Hard hat
- Steel-toed boots
- Work gloves
- Safety Glasses with Side Shields

The following items will be on-site:

- First-Aid kit
- Fire extinguisher
- Drinking Water

DATA INTERPRETATION METHODS

Data will be evaluated in the following manner:

- Surface assessment and remediation records will be reviewed for potential sources of indicator parameters in Cane Valley Wash.

- Water levels along each transect will be evaluated to determine the direction of ground water flow (i.e., if ground water is flowing toward the wash, away from the wash, or under the wash).

- Water-level measurements from the entire monitoring system will be evaluated to determine the direction of ground water flow within the area of the site. Piezometric surface maps, which will include the new shallow wells, will be constructed from water levels taken during the field effort.

- Results from the water quality analyses will be examined to determine the source of chloride, sulfate, and uranium in the downgradient locations in the wash.

AM/ll
Attachments

cc:	RBennett	LPinkel
	REdge	RSaar
	JGibb	JSanchez
	DMetzler	Document Control

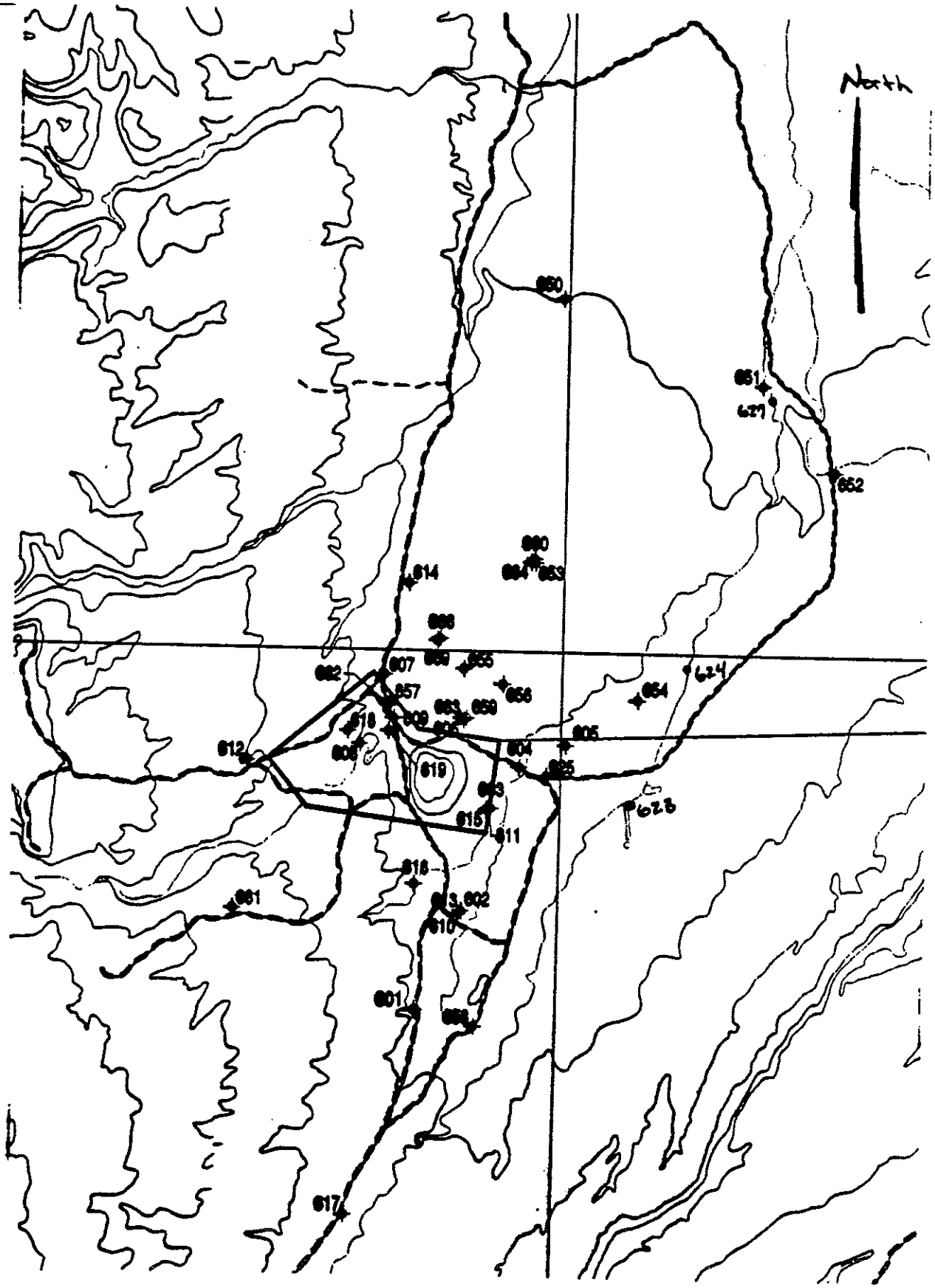


FIGURE 1. **MONUMENT VALLEY UMTRA SITE**
(in Cane Valley, Arizona)

DATE 3/8/94 SUBJECT Figure 2. Schematic Diagram of Proposed Well Point Locations in Cane Valley Wash SHEET NO. 1

BY AMM CHKD. AMM JOB NO. MON

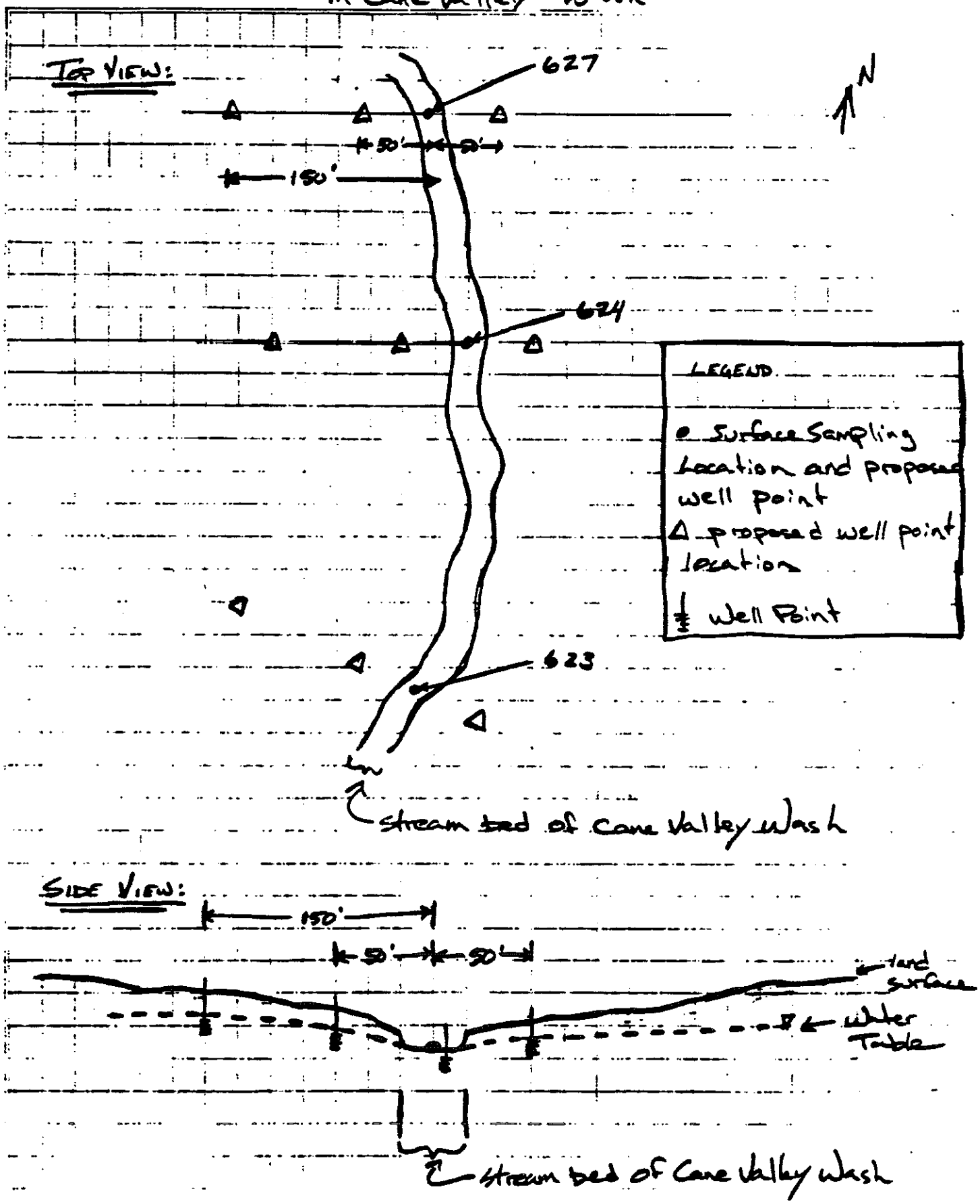
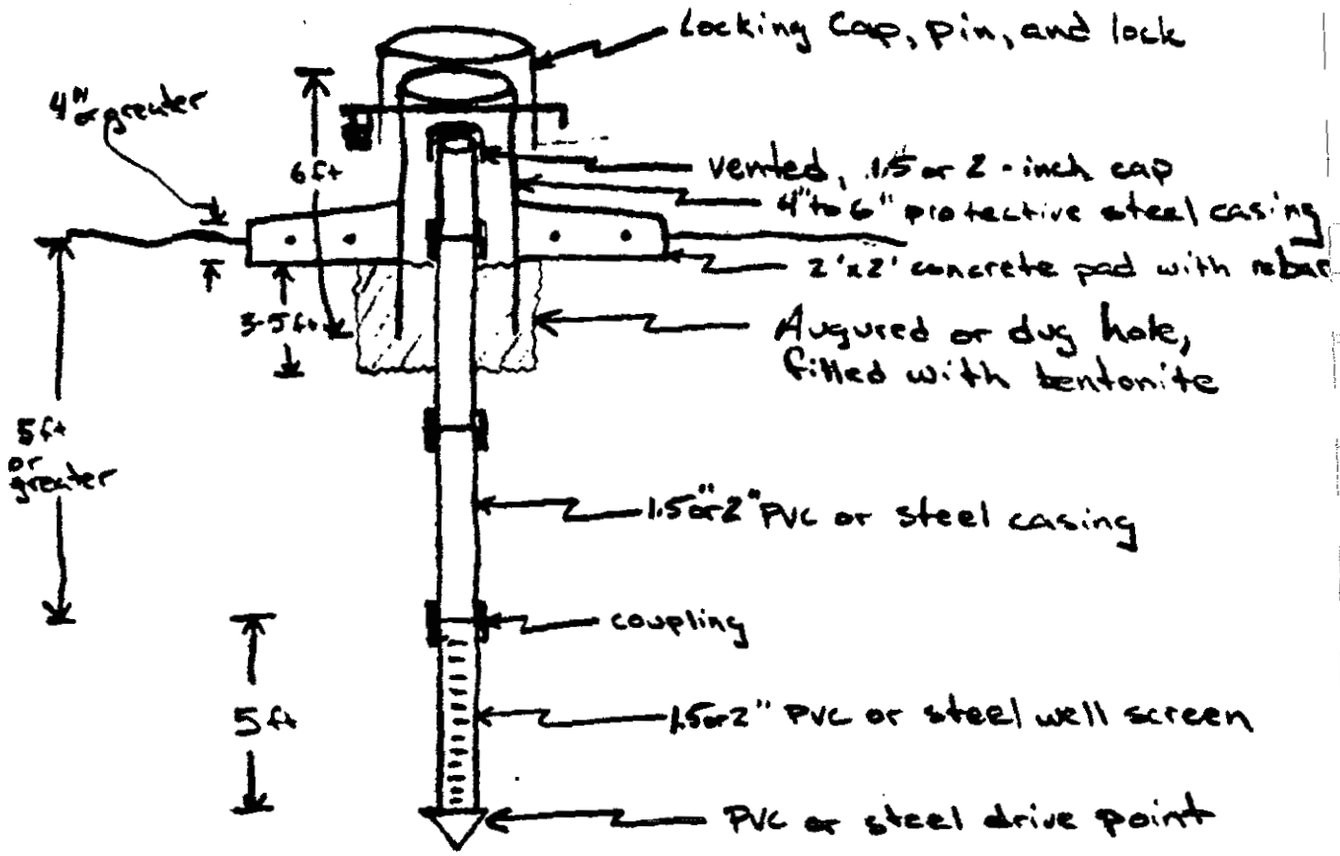


FIGURE 3. WELL CONSTRUCTION SCHEMATIC



NOT TO SCALE

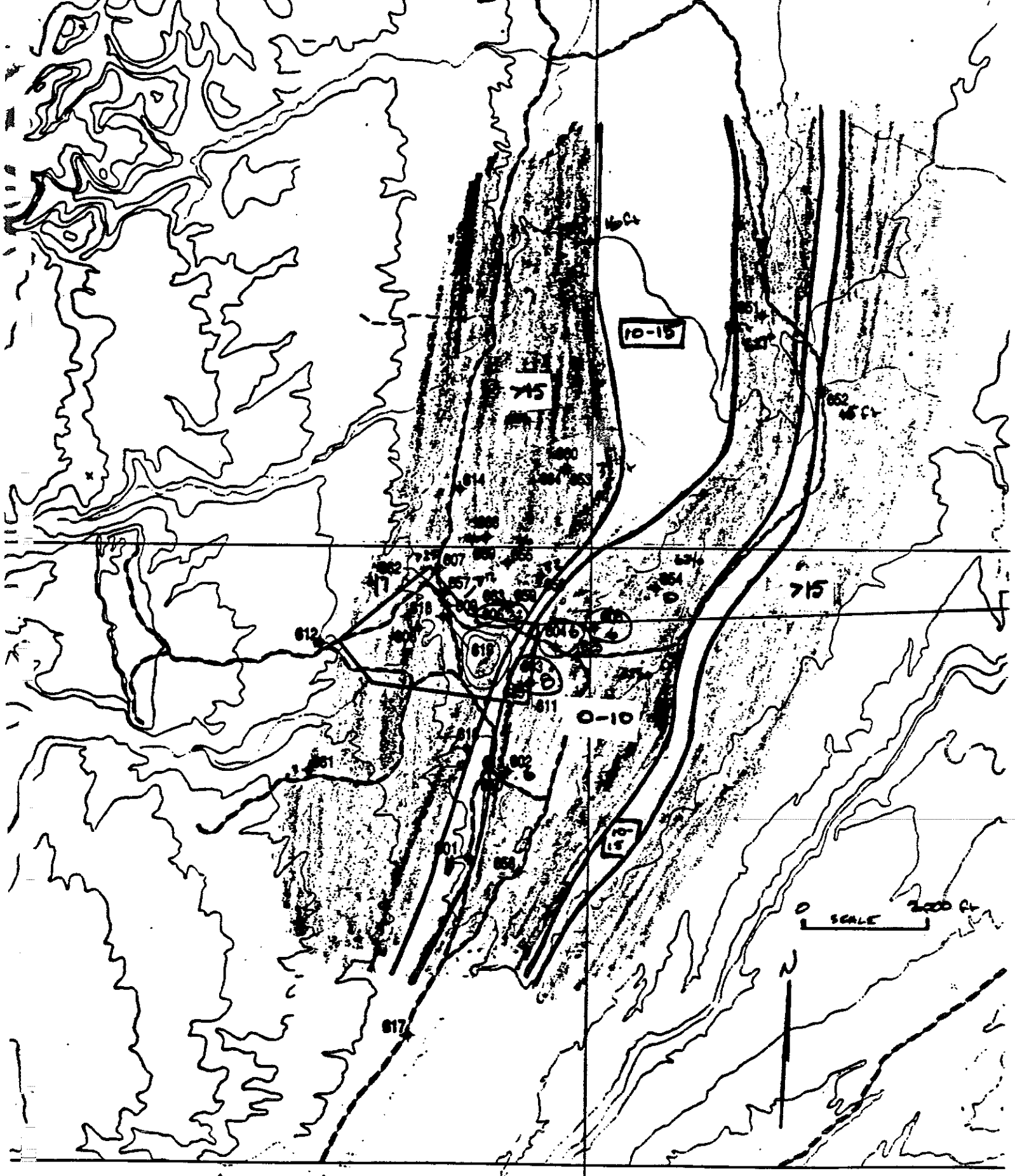


Figure 4. Approximate depth to water, in feet, Monument Valley UMTRA Project site

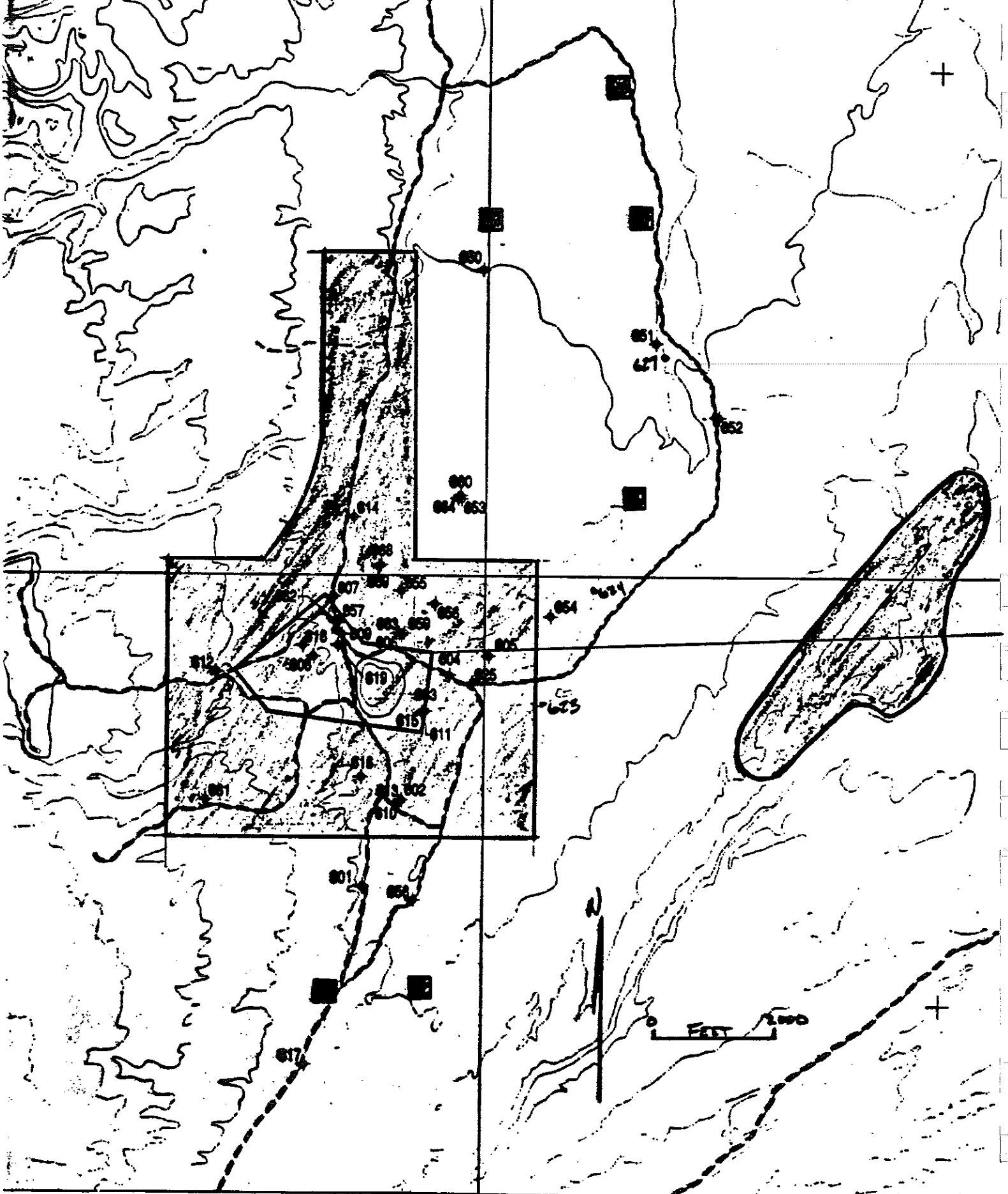


Figure 5. Areas With Archeological Clearance*, Monument Valley UMTRA Project Site

(* not all cleared areas may be shown on this map)