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Seep Monitoring Evaluation Report Mexican Hat, Utah, UMTRCA Title I Disposal Site

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U.S. DEPARTMENT OF ENERGY | Legacy Management

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Abbreviations

AR	activity ratio
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
g/mol	grams per mole
LTSP	Long-Term Surveillance Plan
MCL	maximum concentration limit
mg	milligrams
mg/L	milligrams per liter
NRC	U.S. Nuclear Regulatory Commission
PCOC	potential contaminant of concern
RRM	residual radioactive material
SDWS	secondary drinking water standard
SOWP	Site Observational Work Plan
SWS	Navajo Nation surface water standard
TDS	total dissolved solids
^{234}U	uranium-234
^{238}U	uranium-238
UMTRA	Uranium Mill Tailings Remedial Action
UMTRCA	Uranium Mill Tailings Radiation Control Act

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Executive Summary

This report presents the results of recent and historical seep monitoring at the Mexican Hat, Utah, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site and evaluates the need for continued seep monitoring. In accordance with the U.S. Department of Energy (DOE) Long-Term Surveillance Plan (LTSP) and draft Groundwater Compliance Action Plan for the site, a combination of observational seep monitoring and intermittent water quality monitoring has been performed at the site as a best management practice since 1998.

The 119-acre Mexican Hat disposal site is located on the Navajo Reservation in southeast Utah approximately 1.5 miles southwest of the town of Mexican Hat, Utah, and 1 mile south of the deeply entrenched San Juan River. Surface drainage from the site and surrounding area flows into two ephemeral drainages (the North Arroyo and South Arroyo) that discharge to Gypsum Creek and then to the San Juan River.

Uranium processing was conducted at the former mill that operated at the site from 1957 until 1965. Additionally, a sulfuric acid manufacturing plant operated at the site from 1957 to 1970. The milling process produced radioactive tailings that were mixed with process water and pumped through a pipeline to two onsite tailings piles. DOE completed surface remediation at the former milling site and construction of the 68-acre disposal cell was completed in 1995.

The site is underlain by the Halgaito Formation, a low permeability formation composed primarily of interbedded siltstones, sandstones, mudstones, shales, and limestones. The Halgaito is subdivided into two units: an unsaturated upper unit and a saturated lower unit. Groundwater in the upper Halgaito unit is contaminated from former onsite uranium processing operations. However, the upper Halgaito unit is unsaturated except for limited areas of perched water that do not provide sustainable yield and, therefore, it is not considered an aquifer. The lower unit of the Halgaito Formation, classified as the uppermost aquifer beneath the site, is isolated from contaminated groundwater in the upper unit by thin lenticular to continuous limestone beds that limit downward water movement. An upward hydraulic gradient in the lower unit also impedes the downward migration of contaminated groundwater perched in the upper unit from entering the uncontaminated lower Halgaito unit. As a result, the uppermost aquifer beneath the site was not contaminated by uranium processing operations or by surface remedial actions. Although the upper Halgaito unit is primarily unsaturated, zones of perched water developed during milling operations and later by dewatering of the tailings placed in the disposal cell. The perched water zones have dissipated as the water migrates laterally along bedding planes and fractures, presumably feeding seeps in the adjacent arroyos and Gypsum Creek. Observable flow at the seeps has progressively decreased throughout the extent of visual observational seep monitoring to the point where one seep, which is located crossgradient to the east of the disposal cell, continues to exhibit minor visible seepage. An upgradient, background seep exhibited flowing conditions during the 2018 inspection. With the exception of the aforementioned seeps, no other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005.

The 2006 *Resolution of Seep and Ground Water Monitoring at the Mexican Hat, Utah, UMTRCA Title I Disposal Site* report resulted in concurrence among the U.S. Nuclear Regulatory Commission, DOE, and the Navajo Nation that seep and groundwater water quality monitoring at the site was not warranted and all groundwater monitoring wells at the site were

abandoned in 2007. Additionally, it was agreed that the utility of collecting water quality samples at seeps would be reevaluated if observed seep flow returned to previously observed conditions. However, in accordance with the 2007 LTSP, seven seep locations were designated for visual observational monitoring during annual site inspections for a minimum 10-year period.

The 2007 LTSP required annual visual observations of the seven designated seep locations through 2016, at which time an evaluation was to be conducted to determine whether to continue or discontinue visual seep monitoring; this report constitutes that evaluation. Additionally, observational seep monitoring was performed during the 2017 annual inspection in April 2017 and subsequently in September 2017 to obtain supporting information related to potential seasonal variability. No major changes were observed and all seep locations remained dry except for the crossgradient seep that has consistently exhibited minor visible seepage.

In 2015, the Navajo Nation requested sampling of the crossgradient seep due to increased precipitation in the area. To address this request, water quality samples were collected from the seep as well as from a combination of upstream and downstream Gypsum Creek surface water locations relative to the seep in September 2015, March 2016, and October 2016. Increased flow relative to previous visual observations was not apparent at the seep location. Water quality samples were analyzed for potential contaminants of concern (PCOCs) at the site, including nitrate, sulfate, and uranium. Uranium isotope analyses were also performed in an attempt to identify if uranium concentrations were mill-related or naturally occurring. Isotopic analyses were inconclusive, but indicated a potential mix of both mill-related and naturally occurring uranium.

The seep and surface water samples collected in 2015 and 2016 provide supporting evidence that PCOC concentrations have not increased at the sampled locations as a result of decreased groundwater discharges at the visually monitored seep locations. Nitrate, sulfate, and uranium concentrations at the sampled seep were at the lower end of the historical ranges and did not indicate any substantial changes from historical water quality results at this location. Although PCOC concentrations are above their respective UMTRCA maximum concentration limits, all recent sample locations, including the one sampled seep, were below the Navajo Nation surface water quality standards for Gypsum Creek.

The seeps, both currently and historically (i.e., when they were flowing), do not provide sufficient volume to present a significant risk to human health and the environment. The source of the perched water was primarily related to milling and remediation activities at the site. Since the construction of the disposal cell, the source of the perched water has been reduced and the perched zones that feed the seeps have been dissipating. This is evidenced by the fact that observable flow at the seeps has progressively decreased over time to the point where one seep, which is located crossgradient to the east of the disposal cell, continues to exhibit minor visible seepage. An upgradient, background seep exhibited flowing conditions during the 2018 inspection. No other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005. Additionally, the remote location of these seeps and minimal grazing in the area also greatly reduce the likelihood of any significant human health risks associated with the seep water. The potential ecological risks to wildlife through ingestion of contaminated seep water are negligible, in part, because of the limited observed seepage and availability of other nearby water sources. Finally, groundwater in the vicinity of the Mexican Hat site is not currently used as a

drinking water source, nor is it anticipated to become one; nearby communities draw their water from the San Juan River. Analytical results of historical water quality samples provide supporting evidence that the Mexican Hat site does not negatively impact the quality of water in the San Juan River.

Given that the seeps are nearly all dry and that there are no significant human or environmental health risks associated with the seeps, there is no need to resume water quality monitoring at the site. Visual observations, photographs, and qualitative flow estimates will continue to be made during annual site inspections to document seep conditions; the need to continue long-term visual monitoring of the seeps may be revisited in the future. The upgradient, background seep is proposed to be removed from the annual visual monitoring program. The utility of collecting water quality samples at groundwater seeps may be reevaluated if observed seep flows appreciably increase in the future.

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1.0 Introduction

This report presents the results of recent and historical seep monitoring at the Mexican Hat, Utah, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I Disposal Site and evaluates the need for continued seep monitoring. In accordance with the U.S. Department of Energy (DOE) Long-Term Surveillance Plan (LTSP) and draft Groundwater Compliance Action Plan for the site, seep monitoring has been performed at the site as a best management practice since 1998. In accordance with the LTSP (DOE 2007), observational monitoring of seven designated seeps is conducted during annual site inspections. Observational seep monitoring continued through the 2017 annual site inspection. Seep 0248 was sampled in 2015 and 2016 at the request of the Navajo Nation due to increased precipitation in the area. Evaluation of the sample results are provided in this seep evaluation report.

2.0 Site Description

2.1 Site Location and History

The Mexican Hat disposal site is located on the Navajo Reservation in southeast Utah. The 68-acre disposal cell is located on the approximately 119-acre disposal site. The site is held in trust by the United States for the U.S. Bureau of Indian Affairs; the Navajo Nation retains title to the land.

The site is located in San Juan County, Utah, in Sections 13 and 24, Township 42 South, Range 18 East, and in Sections 18 and 19, Township 42 South, Range 19 East, Salt Lake Principal Meridian. The disposal site is located approximately 1.5 miles southwest of the town of Mexican Hat, Utah, and 1 mile south of the San Juan River (see Figure 1 and Figure 2). The small Navajo community of Halchita is approximately 0.5 mile southwest of the site.

Uranium processing was conducted at the former mill (Figure 2) that operated at the site from 1957 until 1965. Texas-Zinc Minerals Corporation constructed the Mexican Hat Mill on land leased from the Navajo Nation and operated the facility from 1957 to 1963. In 1963, Atlas Corporation purchased the mill and operated it until it closed in 1965. A sulfuric acid manufacturing plant operated at the site from 1957 to 1970; Atlas continued operating the sulfuric acid manufacturing plant at the site until the lease expired in 1970 and control of the site reverted to the Navajo Nation.

Ore brought to the mill contained a considerable amount of copper sulfide and other sulfide minerals and was processed to recover both copper and uranium. The milling process produced radioactive tailings, a predominantly sandy material. Spent tailings were mixed with process water and pumped through a pipeline to two onsite tailings piles: the former lower tailings pile and the former upper tailings pile (see Figure 2).

DOE remediated the site under the Uranium Mill Tailings Remedial Action (UMTRA) Project. Surface remediation and construction of the disposal cell was completed at the site in 1995. The pentagonal-shaped disposal cell was constructed at the location of the preexisting former lower tailings pile (see Figure 2).

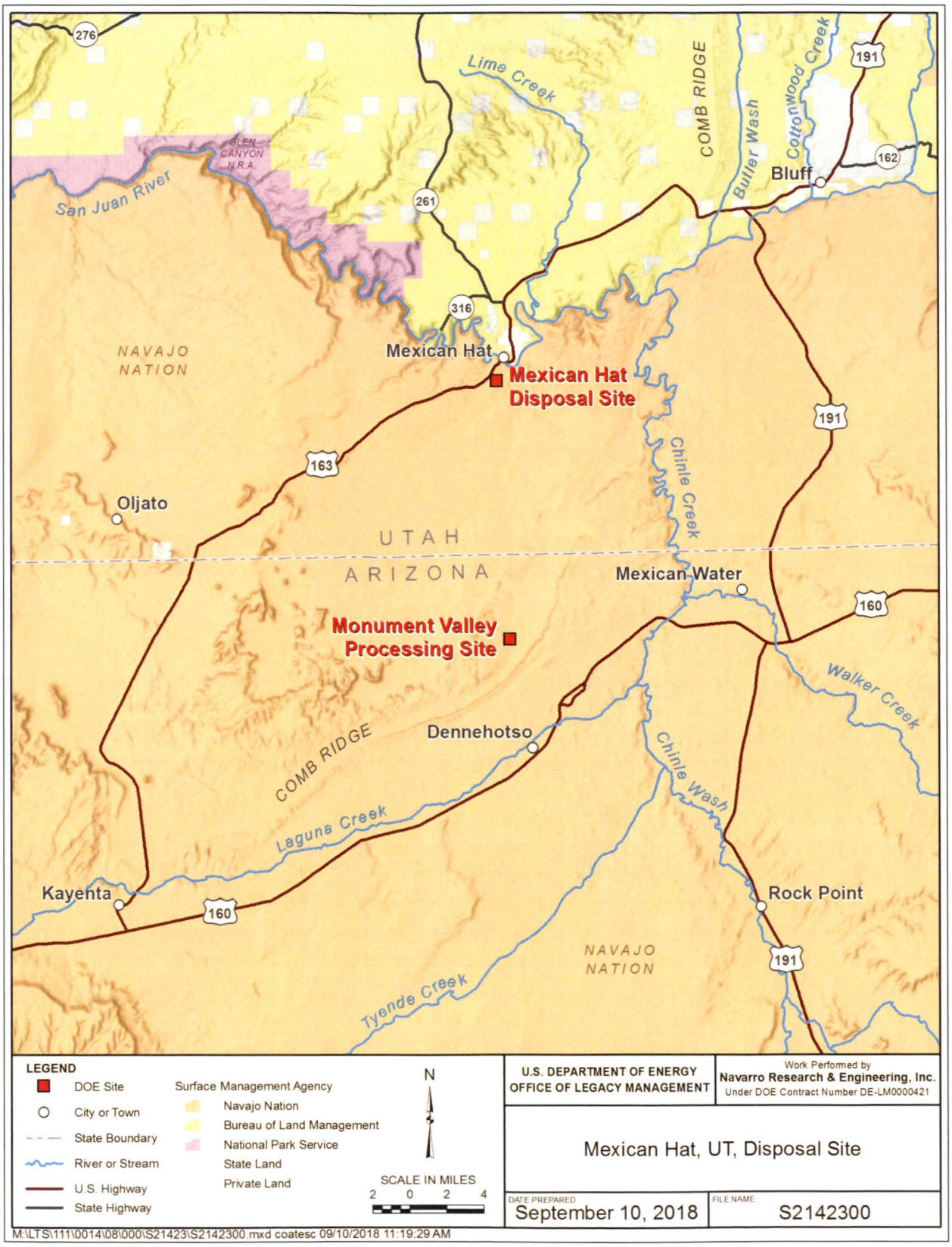

Figure 1. Mexican Hat, Utah, Disposal Site Location Map

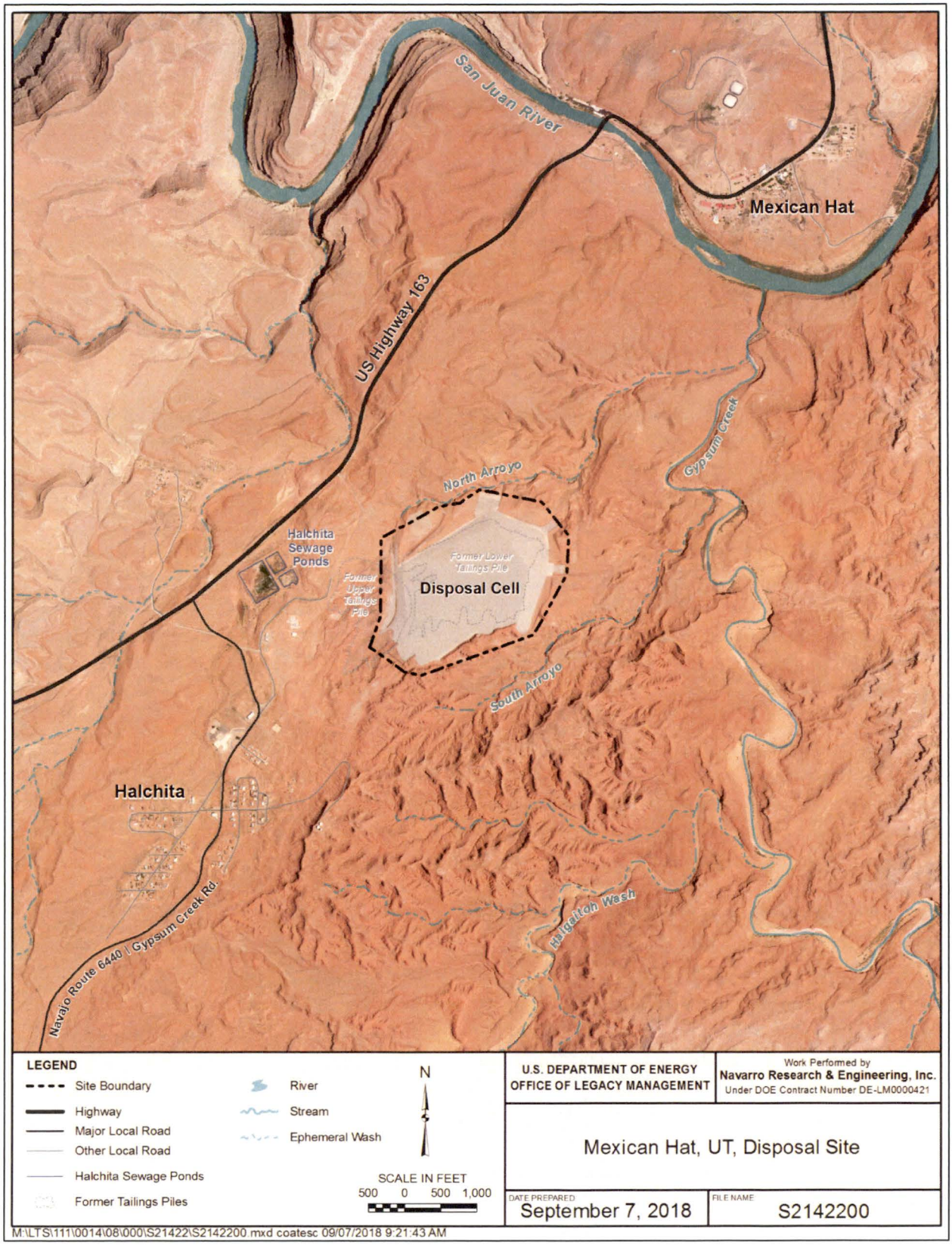

Figure 2. Mexican Hat, Utah, Disposal Site Vicinity Map

Radioactive materials from the former upper tailings pile, demolished mill structures, and 11 vicinity properties were relocated and placed on top of the preexisting tailings at the location of the former lower tailings pile. An additional 983,000 cubic yards (1.3 million dry tons) of tailings and associated wastes were subsequently hauled from the Monument Valley, Arizona, UMTRCA Title I Processing Site (located approximately 15 miles south of the Mexican Hat site) and placed on top of the contaminated materials from the Mexican Hat site. A total of approximately 3.6 million cubic yards (4.4 million dry tons) of radioactive tailings and other residual radioactive materials (RRM) were ultimately encapsulated in the Mexican Hat disposal cell (MK-F 1997). The U.S. Nuclear Regulatory Commission (NRC) concurred with the remediation and compliance with both Subparts A and B of Title 40 *Code of Federal Regulations* Section 192 (40 CFR 192) in its final technical evaluation report (NRC 1996).

2.2 Site Setting

The site is on a relatively flat mesa within the Colorado Plateau physiographic province at an elevation of approximately 4300 feet. The deeply entrenched San Juan River is located approximately 1 mile to the northeast. Surface drainage from the site and surrounding area is into two ephemeral drainages (the North Arroyo and South Arroyo) that discharge to Gypsum Creek and then to the San Juan River (see Figure 2). These drainages are narrow and deeply incised. Several low-flowing groundwater seeps have been found discharging historically within Gypsum Creek and the two arroyos. Since 2010, one seep has exhibited groundwater discharge as indicated by minor visible seepage with the exception of an upgradient, background seep that exhibited flowing conditions during the 2018 inspection. The terrain west of the site is similar to terrain to the north and east. A ridge that extends approximately 100 feet above the site bounds the site on the south.

The climate is arid with widely ranging daily and annual temperatures (<20° to >100 °F). Significant prevailing winds occur from the southwest. Precipitation averages approximately 6 inches per year and is fairly evenly distributed throughout the year. The native area is sparsely vegetated by desert shrubs and grasses. The surrounding area is used for limited residential purposes and livestock grazing.

2.3 Site Conceptual Model

The site is underlain by the Halgaito Formation, a low permeability formation composed primarily of interbedded siltstones, sandstones, mudstones, shales, and limestones. The Halgaito is subdivided into two units: an unsaturated upper unit that is separated from the saturated lower unit by limestone lenses that act as a confining unit.

Although the upper Halgaito unit is primarily unsaturated, zones of perched water developed during milling operations and later by dewatering of the tailings placed in the disposal cell. The perched water zones have dissipated as the water migrates laterally along bedding planes and fractures, presumably feeding seeps in the adjacent arroyos and Gypsum Creek. Since the site was remediated in the mid-1990s, flow at the seeps has progressively decreased over time to the point where all but one seep (Seep 0248) is now dry; with the exception of upgradient (background) Seep 0261, no seeps have exhibited flowing conditions since at least 2005. The decreased flow at the seeps is likely attributable to the gradual dewatering of the zones of perched water that remained after milling and remediation activities. Seep 0248 has exhibited

minor visible seepage, but has typically been sufficient for collecting water quality samples. The arid environment limits natural recharge to the upper unit and is insufficient to maintain the areas of perched water. Additionally, the large area covered by the disposal cell reduces the area available for infiltration that could replenish the perched water.

The seep elevations are 100 feet or more above the potentiometric surface of the saturated lower unit. A geologic site map with approximate seep elevations (based on topographic map contours) is shown with potentiometric contours (based on water elevations in former onsite wells) for the saturated lower unit for comparison (Figure 3). Cross sections (Figure 4) schematically show the relationship of perched water zones, seeps, and the saturated lower unit.

The saturated lower unit is recharged primarily by lateral flow from higher areas to the west and southwest where the unit outcrops and by upward flow from underlying units. Discharge is to the San Juan River. Regional information and empirical site data provide supporting evidence that the lower unit is hydraulically isolated from the upper unit and has been unaffected by contamination present in the upper unit (DOE 1998; DOE 2006).

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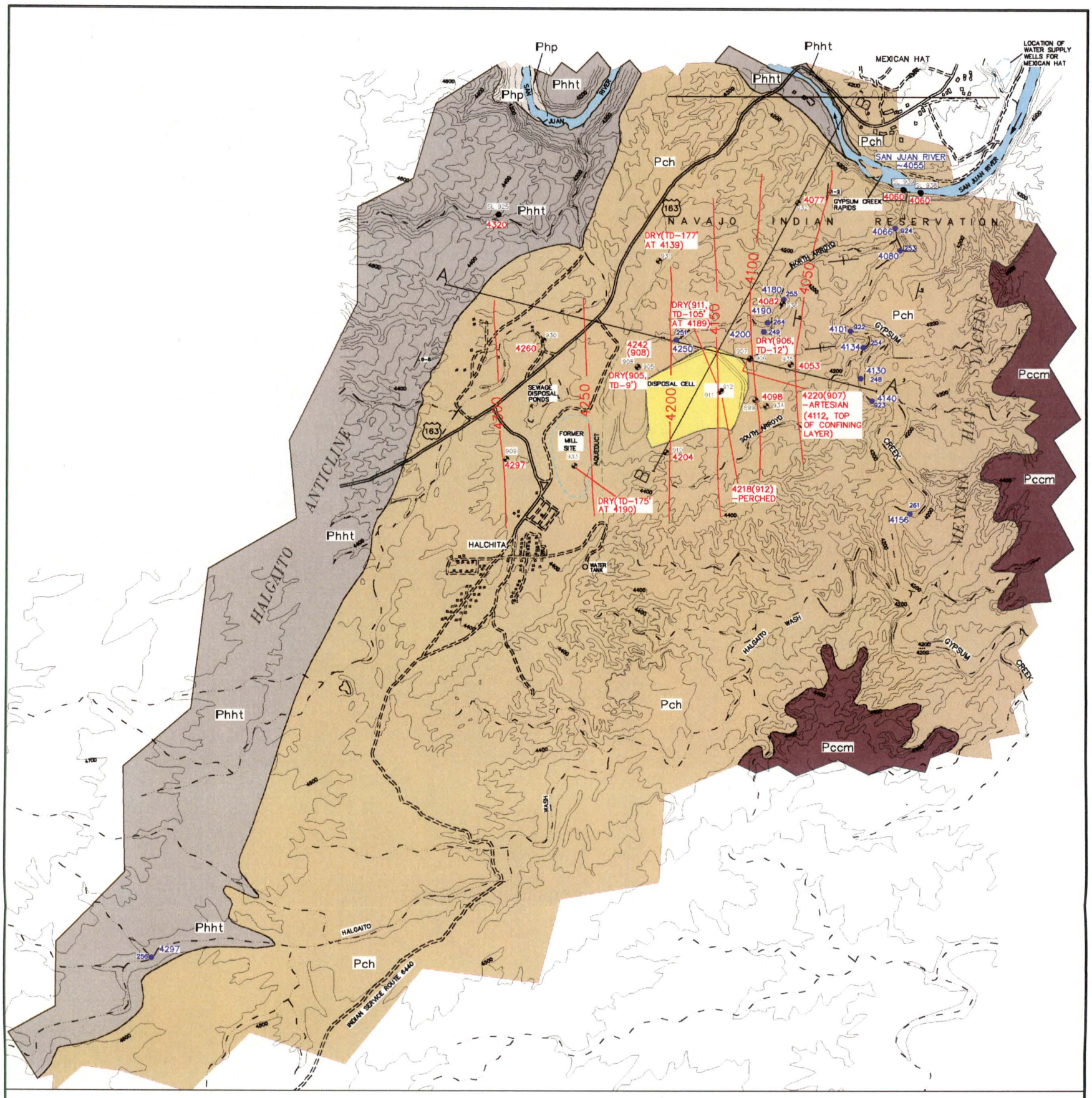

EXPLANATION

- A___A' LINE OF GEOLOGIC CROSS-SECTION
- *PERMIAN*
  - Pccm — CEDAR MESA SANDSTONE OF CUTLER GROUP
  - Pch — HALGAITO FORMATION OF CUTLER GROUP
- *PENNSYLVANIAN*
  - Phht — HONAKER TRAIL FORMATION OF HERMOSA GROUP
  - Php — PARADOX FORMATION OF HERMOSA GROUP
- APPROXIMATE LOCATION OF CONTACT OF LOWER AND UPPER (INFORMAL UNITS) HALGAITO FORMATION
- APPROXIMATE LOCATION OF FORMATION CONTACT, EXPRESSED BY McKIM LIMESTONE
- 251 SPRING OR SEEP, NUMBER, AND ELEVATION
- 909 MONITOR WELL OR BOREHOLE AND NUMBER
- SL 939 SURFACE LOCATION AND NUMBER
- PAVED ROAD
- GRAVEL OR DIRT ROAD
- STRIKE AND DIP OF BEDS
- STRIKE OF VERTICAL JOINT SYSTEM
- -4300- POTENTIOMETRIC SURFACE IN THE LOWER HALGAITO FORMATION, USING 1985 WATER LEVELS. NOTES IN RED BESIDE WELL ARE INFORMATION ON POTENTIOMETRIC SURFACE
- * WELL 0899 WAS NOT INSTALLED AT THE SITE UNTIL NOV. 4, 2000

NOTE: CROSS SECTION DETAIL SHOWN ON FIGURE 4

MONITOR WELL AND BOREHOLE DATA

MONITOR WELL/ BOREHOLE NUMBER	SURFACE ELEVATION (ft.)	TOTAL DEPTH (ft.)	DEPTH OF SCREENED INTERVAL (ft.)	ZONE OF WELL COMPLETION IN HALGAITO FORMATION	DEPTH TO TOP OF HONAKER TRAIL FORMATION (ft.)
899*	4286	218	207–217	———	———
905	4294	12	———	———	———
906	4221	12	7–12	UPPER	———
907	4221	125	107–110	LOWER	———
908	4295	197	145–160	LOWER	181
909	4350	215	130–150	LOWER	158
910	4353	236	140–180	LOWER	215 or 225
911	4294	105	92–102	UPPER	———
912	4294	84	58–78	UPPER	———
930	4312	116	100–110	LOWER	———
931	4316	177	———	———	169
932	4225	193	———	———	162
933	4365	175	———	———	———
934	4289	200	188–198	LOWER	———
935	4231	187	175–185	LOWER	———
936	4183	142	———	———	142

NOTE ON GEOLOGIC INTERPRETATION:

TERMINOLOGY FOR THE MARINE SEDIMENTARY ROCKS IMMEDIATELY UNDERLYING THE HALGAITO FORMATION WAS CHANGED IN THE 1970S FROM THE RICO FORMATION TO THE HONAKER TRAIL FORMATION. THE TOP OF THE HONAKER TRAIL FORMATION IN THIS AREA IS DEFINED AS THE TOP OF THE UPPERMOST MARINE LIMESTONE BED, WHICH IS THE McKIM LIMESTONE. GEOLOGY SHOWN ON THIS MAP IS FROM (WITH A FEW MODIFICATIONS) O'SULLIVAN (1965) IN THE U.S. GEOLOGICAL SURVEY REPORT ON "GEOLOGY OF THE CEDAR MESA–BOUNDARY BUTTE AREA." THE AXIS OF THE MEXICAN HAT SYNCLINE IS APPROXIMATELY 1.5 MILES TO THE EAST OF GYPSUM CREEK.

BASE MAP PREPARED FROM THE FOLLOWING U.S. GEOLOGICAL SURVEY 7.5–MINUTE TOPOGRAPHIC QUADRANGLES:
MEXICAN HAT
MEXICAN HAT SE
MEXICAN HAT SW
THE GOOSENECKS

M:\LTS\111\0014\08\000\S16800\S1680000.DWG 10/11/2017 2:31 PM whitneyj

Figure 3. Geologic Map with Current and Historical Monitoring Locations at the Mexican Hat, Utah, Disposal Site

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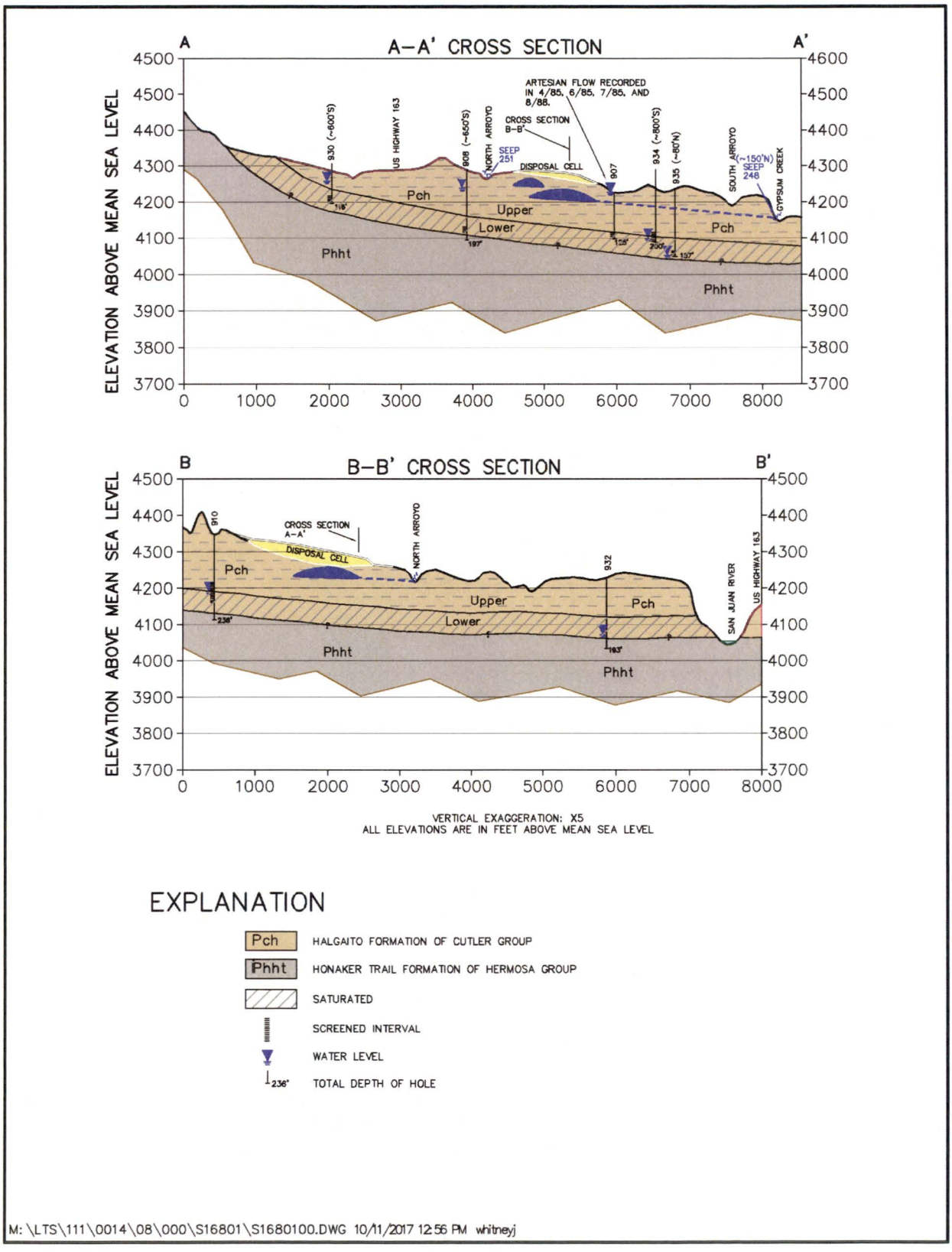


Figure 4. Northwest–Southeast Cross Section (Top) and Southwest–Northeast Cross Section (Bottom) Mexican Hat, Utah, Disposal Site

2.4 Disposal Cell Design

The Mexican Hat disposal cell was designed to encapsulate radioactive tailings and other RRM in a way that minimizes the need for active maintenance and limits radon gas emanation in accordance with UMTRCA. Additionally, the disposal cell was designed to minimize meteoric water infiltration. Radioactive tailings and other RRM were compacted prior to being covered with a multicomponent system to encapsulate the tailings materials. The multicomponent cover comprises (1) a low-permeability radon barrier (first layer placed over compacted tailings), (2) followed by a bedding layer of sand and gravel placed as a capillary break, and (3) a rock riprap final erosion protection layer placed over the bedding layer (Figure 5). The cell design promotes rapid runoff of precipitation to minimize leachate. The top of the disposal cell was constructed with a 2% grade sloping in a north to northwesterly direction. Runoff water flows down the 20% side slopes into the surrounding rock apron and exits the cell via three toe drains to arroyos north and east of the cell.

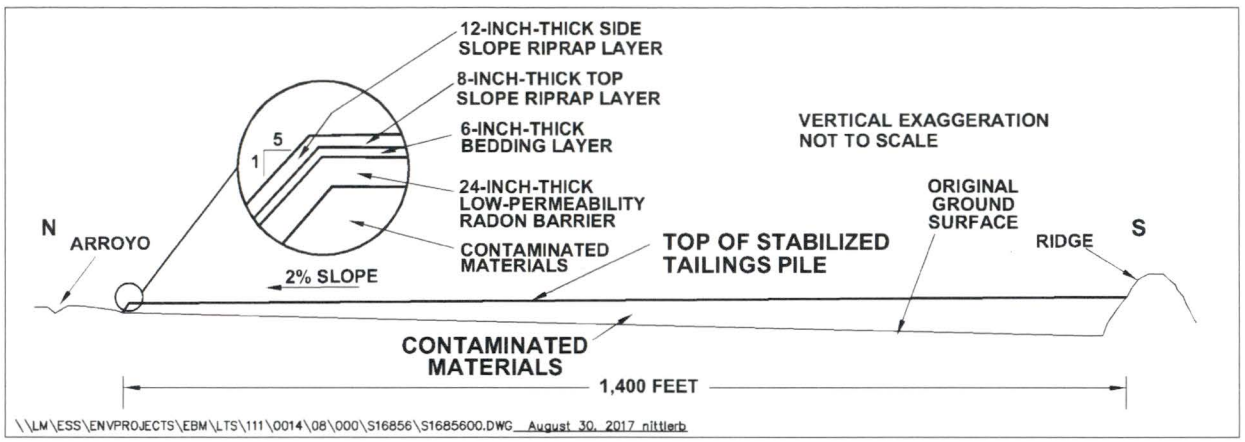


Figure 5. Typical North-South Cross Section of the Mexican Hat Disposal Cell

The site location and design were selected to minimize the potential for erosion from onsite runoff or storm water flow. All surrounding remediated areas were regraded and reseeded with native plant species. Existing gullies in the vicinity of the cell were armored with riprap that was keyed into competent rock to control erosion. Riprap-protected diversion ditches were installed to channel surface runoff water away from the disposal cell.

2.5 Hydrogeological Conditions

The geologic unit exposed at ground surface is the Halgaito Formation, which is the basal part of the Permian Cutler Group. The Halgaito consists primarily of interbedded silty sandstone, siltstone, and shale. The unit is approximately 80 to 215 feet thick in the vicinity of the site. The Halgaito is divided into upper and lower units.

Because of the fine-grained nature of the sediments and the presence of intergranular calcium and silica cement, the upper unit of the Halgaito Formation exhibits very little primary permeability. Accordingly, the upper unit of the Halgaito Formation is predominantly unsaturated. Ephemeral groundwater occurs, at places, in vertical joints and fractures, especially

near the surface. Joints and fractures decrease with depth. Perched groundwater has also been present, generally within isolated lenses located along bedding planes overlying low permeability zones (DOE 2006). The majority of the groundwater in this upper unit at the site is a result of former uranium processing operations and, to a lesser degree, transient drainage from the disposal cell. However, some natural recharge to the upper unit of the Halgaito Formation appears to occur as evidenced by the presence of upgradient seeps.

Groundwater in the upper Halgaito unit is contaminated from former onsite uranium processing operations. The upper unit of the Halgaito is generally unsaturated except for limited areas of perched groundwater. The perched groundwater does not provide sustainable yield; therefore, it is not considered an aquifer. Groundwater in this unit is not considered to be a significant resource because of (1) limited recharge, (2) low hydraulic conductivity, (3) low yields, (4) minimal areal extent, and (5) naturally poor water quality. Based on this information, groundwater in the upper Halgaito unit is of concern from a regulatory perspective where it surfaces and where exposure to site-related contamination by humans and other receptors may occur (see Section 5.0, "Risk Assessment").

Exposures to contaminated groundwater from the upper unit of the Halgaito may occur where it daylights in seeps along the North and South Arroyos and Gypsum Creek. Historical records, including aerial photographs, indicate that most of the seeps were active (at least intermittently) prior to site remediation. Flow at the seeps has progressively decreased over time to the point where one seep (Seep 0248) continues to exhibit minor visible seepage. Upgradient (background) Seep 0261 exhibited flowing conditions during the 2018 inspection. With the exception of the aforementioned seeps, no other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005 (see Table 1). The decreased flow at the seeps is likely attributable to the gradual dewatering of the zones of perched water that remained after milling and remediation activities (DOE 2006).

The lower unit of the Halgaito Formation, classified as the uppermost aquifer beneath the site, is isolated from contaminated groundwater in the upper unit by thin lenticular to continuous limestone beds that limit downward water movement. Additionally, as evidenced by the presence of perched water in the upper Halgaito unit, the perched water in the upper Halgaito unit preferentially flows horizontally to seeps and adjacent creeks and does not migrate vertically to the underlying lower Halgaito unit. An upward hydraulic gradient in the lower unit also impedes the downward migration of contaminated groundwater perched in the upper unit from entering the uncontaminated lower Halgaito unit. As a result, the uppermost aquifer beneath the site was not contaminated by uranium processing operations or by surface remedial actions. Recharge to the uppermost aquifer occurs upgradient (southwest) of the site and from upward flow from deeper formations. The Honaker Trail Formation that lies directly beneath the Halgaito Formation is effectively hydrologically isolated from contamination in the upper Halgaito unit. Although the lower Halgaito unit and Honaker Trail Formation are in communication, the unsaturated zone between the upper and lower Halgaito units effectively isolates the Honaker Trail Formation from the upper Halgaito unit where contamination is located.

2.6 Groundwater Quality

Background water quality of the Halgaito and the Honaker Trail Formations is generally similar. Groundwater from both units contains relatively high concentrations of sulfate and nearly equal concentrations of sodium, calcium, and magnesium. Levels of total dissolved solids (TDS) are relatively high in the groundwater, ranging from 3200 to 5300 milligrams per liter (mg/L). Although they exist at lower concentrations, several constituents commonly found in solutions produced by uranium-ore processing facilities are also present naturally in groundwater seeps upgradient of the site. These constituents include ammonium, boron, magnesium, manganese, molybdenum, nitrate, silica, sulfate, and uranium (DOE 2006).

Groundwater quality in the upper unit of the Halgaito Formation is unsuitable for human consumption. Poor water quality within this upper unit is attributable to both natural characteristics and contamination from former onsite uranium processing operations. Analysis of both upgradient and downgradient seeps discharging from fractures within the upper unit of the Halgaito Formation provides evidence of this poor water quality (DOE 2006). Results of seep monitoring are presented in Section 4.2. Monitoring locations (seeps, surface locations, and decommissioned wells) are shown on Figure 6.

Although groundwater in the lower unit of the Halgaito has not been contaminated by past milling operations, the natural water quality near the site is likely unsuitable for human consumption. Monitor wells installed in the lower unit of the Halgaito showed the presence of hydrogen sulfide gas and naturally occurring petroleum. A small amount of oil is produced from the Halgaito and the underlying Honaker Trail Formation in an oil field near the town of Mexican Hat (DOE 2006).

Groundwater in the vicinity of the Mexican Hat site is not currently used as a drinking water source, nor is it anticipated to become one. A treatment plant that draws water from the San Juan River supplies water to the community of Halchita. When the intake for the Halchita water supply is above the surface of the San Juan River, the Halchita community is serviced by water trucks. The community of Mexican Hat also draws its water supply from the San Juan River as well as two water supply wells northwest of the San Juan River (DOE 1998; UDEQ 2017). Analytical results of historical water quality samples provide supporting evidence that the Mexican Hat site does not negatively impact the quality of water in the San Juan River (DOE 1993).

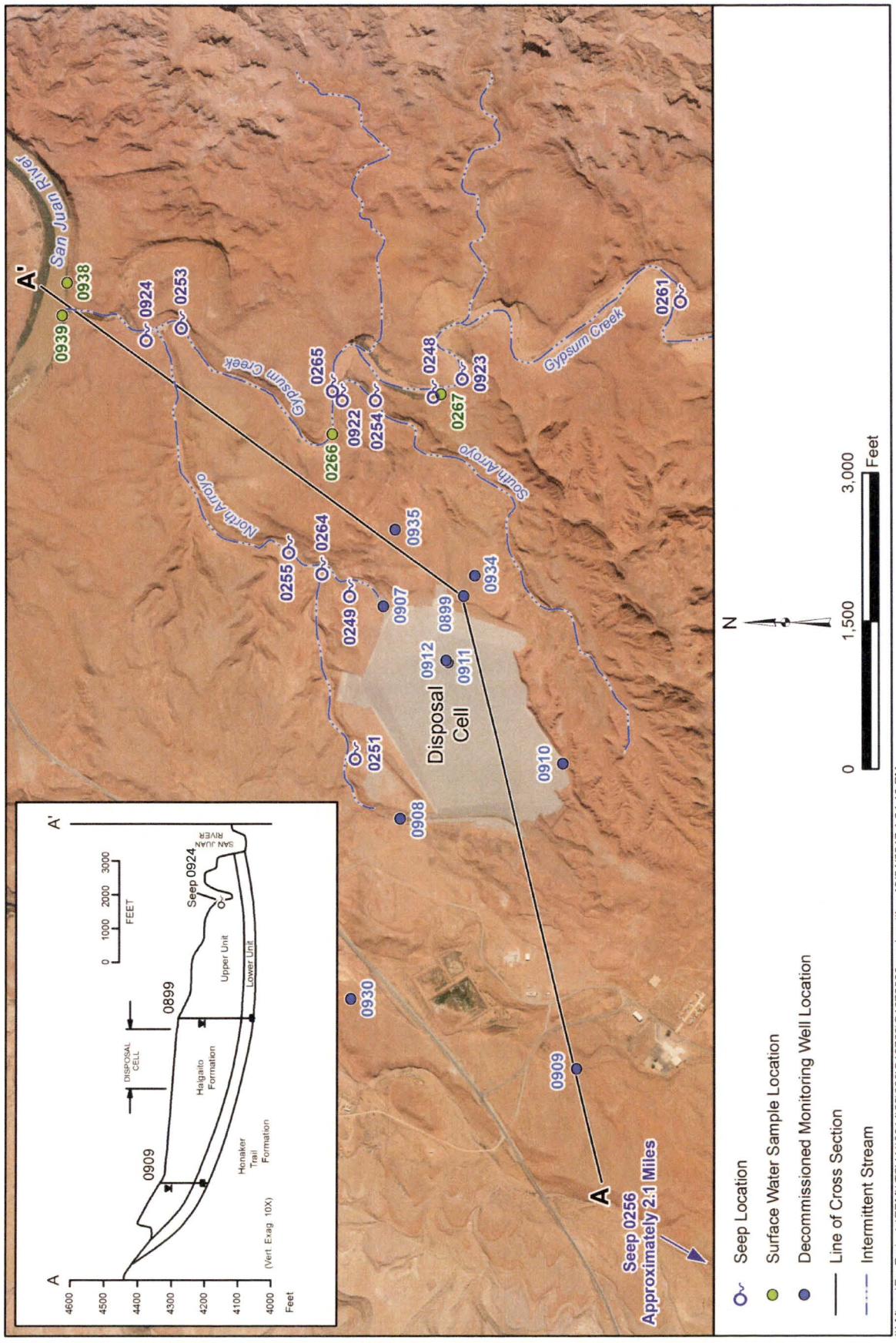


Figure 6. Current and Historical Monitoring Locations at the Mexican Hat, Utah, Disposal Site

3.0 Monitoring History

3.1 Monitoring Requirements

Section 2.5 of the LTSP for the Mexican Hat site acknowledges that (1) scattered shallow ephemeral perched groundwater that lies directly beneath the site is derived primarily from uranium processing operations and is contaminated; (2) the uppermost aquifer beneath the site (i.e., lower unit of the Halgaito Formation) is hydrogeologically isolated from this overlying site-related contamination by effective confining layers that significantly limit the downward vertical movement of contaminated perched groundwater and an upward hydraulic gradient within the uppermost aquifer; (3) monitoring of this contaminated perched groundwater is not required under the current protection strategy for the site since it is not considered a current or potential source of drinking water; and (4) the design of the disposal cell, which sheds and diverts surface water to natural drainages, will minimize any additional potential for the downward migration of contaminants from the site (DOE 2007).

The *Resolution of Seep and Ground Water Monitoring at the Mexican Hat, Utah, UMTRCA Title I Disposal Site* report (DOE 2006) resulted in concurrence among DOE, NRC, and the Navajo Nation that, based on site conditions at the time, the need for further seep and groundwater water quality monitoring at the site was not warranted. As a result, all groundwater monitoring wells at the site were abandoned in 2007. However, it was decided that the collection of water quality samples at groundwater seeps would be reevaluated if observed seep flows were to significantly increase compared to historical levels (DOE 2007). A detailed discussion of historical seep and groundwater monitoring activities and recommendations is provided in the *Resolution of Seep and Ground Water Monitoring at the Mexican Hat, Utah, UMTRCA Title I Disposal Site* report (DOE 2006).

In accordance with Section 3.7.2 of the LTSP (DOE 2007) and as part of an approved monitoring plan (DOE 2006), observational monitoring of seven designated seeps is conducted during annual site inspections. Observational monitoring consists of annual visual observations and photographic documentation of the seven seep locations (Figure 7) specified in the LTSP (DOE 2007). The seven designated seeps, including their respective drainages and topographic locations relative to the disposal cell are listed below.

- North Arroyo
  - — Seep 0249 (downgradient)
  - — Seep 0251 (downgradient)
  - — Seep 0264 (downgradient)
- South Arroyo
  - — Seep 0254 (downgradient)
- Gypsum Creek
  - — Seep 0248 (crossgradient)
  - — Seep 0261 (upgradient/background)
  - — Seep 0922 (downgradient)

Annual visual observations of the seven seep locations designated in the LTSP were required through 2016, at which time an evaluation was to be conducted to determine whether to continue or discontinue observational seep monitoring; this report constitutes that evaluation. Additionally, observational seep monitoring was performed during the annual inspection in April 2017 and subsequently in September 2017 to obtain supporting information related to potential seasonal variability.

The Navajo Nation requested sampling of Seep 0248 in 2015 due to increased precipitation in the area. To address this request, Seep 0248 was sampled in September 2015. Seep 0248 exhibited minor visible seepage (typical conditions) and did not exhibit significantly increased seepage compared to previous visual observations. Additionally in September 2015, surface water samples were collected from the adjacent Gypsum Creek from both an upstream location (0267) and downstream location (0266) relative to Seep 0248. Water quality samples were collected again at Seep 0248 and an upstream location in Gypsum Creek (0267) on March 15, 2016. Seep 0248 and the upstream location in Gypsum Creek (0267) were sampled again on October 3, 2016. Historical water quality results along with the 2015 and 2016 water quality results are presented in Section 4.0.

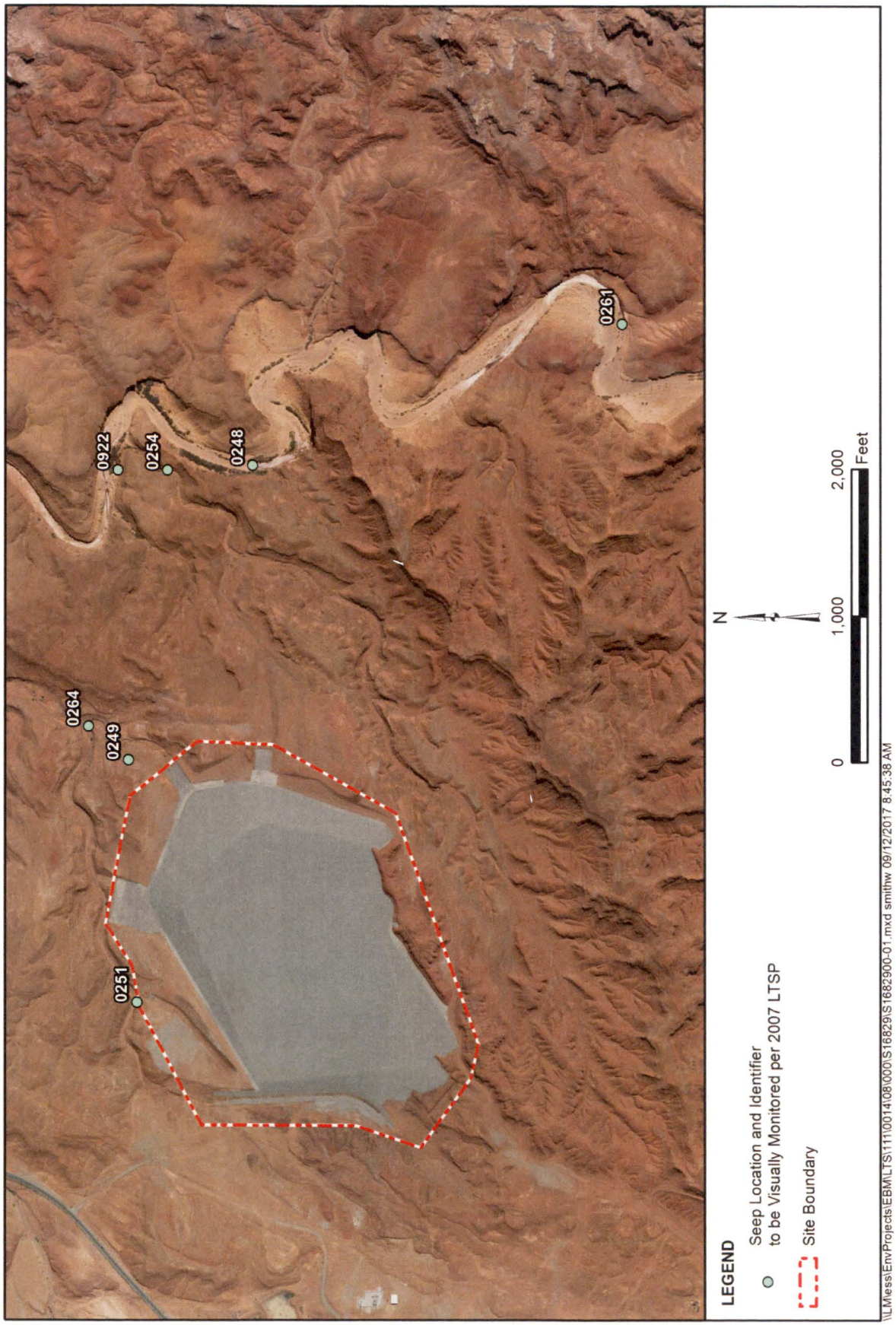


Figure 7. Seven LTSP Designated Seeps at the Mexican Hat, Utah, Disposal Site

4.0 Monitoring Results

4.1 Observations of Seep Conditions

In accordance with the 2007 LTSP, the seven designated seep locations (Figure 7) have been observed and photographed to document seep conditions (e.g., dry, moist, visible seepage) during annual site inspections over the minimum 10-year period. Flow at the seeps has progressively decreased over time to the point where one seep (Seep 0248) continues to exhibit minor visible seepage. Upgradient (background) Seep 0261 exhibited flowing conditions during the 2018 inspection. With the exception of the aforementioned seeps, no other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005 (Table 1). The decreased flow at the seeps is likely attributable to the gradual dewatering of the zones of perched water that remained after milling and remediation activities. Seep 0248 has exhibited minor visible seepage (i.e., not steady flow), but the seepage has typically been sufficient for collecting water quality samples (Figure 8). In addition to the observations tabulated in Table 1, seep conditions have been documented annually with a series of photographs; selected photographs are provided in Appendix A.

Figure 8. Seep 0248, Spring 2017

Table 1. Observations and Estimated Flow of Seeps at the Mexican Hat, Utah, Disposal Site

Date	Seep Number											
	0248	0249	0251	0253	0254	0255	0256	0261	0264	0922	0923	0924
Nov 1998	Dry	ND	Damp	NF	Dry	NF	NF	NF	ND	NF	NF	NF
Feb 1999	NF	ND	NF	NF	Dry	NF	NF	NF	NF	NF	NF	NF
May 1999	Dry	ND	Dry	NF	Dry	Dry	NF	NF	ND	NF	NF	NF
Aug 1999	NF	ND	ND	NF	ND	NF	NF	NF	ND	NF	NF	NF
Nov 1999	0.25	ND	NF	0.25	Dry	0.5	0.75	0.25	NF	0.25	Dry	0.13
Feb 2000	NF	ND	NF	NF	ND	NF	NF	NF	NF	NF	ND	NF
May 2000	NF	ND	NF	NF	ND	0.13	NF	NF	NF	NF	NF	NF
Aug 2000	Damp	ND	Dry	NF	Dry	0.25	Dry	NF	NF	Dry	Dry	Dry
Nov 2000	NF	ND	NF	NF	ND	2.0	NF	NF	NF	NF	ND	NF
Feb 2001	NF	ND	<0.5	~1.0	Dry	~0.5	~1.0	NF	~0.5	~2.0	NF	~1.5
May 2001	NF	ND	NF	0.13	NF	<0.13	NF	<0.13	<0.13	NF	NF	<0.13
Aug 2001	NF	ND	NF	NF	Damp	NF	Damp	NF	NF	Damp	Damp	Damp
Nov 2001	0.25	ND	Dry	3.0	Dry	0.13	Damp	0.13	0.13	NF	Dry	Dry
Feb 2002	0.1	ND	Dry	1.5	Dry	1.0	1.5	1.0	NF	0.1	NF	NF
May 2002	Dry	ND	Dry	NF	Dry	NF	NF	0.25	Dry	NF	Dry	Dry
Feb 2003	0.25	ND	NF	NS	Dry	NS	NS	1.0	1.5	0.25	NS	NS
Feb 2004	0.5	ND	Dry	NS	Dry	NS	NS	2.0	NF	Dry	NS	NS
Apr 2005	<0.1	ND	Dry	NS	<0.05	NS	NS	<0.1	NF	NF	NS	NS
Apr 2006	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	MIN	Damp	NOP	NOP
Apr 2007	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	MIN	MIN	NOP	NOP
Apr 2008	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Damp	Dry	NOP	NOP
Apr 2009	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
May 2010	MIN	Dry	Damp	NOP	Dry	NOP	NOP	ND	MIN	Dry	NOP	NOP
Apr 2011	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
Apr 2012	Damp	ND	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
Apr 2013	Damp	ND	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
Apr 2014	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
Apr 2015	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	NOP	NOP
Mar 2016	MIN	Dry	Damp	NOP	Dry	NOP	NOP	ND	Damp	Dry	NOP	NOP
Apr 2017	MIN	Dry	Dry	NOP	Dry	NOP	NOP	Dry	Dry	Dry	NOP	NOP
Sep 2017	MIN	Dry	Dry	NOP	Dry	NOP	NOP	ND	Dry	Dry	Dry	NOP
Apr 2018	MIN	Dry	Dry	NOP	Dry	NOP	NOP	0.25	Dry	Dry	Dry	NOP

Notes:
Flows estimated in gallons per minute.
Damp = minimal water, no flow measured.
Dry = no flow.

Abbreviations:
MIN = minimal flow (minor visible seepage); no flow measured
ND = no data available
NF = no flow measured
NOP = not on LTSP monitoring plan (DOE 2007)
NS = no longer sampled

4.2 Current and Historical Monitoring Results from Seeps and Gypsum Creek (Upper Halgaito Unit) and Wells (Lower Halgaito Unit)

As discussed in Section 3.1, the Navajo Nation requested sampling of Seep 0248 in 2015 due to increased precipitation in the area, and Seep 0248 was sampled in September 2015. Seep 0248 exhibited minor visible seepage (typical conditions) and did not exhibit increased flow compared to previous visual observations. During the September 2015 sampling, surface water samples were also collected from Gypsum Creek: an upstream location (0267) and a downstream location (0266) relative to Seep 0248 (Figure 6). Water quality samples were collected again at Seep 0248 and an upstream location in Gypsum Creek (0267) in both March 2016 and October 2016.

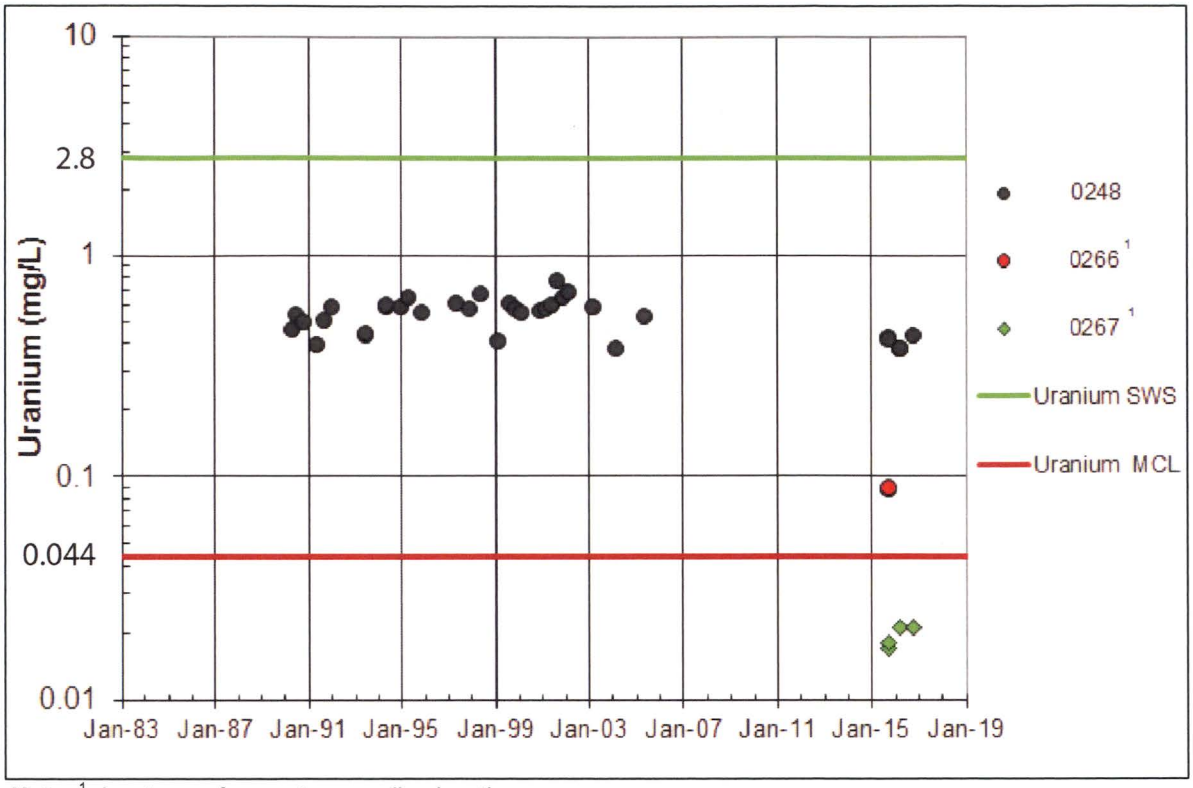
Due to the former operations of the Mexican Hat mill and the existing disposal cell at the site, potential contaminants of concern (PCOCs) include nitrate, sulfate, and uranium. Maximum concentration limits (MCLs) for nitrate (10 mg/L as N) and uranium (0.044 mg/L) have been established by the U.S. Environmental Protection Agency (EPA) in accordance with 40 CFR 192 and are listed in Table 1 of 40 CFR 192.04; these MCLs were developed in accordance with UMTRCA and do not reflect *maximum contaminant levels* promulgated under the U.S. Safe Drinking Water Act. There is no UMTRCA groundwater MCL or primary drinking water standard for sulfate. The secondary drinking water standards (SDWSs) of 250 mg/L for sulfate and 500 mg/L for TDS are typically used as water quality indicators.

The following series of time-versus-concentration figures show the historical and current PCOC concentrations at the groundwater seep and surface water locations sampled in 2015 and 2016 as well as historical concentrations at seeps and former groundwater monitoring locations. Concentration data are plotted on a logarithmic ($\log_{10}$) scale. Each of the charts spans the total range of values for a given analyte to simplify comparison of values at seeps, surface locations, and former wells. Tabulated water quality data are provided in Appendix B.

Uranium

The uranium results from the water quality samples collected in 2015 and 2016 are shown on Figure 9 along with the historical results for Seep 0248. The 0.044 mg/L MCL is shown as a red line for reference. The locations sampled in 2015 and 2016 and their average uranium results from this time period are shown on Figure 10. The recent uranium results at Seep 0248 were consistently at the lower end of the historical range and do not indicate any substantial changes from historical water quality results at this location. The Gypsum Creek samples were below the uranium MCL at the upstream location (0267) and above the uranium MCL at the downstream location (0266). The extent of Gypsum Creek (from its mouth to its headwaters) is designated by the Navajo Nation for secondary human contact[1], fish consumption, aquatic and wildlife habitat, and livestock watering (NNEPA 2007). The Navajo Nation uranium surface water standard (SWS) for secondary human contact is 2.800 mg/L. There is no uranium standard for the other designated uses. Gypsum Creek water quality is well below the applicable uranium SWS.

[1] Secondary Human Contact means "the use of water which may cause the water to come into direct contact with the skin of the body but normally not to the point of submergence, ingestion of the water, or contact of the water with membrane material of the body. Such contact would occur incidentally and infrequently" (NNEPA 2007).

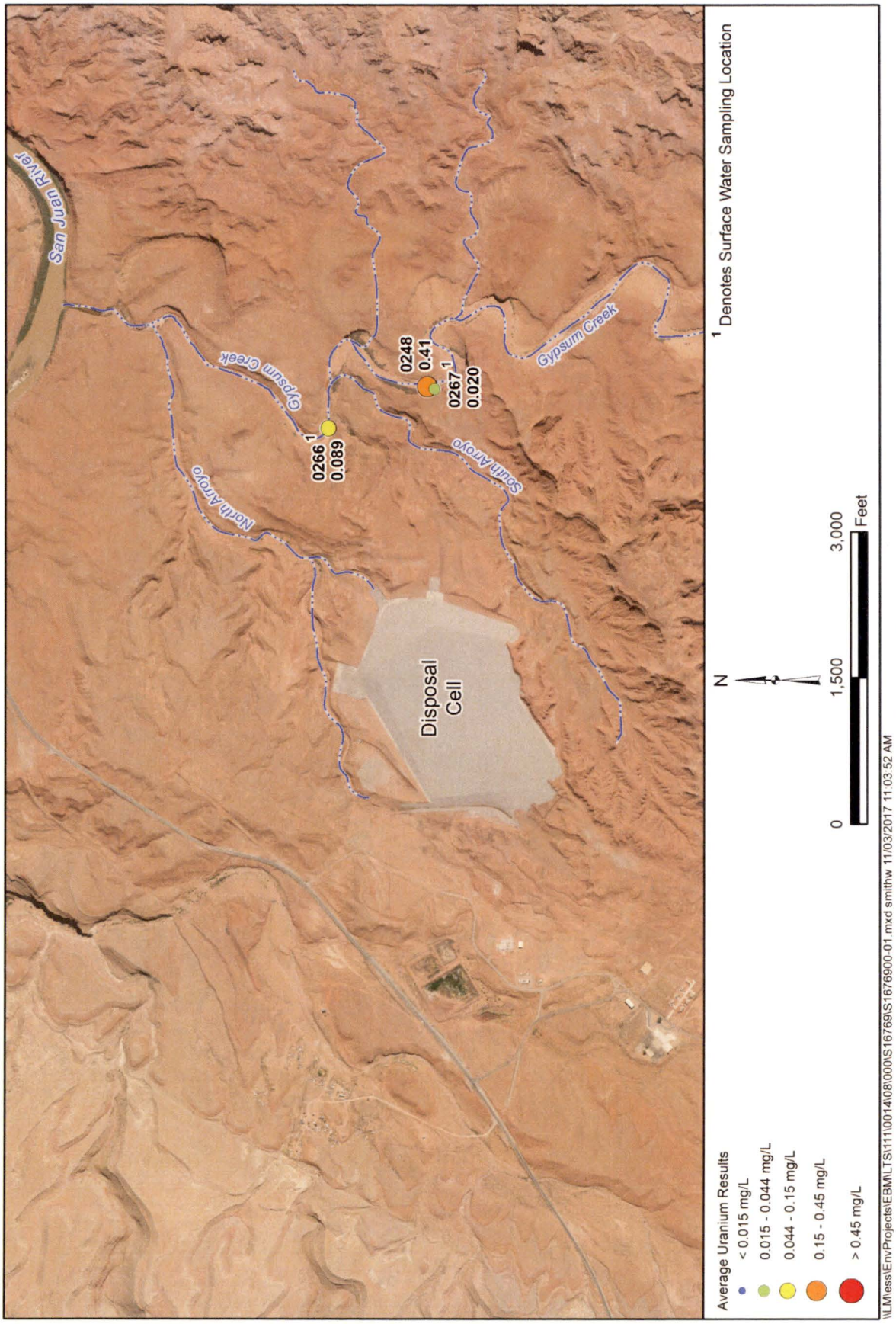


Note: [1] denotes surface water sampling location.

Figure 9. Uranium Concentrations at Seep and Surface Water Locations Sampled in 2015 and 2016

The recent uranium results at Seep 0248 are consistent with the historical results at other Gypsum Creek seeps that are downgradient of the disposal cell (Figure 11). The most recent uranium concentration at Seep 0248 (0.44 mg/L on 10/3/2016) is an order of magnitude above the uranium MCL of 0.044 mg/L. The uranium concentrations at downgradient Gypsum Creek seeps were historically about an order of magnitude above the MCL. The three seeps identified as upgradient, background locations (Seep 0256, Seep 0923, and Seep 0261) have typically been below the uranium MCL but have uranium detections that are indicative of known naturally occurring uranium deposits throughout the region (Figure 11, Figure 12, and Figure 13). The locations and historical average uranium concentrations for the currently dry seeps in Gypsum Creek and the North Arroyo sampled prior to 2006 as well as for Seep 0248 are shown on Figure 12.

Historical uranium concentrations at downgradient seeps in the North Arroyo (roughly 1.5 orders of magnitude above the MCL) have been on average slightly higher than the downgradient seeps in Gypsum Creek (roughly 1 order of magnitude above the MCL) (Figure 13). The North Arroyo seep locations are closer to the disposal cell and the relative locations of perched contaminated water. Historical uranium concentrations at Seep 0256, located more than 2 miles upgradient to the southwest of the disposal cell and previously monitored for background concentrations, are plotted with the North Arroyo seeps (Figure 13).



Note: Average concentrations at Seep 0248 include uranium results from 2015 and 2016 only.

Figure 10. Average Uranium Concentrations at Seep and Surface Water Locations Sampled in 2015 and 2016

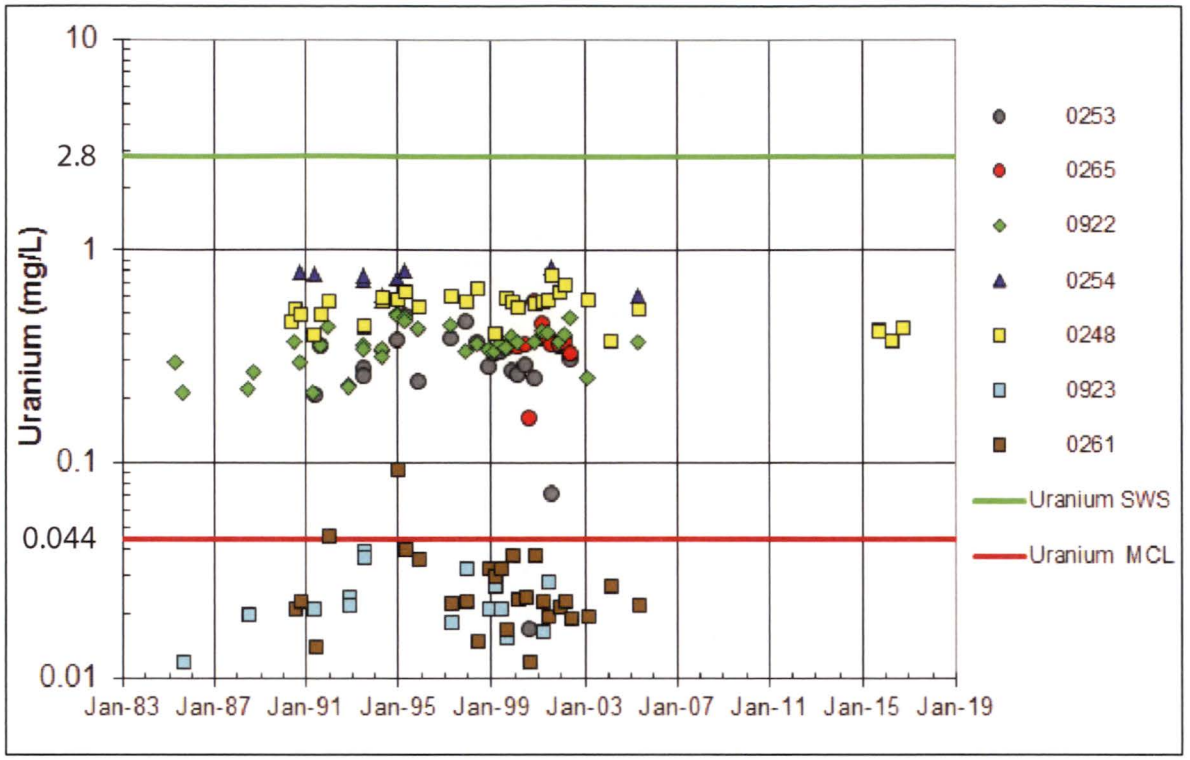
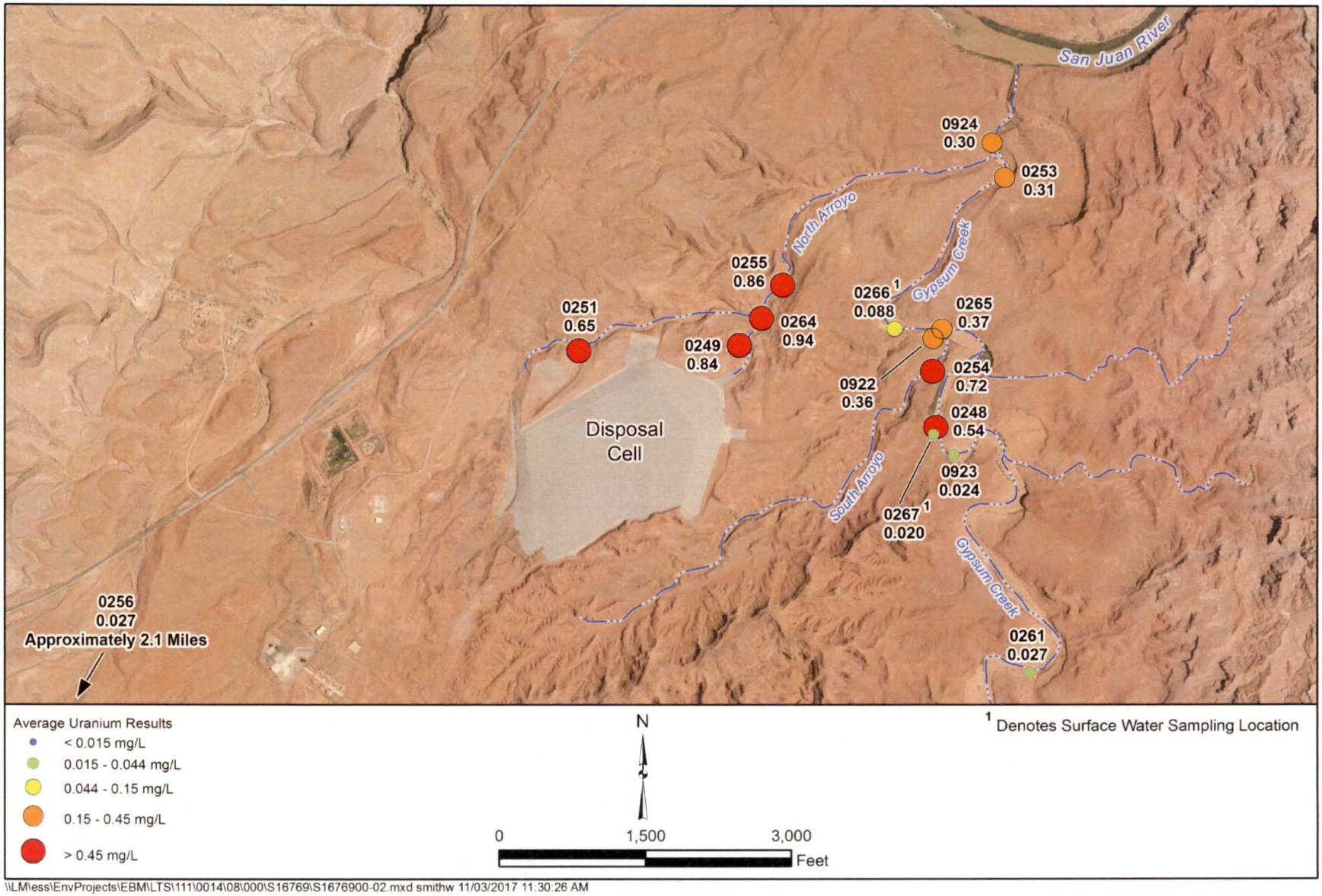


Figure 11. Uranium Concentrations in Gypsum Creek Seeps



Note: Average concentrations include all available uranium results.

Figure 12. Average Uranium Concentrations at Recent and Historical Seep and Surface Water Sample Locations

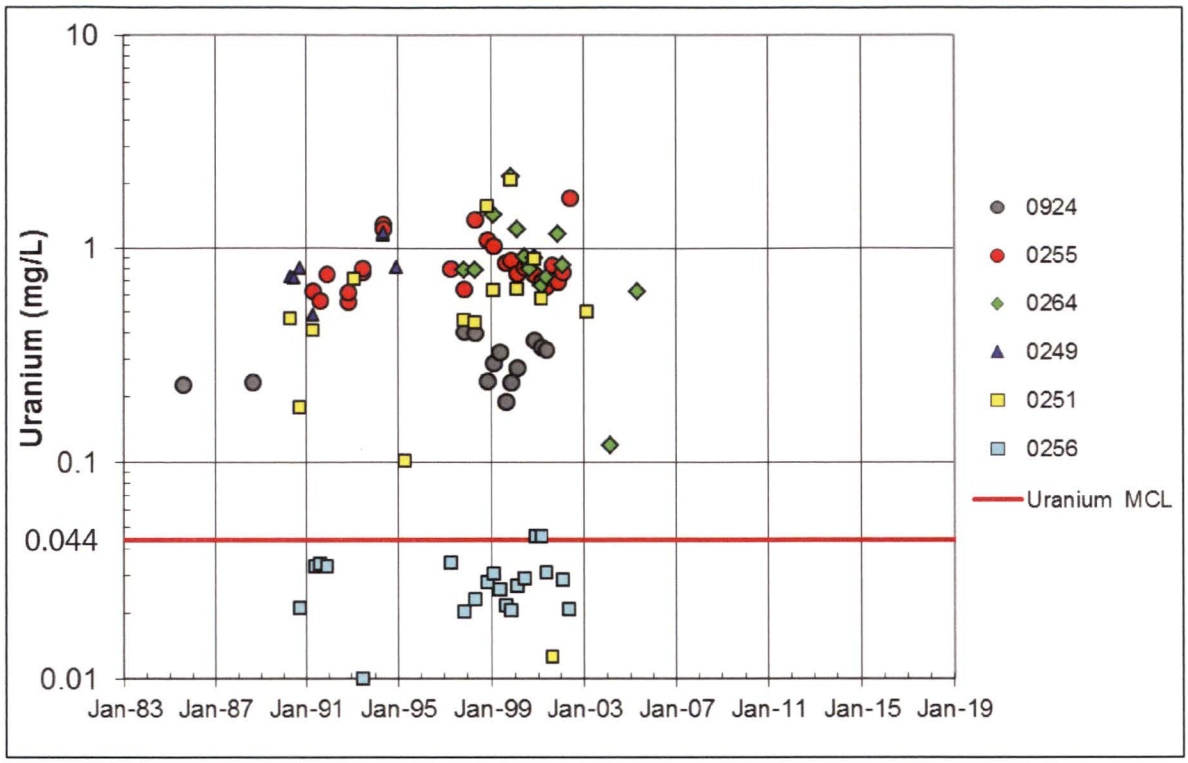
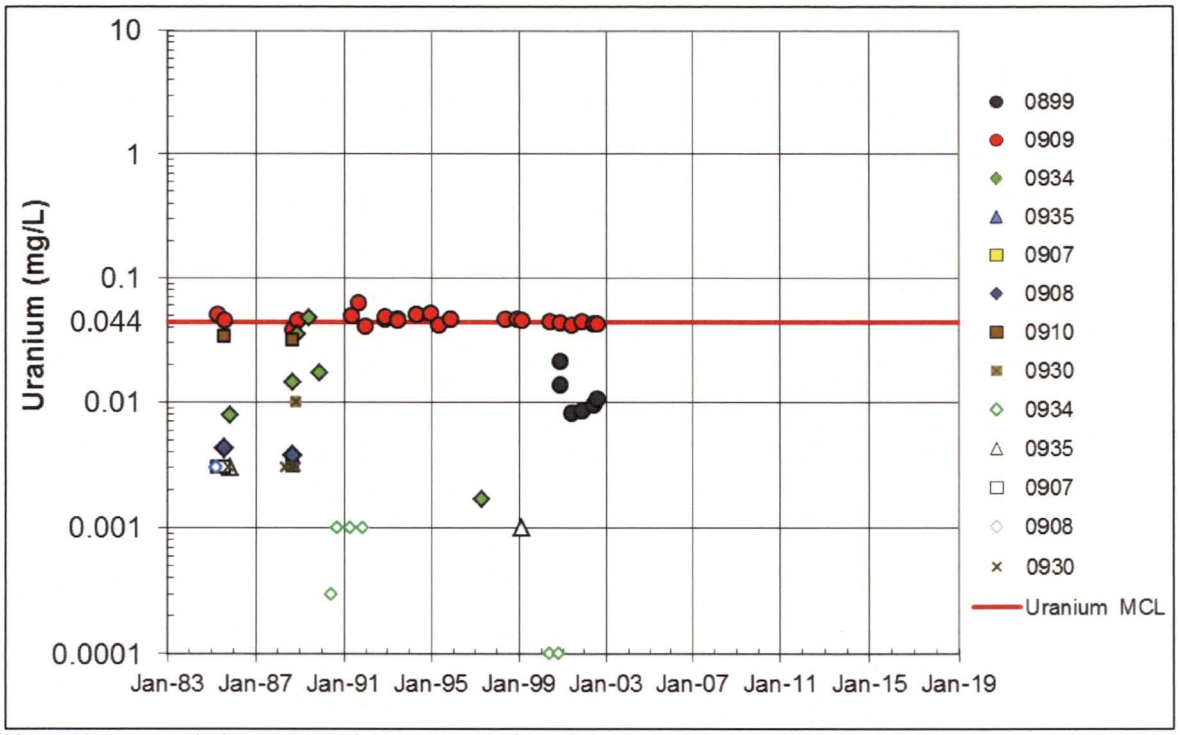


Figure 13. Uranium Concentrations in North Arroyo Seeps and Background Seep 0256

The historical uranium concentrations in the seeps provide an indication of the horizontal extent of uranium (Figure 12) in the unsaturated upper Halgaito unit. The last historical uranium concentrations in wells screened in the saturated lower Halgaito unit support the conclusion of limited downward migration of uranium past the perched water zones and through the intervening confining unit outside the disposal cell footprint (Figure 14). The highest uranium concentrations in wells outside the footprint of the disposal cell was at monitoring well 0909, which is several thousand feet upgradient (southwest) of the disposal cell (Figure 14 and Figure 16). The highest uranium concentrations in wells inside the footprint of the disposal cell (Figure 15) were at former monitoring well 0912, which was abandoned in 1988.

No groundwater monitoring wells remain at the site. The last of the wells were abandoned in April 2007 upon concurrence among DOE, the Navajo Nation, and NRC that groundwater monitoring at the site was not warranted (see Section 3.0, "Monitoring History") (DOE 2007).



Note: Hollow symbols represent laboratory nondetections reported at the detection limit.

Figure 14. Uranium Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit (Outside of the Disposal Cell Footprint)

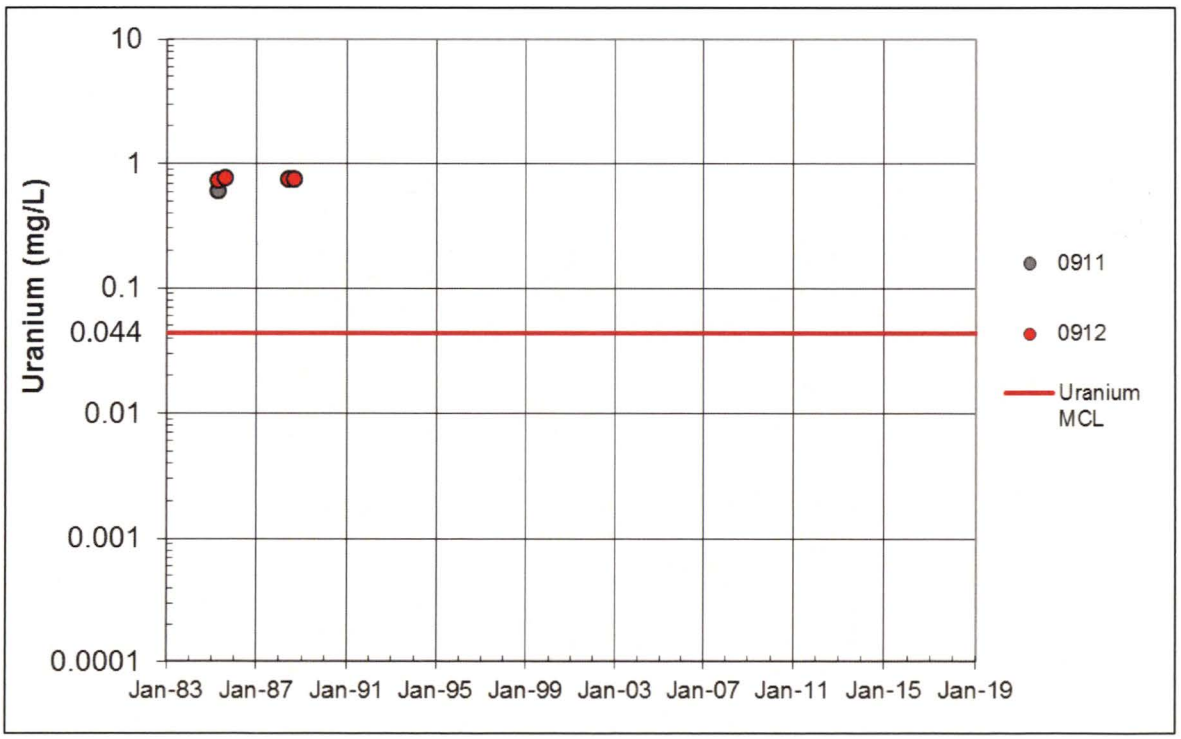


Figure 15. Uranium Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit (Inside the Disposal Cell Footprint)

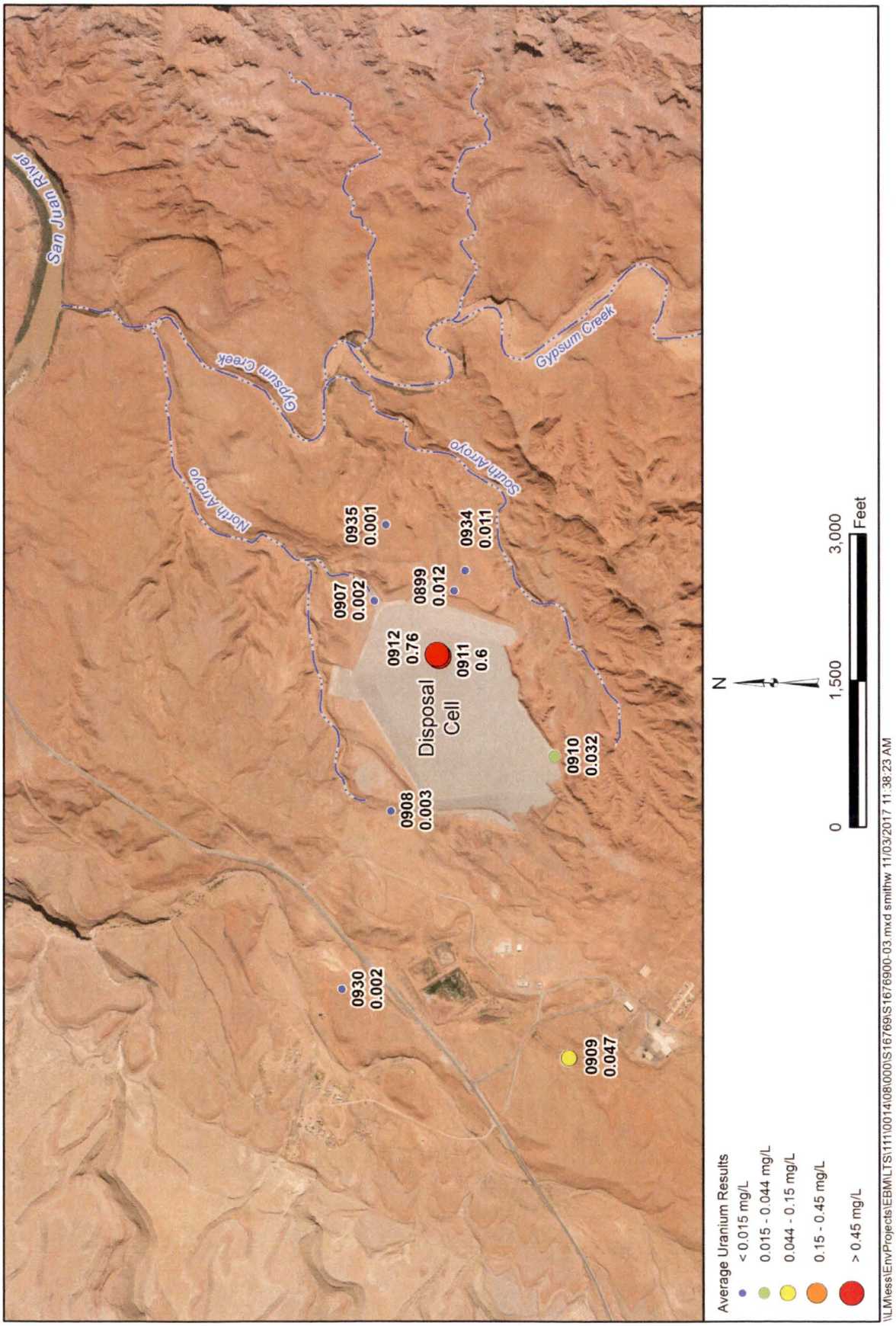


Figure 16. Average Uranium Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit

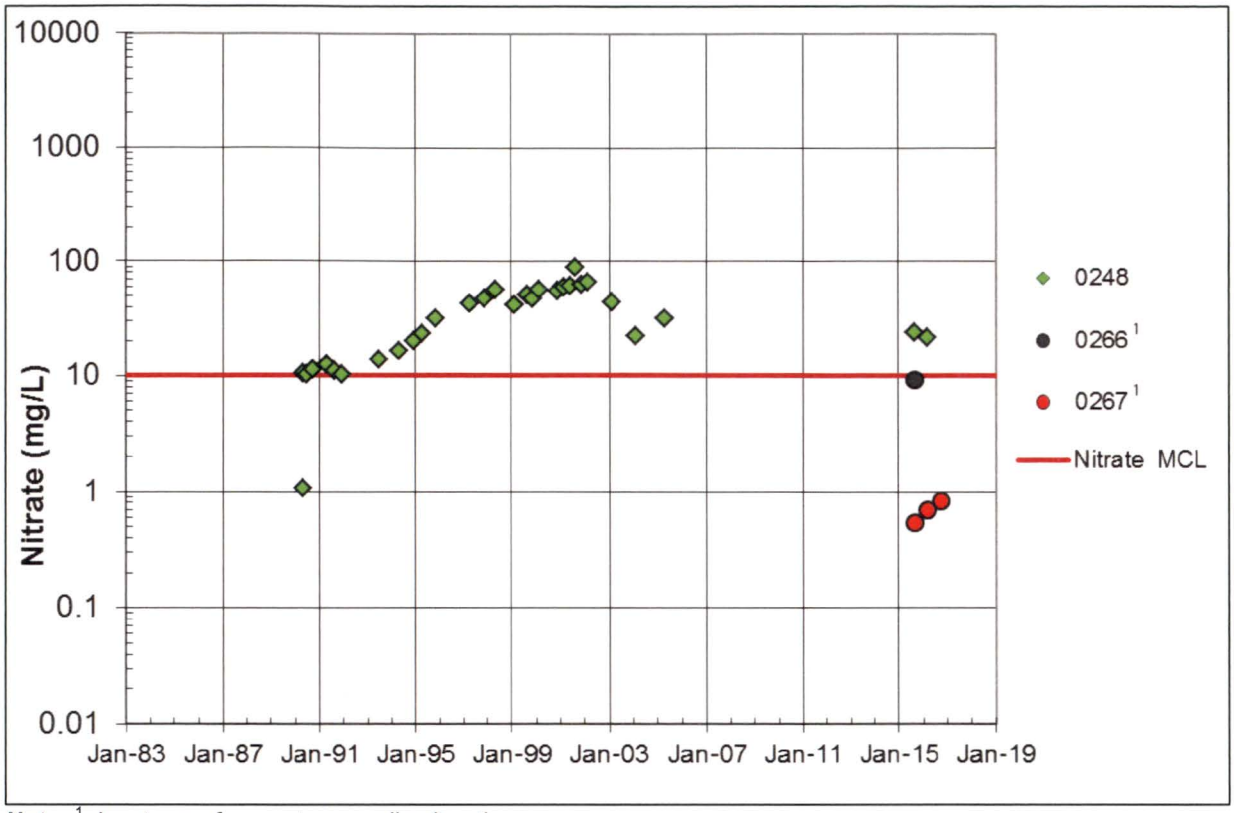
Nitrate

Nitrate results are reported as nitrate as nitrogen (nitrate as N), which has an MCL of 10 mg/L. The nitrate (as N) MCL is also provided on the charts for comparison purposes. The 10 mg/L nitrate MCL is equivalent to 44.3 mg/L when results are reported as nitrate as nitrate (nitrate as NO_3). The conversion is the ratio of the molecular weight of N (14 grams per mole [g/mol]) and NO_3 (62 g/mol) or 4.43 milligrams (mg) of NO_3 for every 1 mg of N. Any reference going forward to nitrate should be assumed to be nitrate (as N) unless specified. Tabulated water quality data presented in Appendix B include raw, unconverted datasets for nitrate.

The nitrate results from the recent 2015 and 2016 samples are shown on Figure 17 along with the historical results for Seep 0248. The 2015 and 2016 sampled locations and their average nitrate results from this time period are shown on Figure 18. The recent nitrate results show the same trends in comparison to the recent uranium results (Figure 9). The 2015 and 2016 nitrate results at Seep 0248 were consistently at the lower end of the historical range and do not indicate any substantial changes from historical water quality results at this location, including at other downgradient seep locations in Gypsum Creek. The recent nitrate concentrations at Seep 0248 (22 mg/L on March 15, 2016, was the most recent) have been about 2 to 3 times greater than the 10 mg/L MCL. The nitrate results at the two Gypsum Creek surface water locations were below the 10 mg/L nitrate MCL and significantly below the nitrate standard for livestock water of 132 mg/L as N (NNEPA 2007).

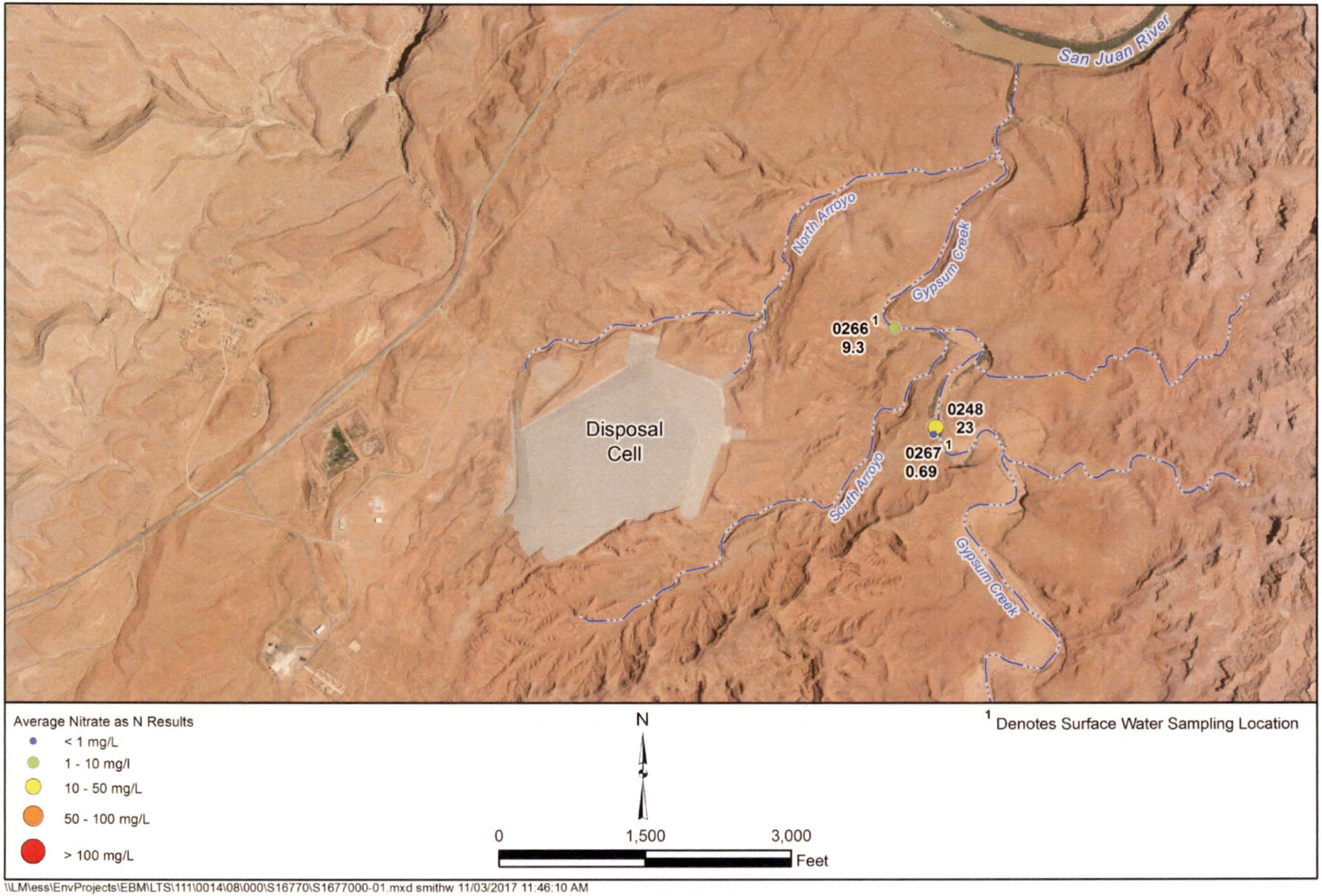
The nitrate concentrations at downgradient Gypsum Creek seeps were historically about an order of magnitude above the MCL with outliers of up to 2 orders of magnitude higher (Figure 20). The locations and average nitrate values for the currently dry seeps (those in Gypsum Creek and the North Arroyo) sampled prior to 2006 and for Seep 0248 are shown on Figure 19. Nitrate concentrations at the three seeps identified as upgradient, background locations (Seep 0256, Seep 0923, and Seep 0261) have typically been below the nitrate MCL (Figure 20 and Figure 21).

The historical nitrate concentrations of seeps in the North Arroyo were on average slightly higher than the Gypsum Creek seeps, although less than 2 orders of magnitude above the MCL (Figure 20 and Figure 21). Historical nitrate concentrations at Seep 0256, located more than 2 miles upgradient to the southwest of the disposal cell and previously monitored for background concentrations, are plotted with the North Arroyo seeps (Figure 21).



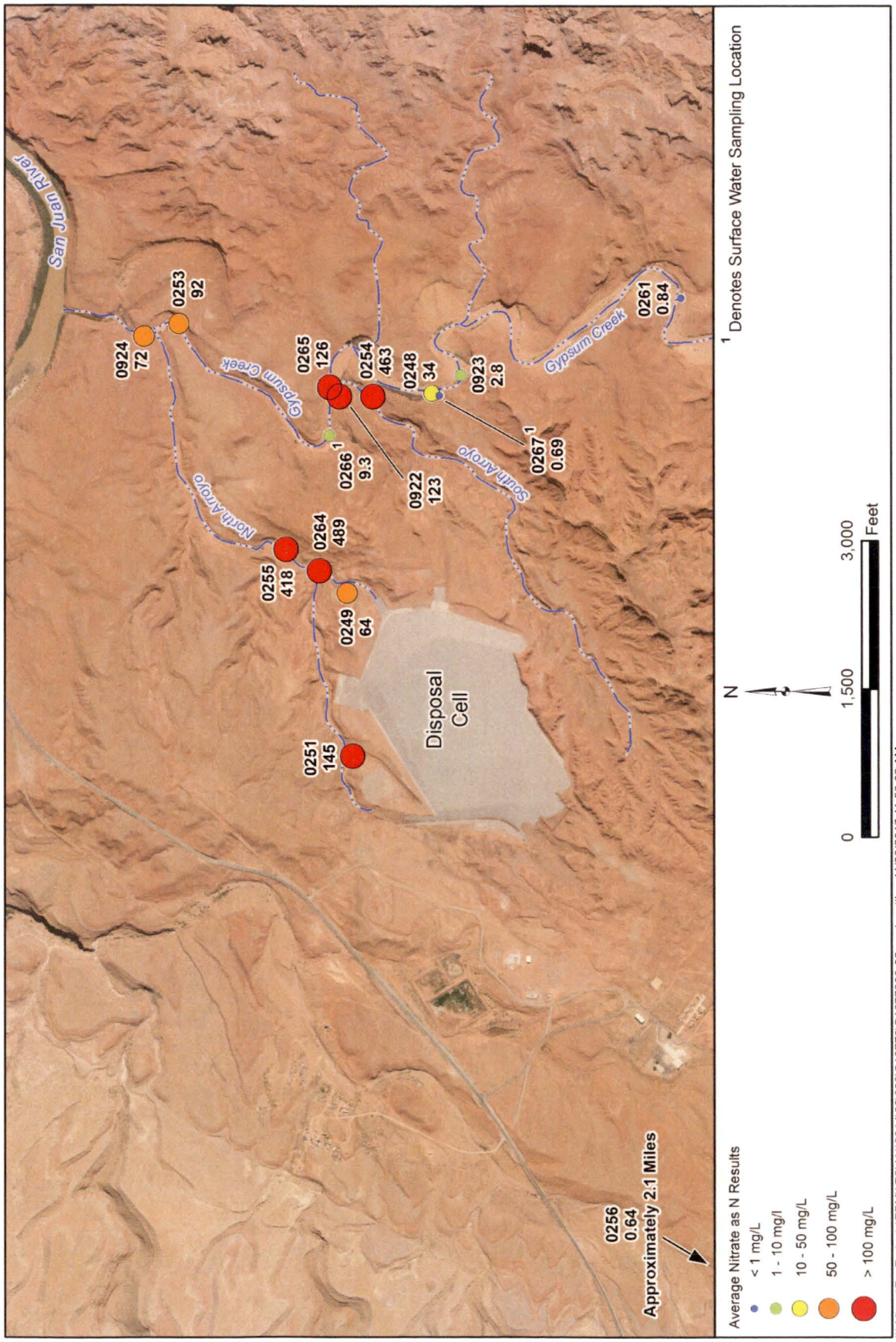
Note: [1] denotes surface water sampling location.

Figure 17. Nitrate (as N) Concentrations at Seep and Surface Water Locations Sampled in 2015 and 2016



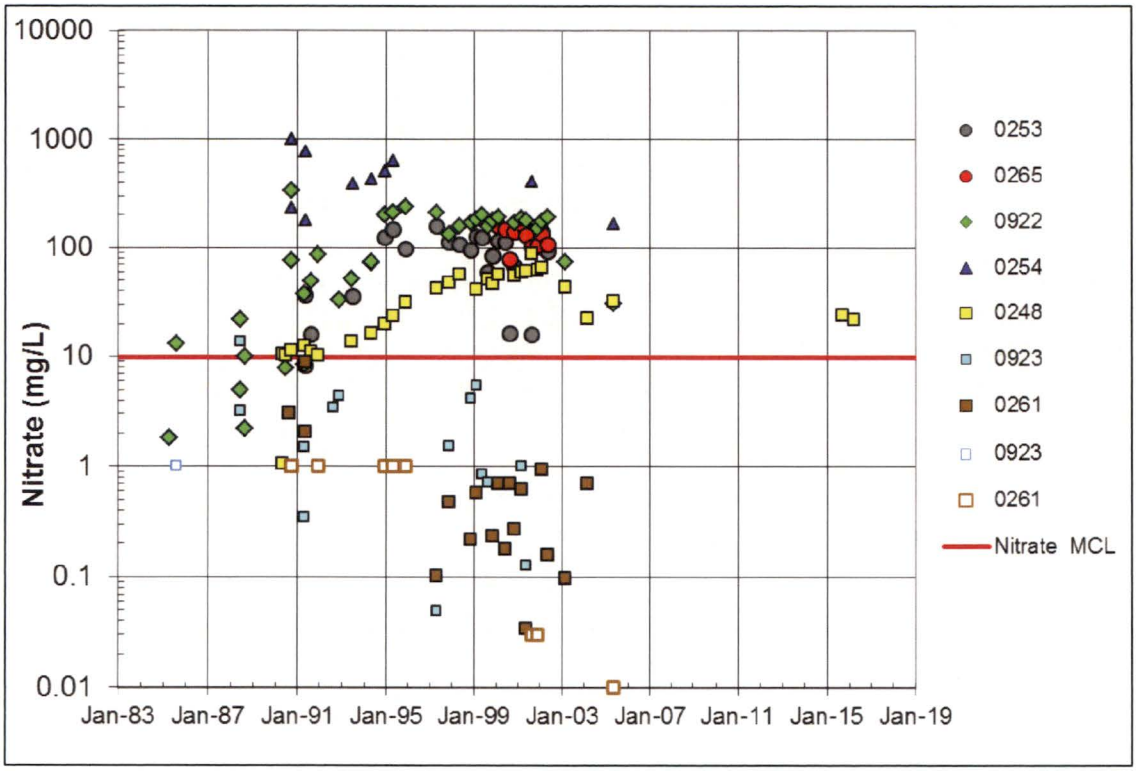
Note: Average concentrations at Seep 0248 include nitrate results from 2015 and 2016 only.

Figure 18. Average Nitrate (as N) Concentrations at Seep and Surface Water Locations Sampled in 2015 and 2016



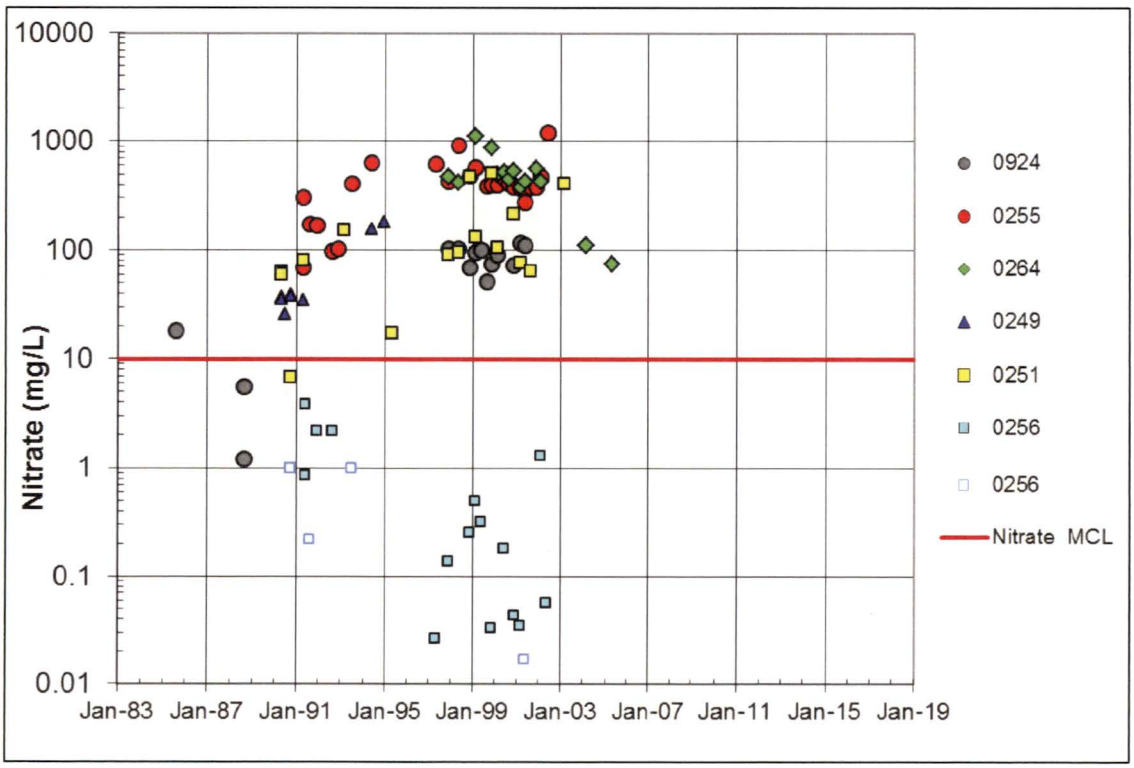
Note: Average concentrations include all available nitrate results.

Figure 19. Average Nitrate (as N) Concentrations of Recent and Historical Seep Locations



Note: Hollow symbols represent laboratory nondetections reported at the detection limit.

Figure 20. Nitrate (as N) Concentrations in Gypsum Creek Seeps

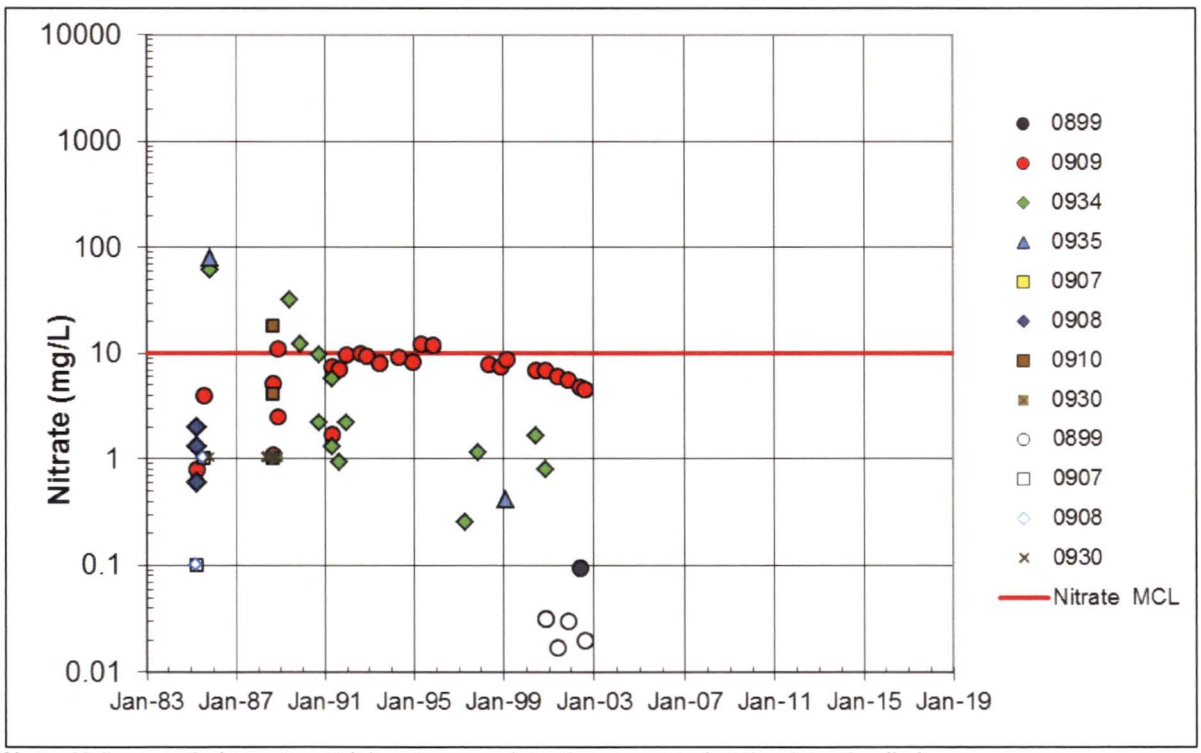


Note: Hollow symbols represent laboratory nondetections reported at the detection limit.

Figure 21. Nitrate (as N) Concentrations in North Arroyo Seeps and Background Seep 0256

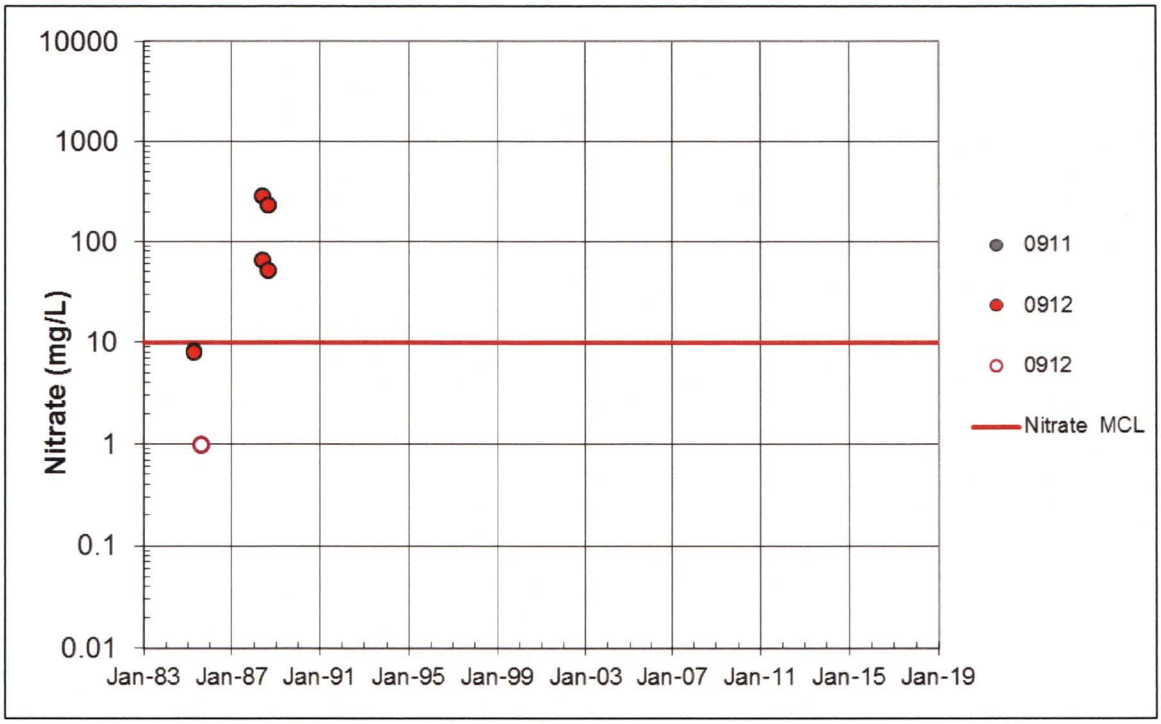
The historical nitrate concentrations in the seeps indicate the horizontal extent of nitrate migration (Figure 19) in the unsaturated upper Halgaito unit. The last historical nitrate concentrations in wells screened in the saturated lower Halgaito unit (Figure 22) support the conclusion of limited downward migration of nitrate past the perched water zones and through the intervening confining unit, which consists of thin lenticular to continuous limestone beds that limit downward water movement from the upper Halgaito unit (see Section 2.5, "Hydrogeological Conditions"). Of the wells located outside the disposal cell footprint, the highest nitrate concentrations were at well 0909 toward the end of groundwater monitoring activities at the site; well 0909 is several thousand feet upgradient (southwest) of the disposal cell (Figure 22 and Figure 24). Of the wells located inside the disposal cell footprint (Figure 23 and Figure 24), the highest nitrate concentrations were at well 0912; well 0912 was abandoned in 1988, and the disposal cell was constructed in the mid-1990s.

No groundwater monitoring wells remain at the site. The last of the wells were abandoned in April 2007 upon concurrence among DOE, the Navajo Nation, and NRC that groundwater monitoring at the site was not warranted (see Section 3.0, "Monitoring History") (DOE 2007).



Note: Hollow symbols represent laboratory nondetections reported at the detection limit.

Figure 22. Nitrate (as N) Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit (Outside the Disposal Cell Footprint)



Note: Hollow symbols represent laboratory nondetections reported at the detection limit.

Figure 23. Nitrate (as N) Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit (Inside the Disposal Cell Footprint)

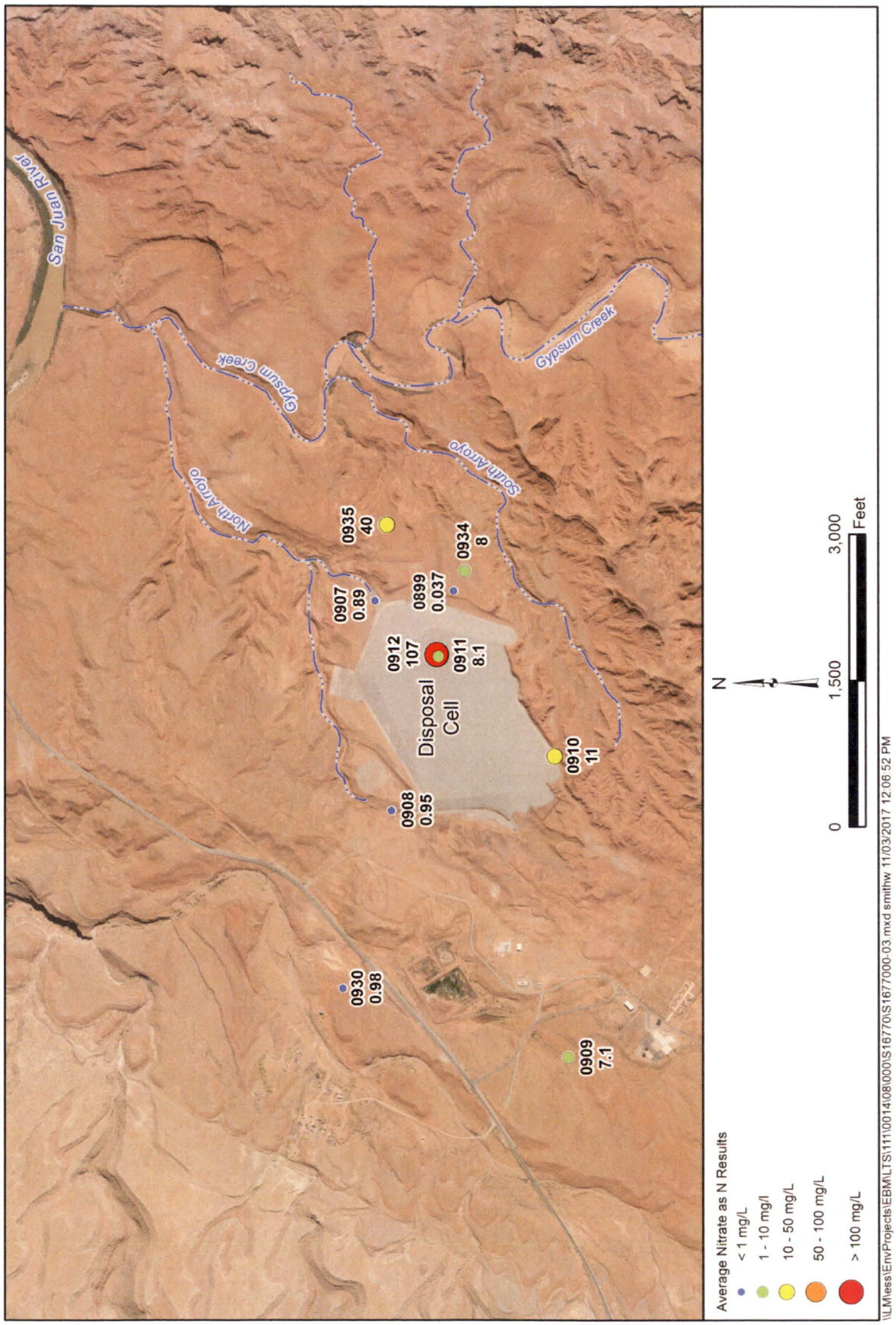


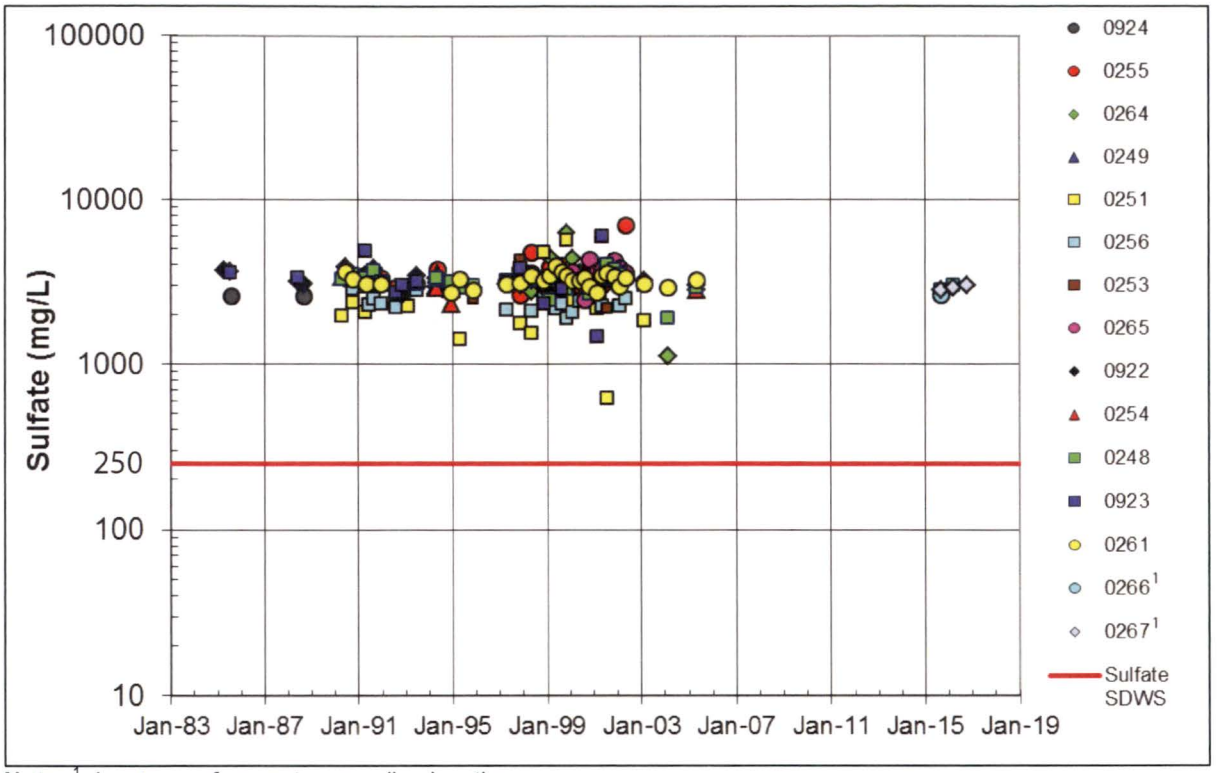
Figure 24. Average Nitrate (as N) Concentrations in Former Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit

Sulfate and Total Dissolved Solids

Sulfate and TDS concentrations are naturally elevated in groundwater and surface water across the site. Concentrations of sulfate and TDS are relatively consistent (within an order of magnitude) throughout the vicinity of the Mexican Hat site regardless of the monitoring type and monitoring location. Surface water, seeps, and former monitoring wells have all returned relatively similar concentrations of sulfate and TDS irrespective of their relative location from a topographic and hydrologic perspective (i.e., downgradient or upgradient). Additionally, former monitoring wells screened in both the upper and lower Halgaito units have returned similar sulfate and TDS concentrations. The following figures show sulfate results for seeps (historical and current) and surface locations (Figure 25) and for former groundwater monitoring wells (Figure 26). Monitoring locations are shown on Figure 6.

Sulfate concentrations across the site exceed the EPA SDWS of 250 mg/L. Exceedances of SDWSs are not health threatening, but they can make water appear cloudy or smell and taste bad, limiting its use as a potable water source. The naturally occurring high sulfate levels in the water prevent the lower unit of the Halgaito Formation (uppermost aquifer) from being a suitable water supply. The sulfate results from the 2015 and 2016 samples (Seep 0248 as well as surface locations 0266 and 0267) are shown along with the historical results for other seeps previously sampled at the site on Figure 25. Sulfate concentrations in the former wells that were completed in the saturated lower Halgaito unit are shown on Figure 26.

The dissolved sulfate concentrations comprise about 60% of the TDS at the site. The EPA lists a SDWS of 500 mg/L for TDS. Water with TDS levels above 1200 mg/L is often considered unacceptable as potable water. TDS concentrations in water (seeps and former wells) at the Mexican Hat site range from about 2000 to 10,000 mg/L. The following figures show TDS results for seeps (historical and current) and surface locations (Figure 27) and for former groundwater monitoring wells (Figure 28). Monitoring locations are shown on Figure 6.



Note: [1] denotes surface water sampling location.

Figure 25. Sulfate Concentrations at Seeps and Surface Water Locations

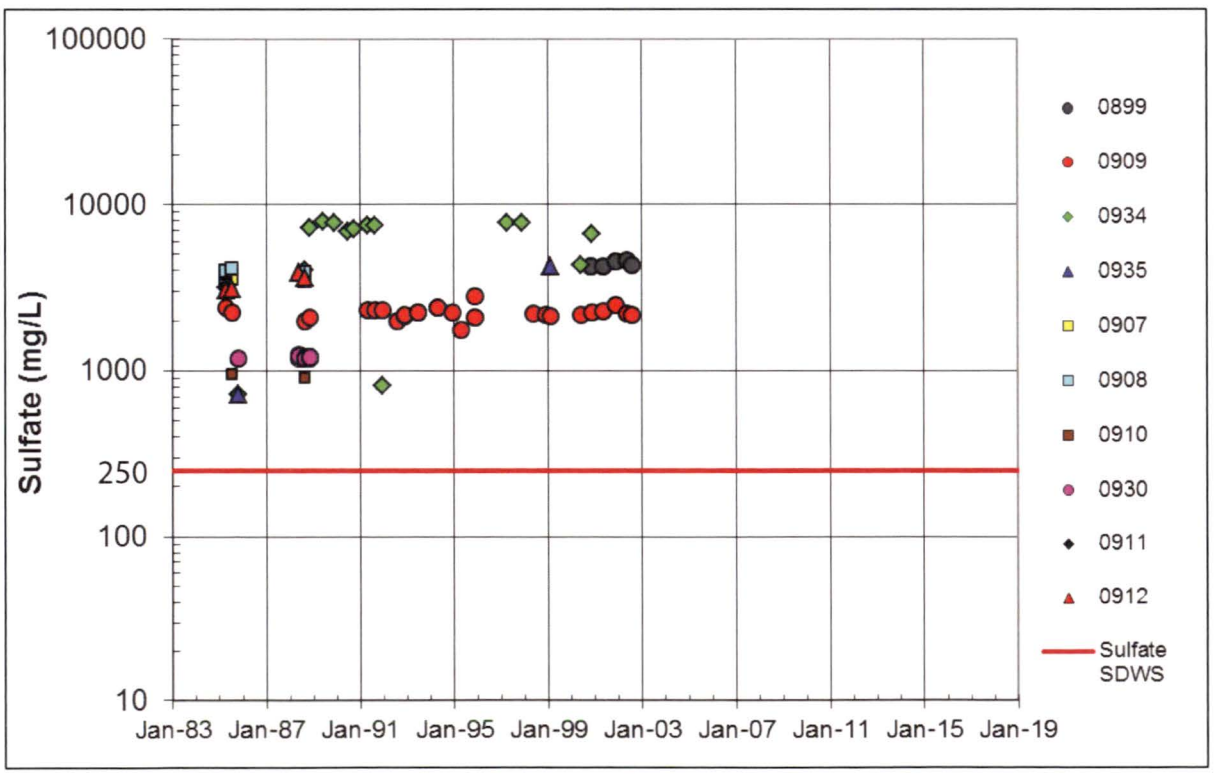
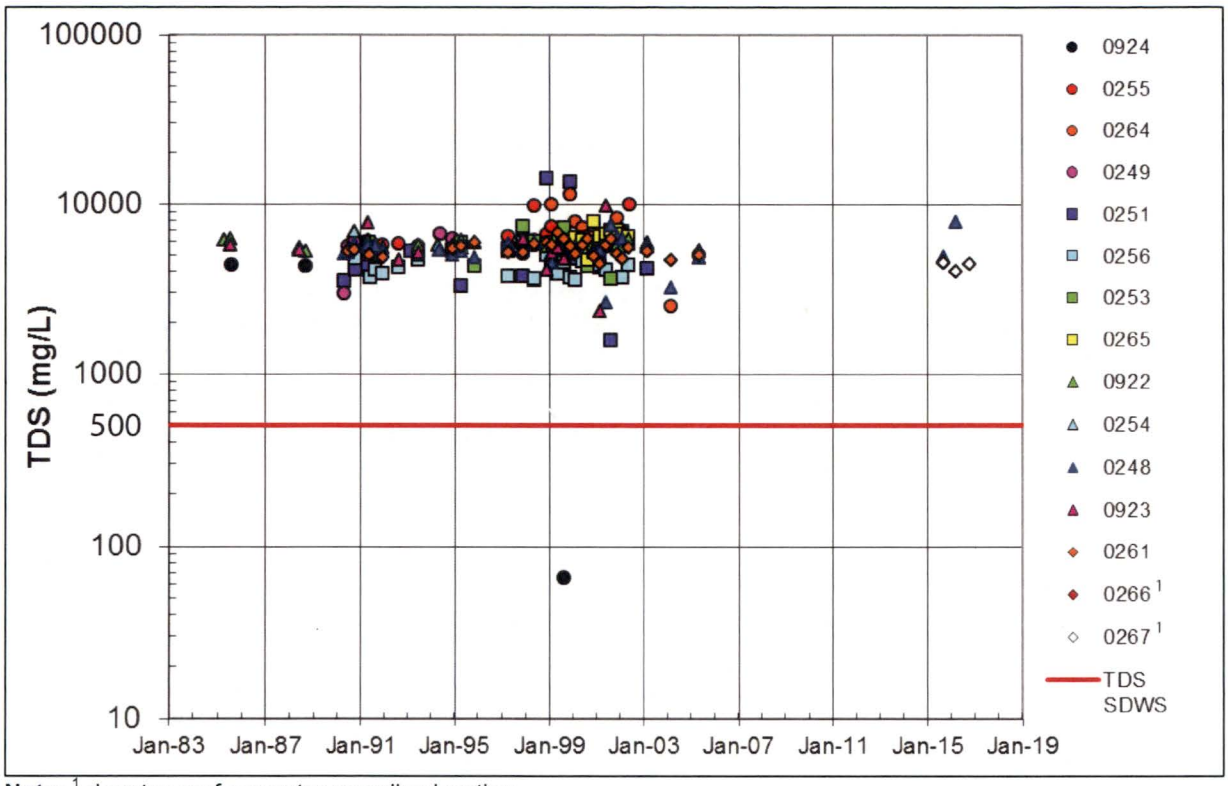


Figure 26. Sulfate Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit



Note: [1] denotes surface water sampling location.

Figure 27. TDS Concentrations at Seeps and Surface Water Locations

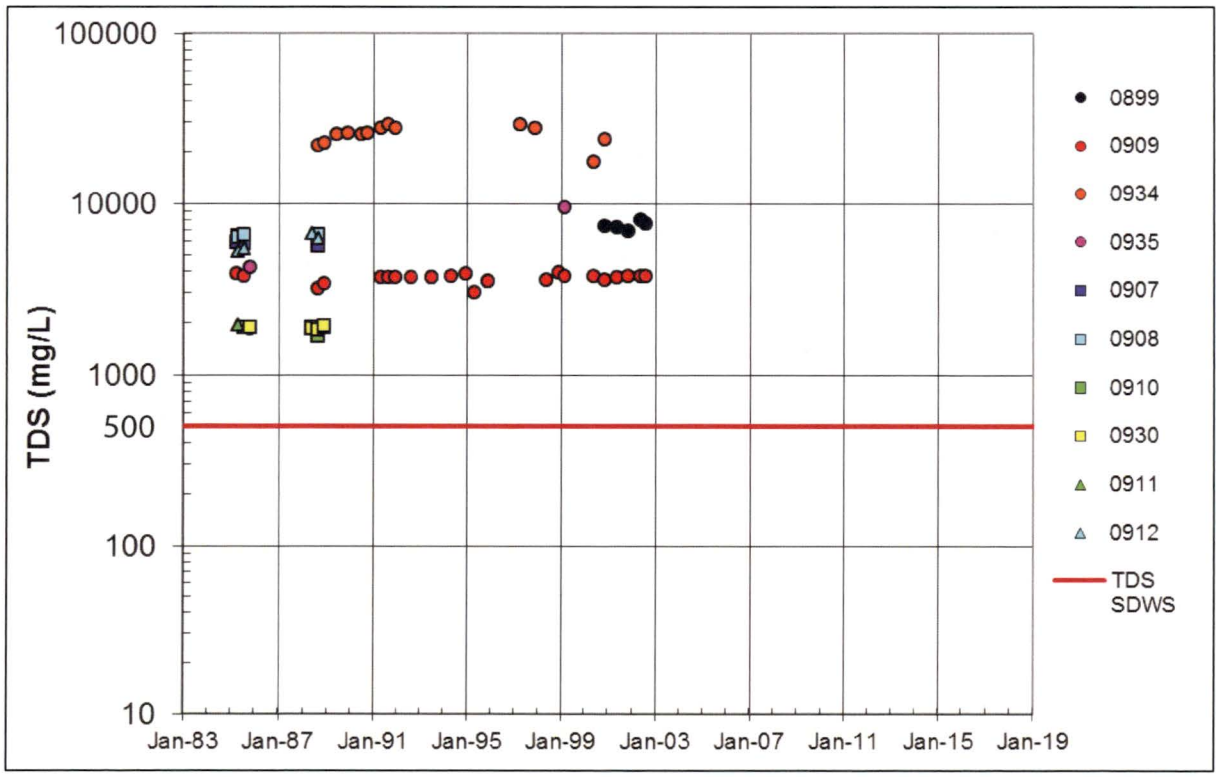


Figure 28. TDS Concentrations in Monitoring Wells Screened Within the Lower (Saturated) Halgaito Unit

4.3 Uranium Isotope Analysis

Activity ratios (ARs) of uranium-234 (^{234}U) and ^{238}U isotopes can be used to help determine the source of uranium in a groundwater sample. Under the right conditions, the ^{234}U and ^{238}U AR can distinguish between the uranium derived from weathering of local aquifer minerals and the uranium derived from processing mills (Zielinski et al. 1997). Zielinski et al. (1997) state that most natural groundwater has a ^{234}U and ^{238}U AR greater than 1.0, with typical values in the range of 1 to 3; however, values in excess of 10 can occur because the ^{234}U isotope is preferentially leached, and thus enriched, in naturally occurring groundwater. In contrast, uranium related to processing mills is often derived from uranium ores that have not been exposed to near surface leaching processes. As a result, the ^{234}U and ^{238}U isotopes come into secular equilibrium, which means they both have the same activity ratios, and the ^{234}U and ^{238}U AR values are near 1. The relatively fast leaching processes in a uranium mill result in waters that retain the ^{234}U and ^{238}U AR near 1, which allows these mill-related waters to be distinguished from potential "background" waters that have naturally occurring uranium. However, ^{234}U and ^{238}U AR values are not always definitive, and determining whether uranium content in groundwater is from natural or mill-related processes is often inconclusive.

Uranium isotopes analysis was performed for the seep and surface water samples collected at the site in 2015 and 2016. With the available data, the ^{234}U and ^{238}U AR data were plotted as a function of the uranium concentration (Figure 29), similar to that in Zielinski et al. (1997), to analyze the mixing potential of the individual samples. The ^{234}U and ^{238}U AR results at Seep 0248 were in the range of 1.2 to 1.3, with uranium concentrations ranging from 0.34 to 0.42 mg/L (Figure 29). Downstream Gypsum Creek surface water location 0266 had similar ^{234}U and ^{238}U ARs of 1.1 to 1.3, with lower uranium concentrations (0.081 to 0.092 mg/L) (Figure 29). Upstream Gypsum Creek surface water location 0267 returned ^{234}U and ^{238}U AR values of 1.4 to 1.6, with uranium concentrations less than 0.022 mg/L (Figure 29); the results at this location are likely representative of naturally occurring uranium. However, these ^{234}U and ^{238}U ARs are not definitively diagnostic of either mill-related or naturally occurring uranium; Seep 0248 and surface water location 0266 are likely a mix of the two. Additional data from groundwater samples that are definitely known to have mill-related or naturally occurring uranium would be necessary for a better determination of the uranium source. However, based on the uranium content of these samples compared to historical sample results at the site, as well as the limited exposure risks associated with the seeps at the site (see Section 5.0, "Risk Assessment"), additional sample collection and isotopic analyses are not warranted.

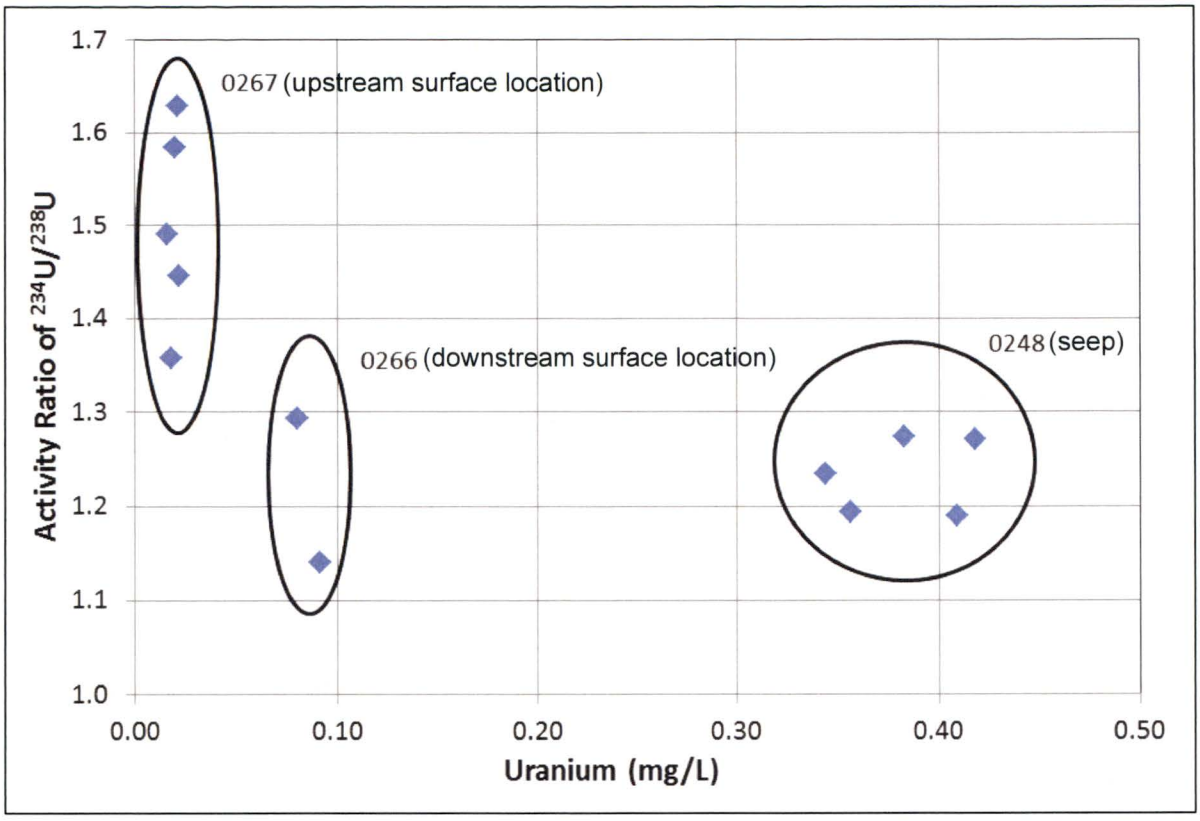


Figure 29. Activities Ratios of ^{234}U and ^{238}U as a Function of Uranium Concentrations for Seep (0248) and Surface Water (0266 and 0267) Locations Sampled in 2015 and 2016

5.0 Risk Assessment

This section serves as the basis for recommendations made regarding the need for continued seep monitoring at the site (Section 6.0). Because the surrounding site conditions and land use have not changed significantly, the conclusions reached in the risk assessment for exposure to seep water downgradient from the site (previously presented in DOE 2002) still apply. Flow at the seeps has progressively decreased over time to the point where one seep (Seep 0248) continues to exhibit minor visible seepage. Upgradient (background) Seep 0261 exhibited flowing conditions during the 2018 annual inspection. With the exception of the aforementioned seeps, no other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005 (Table 1). The decreased flow at the seeps is likely attributable to the gradual dewatering of the zones of perched water that remained after milling and remediation activities (DOE 2006). In addition to the tabulated observations in Table 1, seep conditions have been documented annually with a series of photographs; selected photographs are provided in Appendix A.

Risk calculations for human health associated with the seeps at the Mexican Hat site were provided in the Site Observational Work Plan (SOWP) (DOE 1998). The Navajo Nation concurred in a July 3, 2002, letter to DOE that the errors observed in the human and ecological risk assessment in the SOWP were addressed in the updated risk assessment for exposure to seep

water presented in the *Assessment of Seeps at the Mexican Hat, Utah, UMTRCA Project Site* report (DOE 2002) and that no changes to the SOWP were necessary.

The SOWP risk assessment calculations were based on the ingestion of meat and milk from sheep and cattle that drank seep water. Given that the seeps have not exhibited flowing conditions during inspections for at least 10 years and that one seep is exhibiting minor visible seepage (i.e., not steady flow), these potential pathways are currently unrealistic. Even if prolonged exposures were possible, the risk assessment results indicated that no unacceptable risks were associated with these pathways. Ingestion of seep water as a primary drinking water source was not considered to be a complete pathway in the SOWP risk assessment because the nearest residence was more than a mile from the site in the town of Halchita, and the town was served by a municipal system; these conditions still apply and continue to be relevant regarding site related risk. Potential risks associated with incidental exposure to seep water also continue to be negligible. Therefore, the conclusion reached in the SOWP risk assessment (DOE 1998) (i.e., that the seeps at the site posed no unacceptable human health risks) remains applicable.

The conclusions reached by previously performed ecological risk assessments also still apply because surrounding site conditions and land use have not changed significantly. A conservative screening-level ecological risk assessment was first performed for groundwater seeps at the site (Duncan et al. 1994). That assessment identified several constituents (boron, nitrate, selenium, silica, and uranium) with the potential for posing unacceptable risks to ecological receptors. Those constituents were reevaluated using more recent monitoring data, updated toxicological data, and a more reasonable exposure scenario (DOE 2002). In this reevaluation, water was considered to be the only medium of concern. Livestock were the receptors evaluated, and it was assumed that potential risks to any other wildlife receptors would be similar to those for livestock. Maximum surface water concentrations from any seep used in the previous calculations were used in this reevaluation to be conservative. The exposure assumptions made in the SOWP (DOE 1998) were used in the calculations. Specifically, the assumption was made that receptors would only be exposed to the seeps for one day per week because water in the seeps is limited, the home range for livestock and wildlife of concern is fairly large, and there are other more significant sources of water within the home range. Toxicity benchmarks used for calculations in the reevaluation were commonly accepted for performing DOE ecological risk assessments (Sample et al. 1996). Results of the reevaluation indicate that potential risks to livestock and wildlife through ingestion of seep water are negligible. Hazard quotients for livestock receptors for the three contaminants evaluated are all more than an order of magnitude below the maximum acceptable level. It is probable that potential risks to any other wildlife receptors (e.g., coyotes) would be equally low.

Groundwater monitoring results confirm that site-related contamination is not present in the uppermost aquifer beneath the site (Section 4.2). This is because the uppermost aquifer is hydrogeologically isolated and protected from contamination within the overlying perched groundwater by effective confining layers and an upward hydraulic gradient. Therefore, no risk assessment regarding exposure to groundwater in the uppermost aquifer is necessary.

6.0 Conclusions and Recommendations

Site-related contamination is present within scattered groundwater perched on low permeability lenses in the upper unit of the Halgaito Formation. The perched water migrates laterally to seeps in the adjacent North Arroyo and Gypsum Creek. The source of the perched water was primarily related to milling and remediation activities at the site. Since the construction of the disposal cell the source of the perched water has been reduced, and the perched zones that feed the seeps have been dissipating. This is evidenced by the fact that observable flow at the seeps has progressively decreased throughout the extent of visual observational seep monitoring to the point where one seep (Seep 0248) continues to exhibit minor visible seepage. Upgradient (background) Seep 0261 exhibited flowing conditions during the 2018 inspection. With the exception of the aforementioned seeps, no other visually monitored seeps have exhibited evidence of seepage during inspections since at least 2010, and no seeps have exhibited steady flow during inspections since at least 2005. Seep 0248 is located crossgradient from the disposal cell and has consistently exhibited minor visible seepage.

The seeps, both currently and historically (i.e., when they were flowing), do not provide sufficient volume to present a significant risk to human health and the environment (DOE 2006). The remote location of these seeps and minimal grazing in the area also greatly reduce the likelihood of any significant human health risks associated with the seep water. The potential ecological risks to wildlife through ingestion of contaminated seep water are negligible.

The seep and surface water samples collected in 2015 and 2016 provide supporting evidence that PCOC concentrations have not increased at the sampled locations as a result of decreased groundwater discharges at the visually monitored seep locations. The uranium results from Seep 0248 were consistent with historical results at this location. Uranium concentrations at the upstream Gypsum Creek location were about half the uranium MCL, and the downstream location was about double the uranium MCL. Uranium concentrations in downgradient Gypsum Creek seeps have historically been about an order of magnitude (10 times) above the MCL, but they have been below the Navajo Nation SWS.

Given that the seeps are nearly all dry and that there are no significant human or environmental health risks associated with the groundwater seeps, there is no need to resume water quality monitoring at the site. Visual observations, photographs, and qualitative flow estimates will continue to be made during annual site inspections to document seep conditions; the need to continue long-term visual monitoring of the seeps may be revisited in the future. Seeps proposed for continued visual monitoring during annual site inspections are shown on Figure 30. Upgradient (background) Seep 0261 is proposed to be removed from the annual visual monitoring program. Seep 0261 will only be visually assessed during annual site inspections in the event that Seep 0248 exhibits increased flow or other changed conditions in Gypsum Creek indicate the potential for substantial upgradient effects. The utility of collecting water quality samples at groundwater seeps may be reevaluated if observed seep flows appreciably increase in the future.

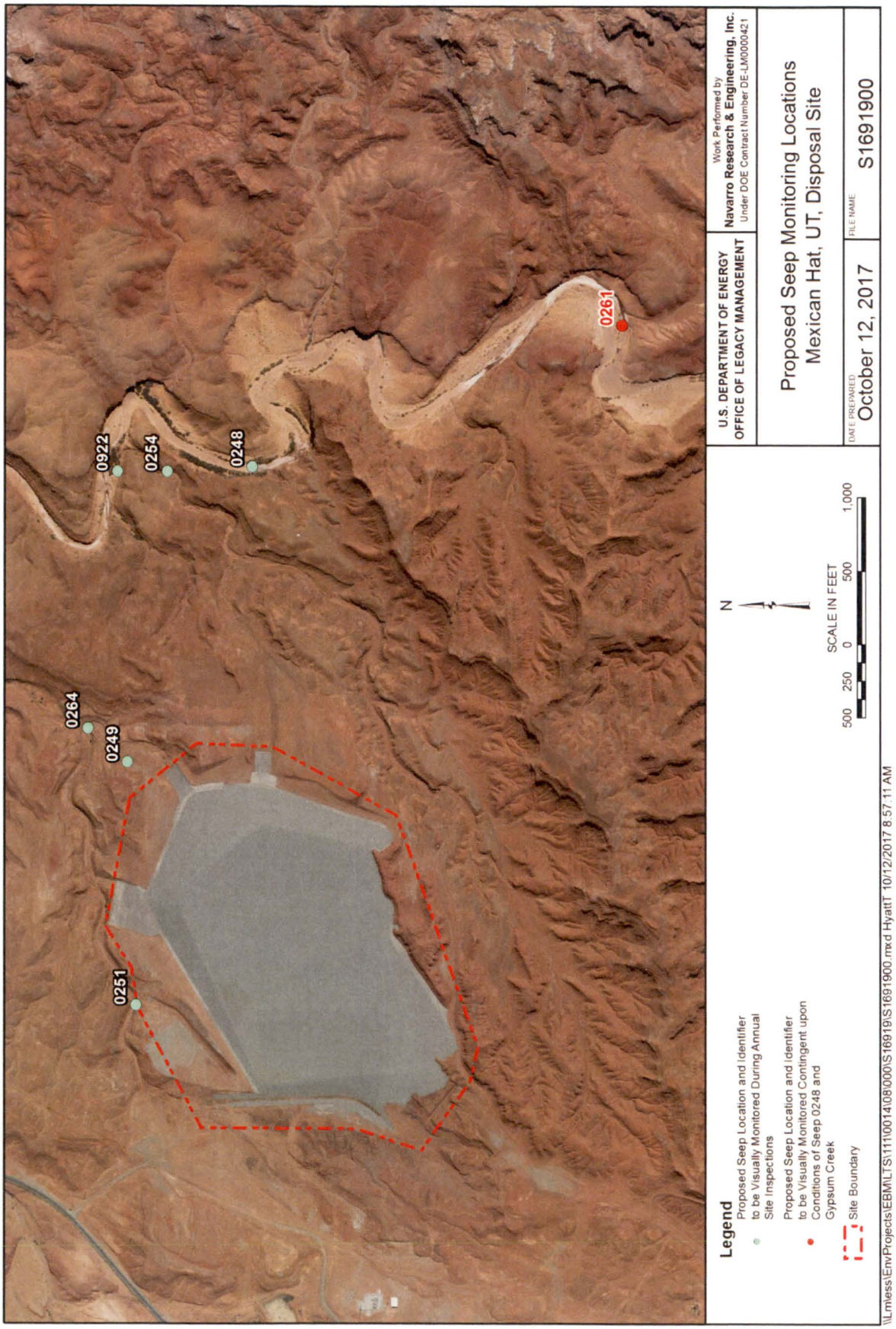


Figure 30. Proposed Seep Monitoring Locations at the Mexican Hat, Utah, Disposal Site

7.0 References

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Appendix A

Photographs of Seeps Monitored from 2008 through 2017

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Seep 0251 in North Arroyo; View to the South (April 29, 2008)

Seep 0251 in North Arroyo; View to the South (April 11, 2017)

Seep 0264 in North Arroyo; View to the South (April 29, 2008)

Seep 0264 in North Arroyo; View to the South (April 11, 2017)

Seep 0249 in Gully 2; View to the Northwest (April 29, 2008)

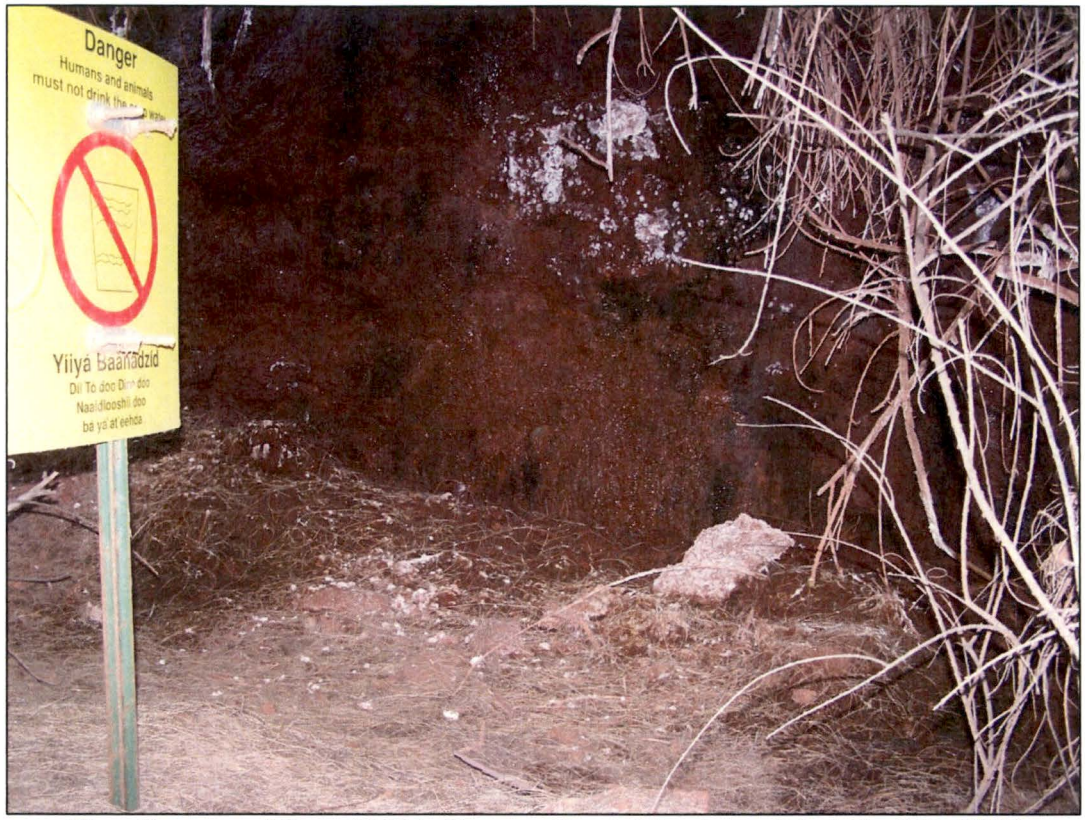
Seep 0249 in Gully 2; View to the Northwest (April 11, 2017)

Seep 0922 in Gypsum Creek; View to the South (April 29, 2008)

Seep 0922 in Gypsum Creek (Covered in Sandbar); View to the West/Southwest (April 11, 2017)

Seep 0254 in South Arroyo; View to the West/Southwest (April 29, 2008)

Seep 0254 in South Arroyo; View to the West/Southwest (April 11, 2017)



Minor Seepage at Seep 0248 in Gypsum Creek; View to the West (April 29, 2008)

Pooled Water Below Seep 0248 in Gypsum Creek; View to the Northwest (April 29, 2008)

Minor Seepage at Seep 0248 in Gypsum Creek; View to the Southwest (April 11, 2017)

Pooled Water Below Seep 0248 in Gypsum Creek; View to the Northwest (April 11, 2017)

Evaporites Along Gypsum Creek and Relative Seep Locations; View to the South (April 11, 2017)

Location of Seep 0261 in Gypsum Creek; View to the Southeast (April 11, 2017)

Appendix B

Water Quality Data

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Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0907	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	1	mg/L	1
0908	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	1	mg/L	1
0909	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	1.1	mg/L	1
0909	WL	GW	Nitrate + Nitrite as Nitrogen	11/18/1988	2.5	mg/L	1
0909	WL	GW	Nitrate + Nitrite as Nitrogen	04/25/1991	1.71	mg/L	0.05
0910	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	4.1	mg/L	1
0912	WL	GW	Nitrate + Nitrite as Nitrogen	05/18/1988	65	mg/L	1
0912	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	52	mg/L	1
0930	WL	GW	Nitrate + Nitrite as Nitrogen	05/18/1988	1	mg/L	1
0930	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	1	mg/L	1
0930	WL	GW	Nitrate + Nitrite as Nitrogen	11/18/1988	1	mg/L	1
0934	WL	GW	Nitrate + Nitrite as Nitrogen	08/30/1988	1	mg/L	1
0934	WL	GW	Nitrate + Nitrite as Nitrogen	11/18/1988	1	mg/L	1
0934	WL	GW	Nitrate + Nitrite as Nitrogen	10/04/1990	2.23	mg/L	1
0934	WL	GW	Nitrate + Nitrite as Nitrogen	04/24/1991	1.31	mg/L	0.05
0899	WL	GW	Nitrate as NO3	11/09/2000	0.0314	mg/L	0.0314
0899	WL	GW	Nitrate as NO3	11/13/2000	0.0314	mg/L	0.0314
0899	WL	GW	Nitrate as NO3	05/24/2001	0.0171	mg/L	0.0171
0899	WL	GW	Nitrate as NO3	11/14/2001	0.0305	mg/L	0.0305
0899	WL	GW	Nitrate as NO3	05/22/2002	0.0936	mg/L	0.02
0899	WL	GW	Nitrate as NO3	08/05/2002	0.02	mg/L	0.02
0907	WL	GW	Nitrate as NO3	04/11/1985	0.1	mg/L	0.1
0907	WL	GW	Nitrate as NO3	07/26/1985	1	mg/L	1
0907	WL	GW	Nitrate as NO3	07/26/1985	1	mg/L	1
0907	WL	GW	Nitrate as NO3	07/26/1985	1	mg/L	1
0907	WL	GW	Nitrate as NO3	07/26/1985	1	mg/L	1
0907	WL	GW	Nitrate as NO3	07/26/1985	1	mg/L	1
0907	WL	GW	Nitrate as NO3	08/30/1988	1	mg/L	1
0908	WL	GW	Nitrate as NO3	04/12/1985	0.6	mg/L	0
0908	WL	GW	Nitrate as NO3	04/12/1985	0.6	mg/L	0
0908	WL	GW	Nitrate as NO3	04/12/1985	1.3	mg/L	0
0908	WL	GW	Nitrate as NO3	04/12/1985	2	mg/L	0
0908	WL	GW	Nitrate as NO3	04/12/1985	0.1	mg/L	0.1
0908	WL	GW	Nitrate as NO3	07/28/1985	1	mg/L	1
0908	WL	GW	Nitrate as NO3	08/30/1988	1	mg/L	1
0909	WL	GW	Nitrate as NO3	04/10/1985	0.8	mg/L	0
0909	WL	GW	Nitrate as NO3	07/27/1985	4	mg/L	1
0909	WL	GW	Nitrate as NO3	08/30/1988	5.2	mg/L	1
0909	WL	GW	Nitrate as NO3	11/18/1988	11.1	mg/L	1
0909	WL	GW	Nitrate as NO3	04/25/1991	7.5	mg/L	1
0909	WL	GW	Nitrate as NO3	08/22/1991	7.1	mg/L	0.22
0909	WL	GW	Nitrate as NO3	12/13/1991	9.7	mg/L	1
0909	WL	GW	Nitrate as NO3	08/08/1992	10	mg/L	0.075
0909	WL	GW	Nitrate as NO3	11/19/1992	9.5	mg/L	0.1
0909	WL	GW	Nitrate as NO3	06/23/1993	8	mg/L	1
0909	WL	GW	Nitrate as NO3	04/26/1994	9.2	mg/L	1
0909	WL	GW	Nitrate as NO3	12/11/1994	8.2	mg/L	1
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0909	WL	GW	Nitrate as NO3	11/18/1995	12	mg/L	1
0909	WL	GW	Nitrate as NO3	05/15/1998	7.79	mg/L	0
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0909	WL	GW	Nitrate as NO3	05/24/2001	6.15	mg/L	0.0171
0909	WL	GW	Nitrate as NO3	11/14/2001	5.59	mg/L	0.0305
0909	WL	GW	Nitrate as NO3	05/22/2002	4.77	mg/L	0.02
0909	WL	GW	Nitrate as NO3	08/05/2002	4.52	mg/L	0.02
0910	WL	GW	Nitrate as NO3	08/30/1988	18	mg/L	1
0911	WL	GW	Nitrate as NO3	04/13/1985	8.1	mg/L	0
0912	WL	GW	Nitrate as NO3	04/13/1985	8	mg/L	0
0912	WL	GW	Nitrate as NO3	07/29/1985	1	mg/L	1
0912	WL	GW	Nitrate as NO3	05/18/1988	286	mg/L	1

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0912	WL	GW	Nitrate as NO3	08/30/1988	230	mg/L	1
0920	WL	GW	Nitrate as NO3	04/13/1985	0.7	mg/L	1
0921	WL	GW	Nitrate as NO3	04/12/1985	0.1	mg/L	1
0930	WL	GW	Nitrate as NO3	10/30/1985	0.4	mg/L	1
0930	WL	GW	Nitrate as NO3	05/18/1988	1	mg/L	1
0930	WL	GW	Nitrate as NO3	08/30/1988	1	mg/L	1
0930	WL	GW	Nitrate as NO3	11/18/1988	1	mg/L	1
0934	WL	GW	Nitrate as NO3	11/01/1985	62	mg/L	1
0934	WL	GW	Nitrate as NO3	08/30/1988	1	mg/L	1
0934	WL	GW	Nitrate as NO3	11/18/1988	1	mg/L	1
0934	WL	GW	Nitrate as NO3	06/05/1989	32	mg/L	1
0934	WL	GW	Nitrate as NO3	11/30/1989	12.4	mg/L	1
0934	WL	GW	Nitrate as NO3	10/04/1990	9.8	mg/L	1
0934	WL	GW	Nitrate as NO3	04/24/1991	5.8	mg/L	1
0934	WL	GW	Nitrate as NO3	08/22/1991	0.93	mg/L	0.22
0934	WL	GW	Nitrate as NO3	12/12/1991	2.2	mg/L	1
0934	WL	GW	Nitrate as NO3	04/15/1997	0.255	mg/L	0
0934	WL	GW	Nitrate as NO3	11/20/1997	1.15	mg/L	0
0934	WL	GW	Nitrate as NO3	05/31/2000	1.65	mg/L	0.0314
0934	WL	GW	Nitrate as NO3	11/15/2000	0.805	mg/L	0.0314
0935	WL	GW	Nitrate as NO3	11/01/1985	80	mg/L	1
0935	WL	GW	Nitrate as NO3	02/16/1999	0.412	mg/L	0
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0899	WL	GW	Sulfate	08/05/2002	4320	mg/L	1.97
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0909	WL	GW	Sulfate	12/13/1991	2320	mg/L	10
0909	WL	GW	Sulfate	08/08/1992	2000	mg/L	1.2
0909	WL	GW	Sulfate	11/19/1992	2150	mg/L	1
0909	WL	GW	Sulfate	11/19/1992	2140	mg/L	1
0909	WL	GW	Sulfate	06/23/1993	2250	mg/L	1
0909	WL	GW	Sulfate	04/26/1994	2420	mg/L	26
0909	WL	GW	Sulfate	04/26/1994	2390	mg/L	26
0909	WL	GW	Sulfate	12/11/1994	2250	mg/L	25
0909	WL	GW	Sulfate	04/26/1995	1750	mg/L	8
0909	WL	GW	Sulfate	11/18/1995	2800	mg/L	1
0909	WL	GW	Sulfate	05/15/1998	2200	mg/L	0
0909	WL	GW	Sulfate	11/20/1998	2180	mg/L	0
0909	WL	GW	Sulfate	02/17/1999	2140	mg/L	0
0909	WL	GW	Sulfate	05/30/2000	2150	mg/L	0.589
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0909	WL	GW	Sulfate	05/24/2001	2290	mg/L	0.1265
0909	WL	GW	Sulfate	11/14/2001	2500	mg/L	2.05

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0909	WL	GW	Sulfate	05/22/2002	2210	mg/L	1.97
0909	WL	GW	Sulfate	08/05/2002	2180	mg/L	1.576
0910	WL	GW	Sulfate	07/30/1985	947	mg/L	0.1
0910	WL	GW	Sulfate	08/30/1988	901	mg/L	0.1
0911	WL	GW	Sulfate	04/13/1985	3170	mg/L	0
0912	WL	GW	Sulfate	04/13/1985	3040	mg/L	0
0912	WL	GW	Sulfate	07/29/1985	3100	mg/L	0.1
0912	WL	GW	Sulfate	05/18/1988	3910	mg/L	0.1
0912	WL	GW	Sulfate	08/30/1988	3600	mg/L	0.1
0920	WL	GW	Sulfate	04/13/1985	7810	mg/L	0.1
0921	WL	GW	Sulfate	04/12/1985	212	mg/L	0.1
0930	WL	GW	Sulfate	10/30/1985	1190	mg/L	0.1
0930	WL	GW	Sulfate	05/18/1988	1210	mg/L	0.1
0930	WL	GW	Sulfate	08/30/1988	1180	mg/L	0.1
0930	WL	GW	Sulfate	11/18/1988	1180	mg/L	0.1
0934	WL	GW	Sulfate	11/01/1985	722	mg/L	0.1
0934	WL	GW	Sulfate	08/30/1988	4050	mg/L	0.1
0934	WL	GW	Sulfate	11/18/1988	7200	mg/L	0.1
0934	WL	GW	Sulfate	06/05/1989	7890	mg/L	0.1
0934	WL	GW	Sulfate	11/30/1989	7710	mg/L	0.1
0934	WL	GW	Sulfate	06/21/1990	6801.3	mg/L	0.1
0934	WL	GW	Sulfate	10/04/1990	7090	mg/L	0.1
0934	WL	GW	Sulfate	04/24/1991	7420	mg/L	10
0934	WL	GW	Sulfate	08/22/1991	7500	mg/L	1
0934	WL	GW	Sulfate	12/12/1991	811	mg/L	10
0934	WL	GW	Sulfate	04/15/1997	7740	mg/L	0
0934	WL	GW	Sulfate	11/20/1997	7750	mg/L	0
0934	WL	GW	Sulfate	05/31/2000	4340	mg/L	2.945
0934	WL	GW	Sulfate	11/15/2000	6580	mg/L	0.589
0935	WL	GW	Sulfate	11/01/1985	721	mg/L	0.1
0935	WL	GW	Sulfate	02/16/1999	4240	mg/L	0
0899	WL	GW	Total Dissolved Solids	11/13/2000	7300	mg/L	10
0899	WL	GW	Total Dissolved Solids	05/24/2001	7220	mg/L	10
0899	WL	GW	Total Dissolved Solids	11/14/2001	6920	mg/L	10
0899	WL	GW	Total Dissolved Solids	05/22/2002	7940	mg/L	10
0899	WL	GW	Total Dissolved Solids	08/05/2002	7600	mg/L	10
0907	WL	GW	Total Dissolved Solids	04/11/1985	5870	mg/L	10
0907	WL	GW	Total Dissolved Solids	07/26/1985	5830	mg/L	10
0907	WL	GW	Total Dissolved Solids	07/26/1985	5860	mg/L	10
0907	WL	GW	Total Dissolved Solids	07/26/1985	5840	mg/L	10
0907	WL	GW	Total Dissolved Solids	07/26/1985	5850	mg/L	10
0907	WL	GW	Total Dissolved Solids	07/26/1985	5850	mg/L	10
0907	WL	GW	Total Dissolved Solids	08/30/1988	5570	mg/L	10
0908	WL	GW	Total Dissolved Solids	04/12/1985	6320	mg/L	10
0908	WL	GW	Total Dissolved Solids	04/12/1985	6370	mg/L	10
0908	WL	GW	Total Dissolved Solids	04/12/1985	6400	mg/L	10
0908	WL	GW	Total Dissolved Solids	04/12/1985	6300	mg/L	10
0908	WL	GW	Total Dissolved Solids	04/12/1985	6340	mg/L	10
0908	WL	GW	Total Dissolved Solids	07/28/1985	6550	mg/L	10
0908	WL	GW	Total Dissolved Solids	08/30/1988	6580	mg/L	10
0909	WL	GW	Total Dissolved Solids	04/10/1985	3880	mg/L	10
0909	WL	GW	Total Dissolved Solids	07/27/1985	3730	mg/L	10
0909	WL	GW	Total Dissolved Solids	08/30/1988	3170	mg/L	10
0909	WL	GW	Total Dissolved Solids	11/18/1988	3370	mg/L	10
0909	WL	GW	Total Dissolved Solids	04/25/1991	3690	mg/L	10
0909	WL	GW	Total Dissolved Solids	08/22/1991	3700	mg/L	10
0909	WL	GW	Total Dissolved Solids	12/13/1991	3710	mg/L	10
0909	WL	GW	Total Dissolved Solids	08/08/1992	3700	mg/L	42
0909	WL	GW	Total Dissolved Solids	06/23/1993	3660	mg/L	10
0909	WL	GW	Total Dissolved Solids	04/26/1994	3780	mg/L	10
0909	WL	GW	Total Dissolved Solids	12/11/1994	3880	mg/L	10
0909	WL	GW	Total Dissolved Solids	04/26/1995	2990	mg/L	10
0909	WL	GW	Total Dissolved Solids	11/18/1995	3500	mg/L	10
0909	WL	GW	Total Dissolved Solids	05/15/1998	3590	mg/L	0
0909	WL	GW	Total Dissolved Solids	11/20/1998	3920	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0909	WL	GW	Total Dissolved Solids	02/17/1999	3730	mg/L	0
0909	WL	GW	Total Dissolved Solids	05/30/2000	3730	mg/L	10
0909	WL	GW	Total Dissolved Solids	11/14/2000	3580	mg/L	10
0909	WL	GW	Total Dissolved Solids	05/24/2001	3660	mg/L	10
0909	WL	GW	Total Dissolved Solids	11/14/2001	3760	mg/L	10
0909	WL	GW	Total Dissolved Solids	05/22/2002	3730	mg/L	10
0909	WL	GW	Total Dissolved Solids	08/05/2002	3740	mg/L	10
0910	WL	GW	Total Dissolved Solids	07/30/1985	1870	mg/L	10
0910	WL	GW	Total Dissolved Solids	08/30/1988	1670	mg/L	10
0911	WL	GW	Total Dissolved Solids	04/13/1985	1960	mg/L	10
0912	WL	GW	Total Dissolved Solids	04/13/1985	5250	mg/L	10
0912	WL	GW	Total Dissolved Solids	07/29/1985	5390	mg/L	10
0912	WL	GW	Total Dissolved Solids	05/18/1988	6670	mg/L	10
0912	WL	GW	Total Dissolved Solids	08/30/1988	6190	mg/L	10
0920	WL	GW	Total Dissolved Solids	04/13/1985	12000	mg/L	10
0921	WL	GW	Total Dissolved Solids	04/12/1985	5610	mg/L	10
0930	WL	GW	Total Dissolved Solids	10/30/1985	1870	mg/L	10
0930	WL	GW	Total Dissolved Solids	05/18/1988	1860	mg/L	10
0930	WL	GW	Total Dissolved Solids	08/30/1988	1820	mg/L	10
0930	WL	GW	Total Dissolved Solids	11/18/1988	1900	mg/L	10
0934	WL	GW	Total Dissolved Solids	11/01/1985	1840	mg/L	10
0934	WL	GW	Total Dissolved Solids	08/30/1988	22000	mg/L	10
0934	WL	GW	Total Dissolved Solids	11/18/1988	22480	mg/L	10
0934	WL	GW	Total Dissolved Solids	06/05/1989	25500	mg/L	10
0934	WL	GW	Total Dissolved Solids	11/30/1989	25700	mg/L	10
0934	WL	GW	Total Dissolved Solids	06/21/1990	25552	mg/L	10
0934	WL	GW	Total Dissolved Solids	10/04/1990	25800	mg/L	10
0934	WL	GW	Total Dissolved Solids	04/24/1991	27800	mg/L	10
0934	WL	GW	Total Dissolved Solids	08/22/1991	29000	mg/L	10
0934	WL	GW	Total Dissolved Solids	12/12/1991	27900	mg/L	10
0934	WL	GW	Total Dissolved Solids	04/15/1997	29200	mg/L	0
0934	WL	GW	Total Dissolved Solids	11/20/1997	27900	mg/L	0
0934	WL	GW	Total Dissolved Solids	05/31/2000	17500	mg/L	10
0934	WL	GW	Total Dissolved Solids	11/15/2000	23800	mg/L	10
0935	WL	GW	Total Dissolved Solids	11/01/1985	4250	mg/L	10
0935	WL	GW	Total Dissolved Solids	02/16/1999	9490	mg/L	0
0899	WL	GW	Uranium	11/09/2000	0.0213	mg/L	0.0001
0899	WL	GW	Uranium	11/13/2000	0.0139	mg/L	0.0001
0899	WL	GW	Uranium	05/24/2001	0.0082	mg/L	0.0001
0899	WL	GW	Uranium	11/14/2001	0.0085	mg/L	0.0001
0899	WL	GW	Uranium	05/22/2002	0.0096	mg/L	0.0001
0899	WL	GW	Uranium	08/05/2002	0.0106	mg/L	0.0001
0907	WL	GW	Uranium	04/11/1985	0.0028	mg/L	0.003
0907	WL	GW	Uranium	07/26/1985	0.0014	mg/L	0.003
0907	WL	GW	Uranium	07/26/1985	0.0018	mg/L	0.003
0907	WL	GW	Uranium	07/26/1985	0.0016	mg/L	0.003
0907	WL	GW	Uranium	07/26/1985	0.0022	mg/L	0.003
0907	WL	GW	Uranium	07/26/1985	0.002	mg/L	0.003
0907	WL	GW	Uranium	08/30/1988	0.0031	mg/L	0.003
0908	WL	GW	Uranium	04/12/1985	0.0028	mg/L	0.003
0908	WL	GW	Uranium	04/12/1985	0.0025	mg/L	0.003
0908	WL	GW	Uranium	04/12/1985	0.0024	mg/L	0.003
0908	WL	GW	Uranium	04/12/1985	0.0026	mg/L	0.003
0908	WL	GW	Uranium	04/12/1985	0.0027	mg/L	0.003
0908	WL	GW	Uranium	07/28/1985	0.0043	mg/L	0.003
0908	WL	GW	Uranium	08/30/1988	0.0038	mg/L	0.003
0909	WL	GW	Uranium	04/10/1985	0.0512	mg/L	0.003
0909	WL	GW	Uranium	07/27/1985	0.0453	mg/L	0.003
0909	WL	GW	Uranium	08/30/1988	0.0385	mg/L	0.003
0909	WL	GW	Uranium	11/18/1988	0.046	mg/L	0.003
0909	WL	GW	Uranium	04/25/1991	0.05	mg/L	0.001
0909	WL	GW	Uranium	08/22/1991	0.0636	mg/L	0.0003
0909	WL	GW	Uranium	12/13/1991	0.041	mg/L	0.001
0909	WL	GW	Uranium	11/19/1992	0.047	mg/L	0.001
0909	WL	GW	Uranium	11/19/1992	0.049	mg/L	0.001

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0909	WL	GW	Uranium	06/23/1993	0.046	mg/L	0.001
0909	WL	GW	Uranium	06/23/1993	0.047	mg/L	0.001
0909	WL	GW	Uranium	04/26/1994	0.051	mg/L	0.001
0909	WL	GW	Uranium	04/26/1994	0.051	mg/L	0.001
0909	WL	GW	Uranium	12/11/1994	0.052	mg/L	0.001
0909	WL	GW	Uranium	04/26/1995	0.042	mg/L	0.001
0909	WL	GW	Uranium	11/18/1995	0.047	mg/L	0.001
0909	WL	GW	Uranium	05/15/1998	0.0461	mg/L	0
0909	WL	GW	Uranium	11/20/1998	0.0465	mg/L	0
0909	WL	GW	Uranium	02/17/1999	0.0456	mg/L	0
0909	WL	GW	Uranium	05/30/2000	0.0442	mg/L	0.0001
0909	WL	GW	Uranium	11/14/2000	0.0432	mg/L	0.0001
0909	WL	GW	Uranium	05/24/2001	0.0416	mg/L	0.0001
0909	WL	GW	Uranium	11/14/2001	0.0444	mg/L	0.0001
0909	WL	GW	Uranium	05/22/2002	0.0424	mg/L	0.0001
0909	WL	GW	Uranium	08/05/2002	0.0423	mg/L	0.0001
0910	WL	GW	Uranium	07/30/1985	0.0334	mg/L	0.003
0910	WL	GW	Uranium	08/30/1988	0.0313	mg/L	0.003
0911	WL	GW	Uranium	04/13/1985	0.602	mg/L	0.003
0912	WL	GW	Uranium	04/13/1985	0.737	mg/L	0.003
0912	WL	GW	Uranium	07/29/1985	0.776	mg/L	0.003
0912	WL	GW	Uranium	05/18/1988	0.76	mg/L	0.003
0912	WL	GW	Uranium	08/30/1988	0.752	mg/L	0.003
0920	WL	GW	Uranium	04/13/1985	3.31	mg/L	0.003
0921	WL	GW	Uranium	04/12/1985	0.0003	mg/L	0.003
0930	WL	GW	Uranium	10/30/1985	0.0012	mg/L	0.003
0930	WL	GW	Uranium	05/18/1988	0.003	mg/L	0.003
0930	WL	GW	Uranium	08/30/1988	0.0003	mg/L	0.003
0930	WL	GW	Uranium	11/18/1988	0.003	mg/L	0.003
0934	WL	GW	Uranium	11/01/1985	0.0078	mg/L	0.003
0934	WL	GW	Uranium	08/30/1988	0.0145	mg/L	0.003
0934	WL	GW	Uranium	11/18/1988	0.035	mg/L	0.003
0934	WL	GW	Uranium	06/05/1989	0.048	mg/L	0.003
0934	WL	GW	Uranium	11/30/1989	0.017	mg/L	0.003
0934	WL	GW	Uranium	06/21/1990	0.0003	mg/L	0.0003
0934	WL	GW	Uranium	10/04/1990	0.001	mg/L	0.001
0934	WL	GW	Uranium	04/24/1991	0.001	mg/L	0.001
0934	WL	GW	Uranium	12/12/1991	0.001	mg/L	0.001
0934	WL	GW	Uranium	04/15/1997	0.0017	mg/L	0
0934	WL	GW	Uranium	05/31/2000	0.0023	mg/L	0.0001
0934	WL	GW	Uranium	11/15/2000	0.0014	mg/L	0.0001
0935	WL	GW	Uranium	11/01/1985	0.0003	mg/L	0.003
0935	WL	GW	Uranium	02/16/1999	0.001	mg/L	0.001
0999	BH	GW	Uranium	04/28/1994	0.002	mg/L	0.001

Sample Location	Location Type	Location Subtype	Analyte	Sample Date	Result	Unit	Detection Limit
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/23/1990	10.6	mg/L	1
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/03/1990	11.4	mg/L	1
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/25/1991	12.5	mg/L	0.05
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/27/2005	32	mg/L	0.2
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	09/09/2015	24	mg/L	0.25
0248	SL	SEEP	Nitrate + Nitrite as Nitrogen	03/15/2016	22	mg/L	1
0249	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/23/1990	37.2	mg/L	1
0249	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/03/1990	38.6	mg/L	1
0249	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/24/1991	34.8	mg/L	0.05
0251	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/23/1990	62.6	mg/L	1
0251	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/05/1990	6.7	mg/L	1
0251	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/24/1991	80.6	mg/L	0.05
0253	SL	SEEP	Nitrate + Nitrite as Nitrogen	05/10/1991	8.28	mg/L	0.05
0254	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/03/1990	225	mg/L	1
0254	SL	SEEP	Nitrate + Nitrite as Nitrogen	05/10/1991	176	mg/L	0.05
0254	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/27/2005	160	mg/L	1
0255	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/24/1991	68.8	mg/L	0.05
0256	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/05/1990	0.05	mg/L	1
0256	SL	SEEP	Nitrate + Nitrite as Nitrogen	06/05/1991	0.85	mg/L	0.05

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0261	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/03/1990	0.08	mg/L	1
0261	SL	SEEP	Nitrate + Nitrite as Nitrogen	05/11/1991	2.04	mg/L	0.05
0261	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/27/2005	0.01	mg/L	0.01
0264	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/27/2005	74	mg/L	0.5
0266	SL		Nitrate + Nitrite as Nitrogen	09/09/2015	9.3	mg/L	0.2
0267	SL		Nitrate + Nitrite as Nitrogen	09/09/2015	0.54	mg/L	0.01
0267	SL		Nitrate + Nitrite as Nitrogen	03/15/2016	0.7	mg/L	0.1
0267	SL		Nitrate + Nitrite as Nitrogen	10/03/2016	0.83	mg/L	0.01
0922	SL	SEEP	Nitrate + Nitrite as Nitrogen	06/01/1988	5	mg/L	1
0922	SL	SEEP	Nitrate + Nitrite as Nitrogen	08/30/1988	2.2	mg/L	1
0922	SL	SEEP	Nitrate + Nitrite as Nitrogen	10/03/1990	76.4	mg/L	1
0922	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/25/1991	8.48	mg/L	0.05
0922	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/27/2005	31	mg/L	0.2
0923	SL	SEEP	Nitrate + Nitrite as Nitrogen	06/01/1988	3.2	mg/L	1
0923	SL	SEEP	Nitrate + Nitrite as Nitrogen	04/25/1991	0.35	mg/L	0.05
0924	SL	SEEP	Nitrate + Nitrite as Nitrogen	08/30/1988	1.2	mg/L	1
0925	SL		Nitrate + Nitrite as Nitrogen	06/01/1988	1	mg/L	1
0925	SL		Nitrate + Nitrite as Nitrogen	08/30/1988	1	mg/L	1
0248	SL	SEEP	Nitrate as NO3	04/23/1990	4.7	mg/L	1
0248	SL	SEEP	Nitrate as NO3	06/25/1990	45	mg/L	1
0248	SL	SEEP	Nitrate as NO3	10/03/1990	50.2	mg/L	1
0248	SL	SEEP	Nitrate as NO3	04/25/1991	55.3	mg/L	1
0248	SL	SEEP	Nitrate as NO3	08/24/1991	49	mg/L	0.22
0248	SL	SEEP	Nitrate as NO3	12/13/1991	45.6	mg/L	4
0248	SL	SEEP	Nitrate as NO3	06/21/1993	61	mg/L	1
0248	SL	SEEP	Nitrate as NO3	04/28/1994	72.8	mg/L	1
0248	SL	SEEP	Nitrate as NO3	12/10/1994	88.3	mg/L	1
0248	SL	SEEP	Nitrate as NO3	04/24/1995	103	mg/L	1
0248	SL	SEEP	Nitrate as NO3	11/17/1995	140	mg/L	1
0248	SL	SEEP	Nitrate as NO3	04/16/1997	189	mg/L	0
0248	SL	SEEP	Nitrate as NO3	11/19/1997	212	mg/L	0
0248	SL	SEEP	Nitrate as NO3	05/14/1998	249	mg/L	0
0248	SL	SEEP	Nitrate as NO3	02/17/1999	183	mg/L	0
0248	SL	SEEP	Nitrate as NO3	08/18/1999	229	mg/L	0
0248	SL	SEEP	Nitrate as NO3	11/17/1999	208	mg/L	0
0248	SL	SEEP	Nitrate as NO3	02/14/2000	252	mg/L	0
0248	SL	SEEP	Nitrate as NO3	11/14/2000	245	mg/L	0.157
0248	SL	SEEP	Nitrate as NO3	02/21/2001	265	mg/L	0.785
0248	SL	SEEP	Nitrate as NO3	05/24/2001	269	mg/L	0.0855
0248	SL	SEEP	Nitrate as NO3	08/09/2001	393	mg/L	0.1525
0248	SL	SEEP	Nitrate as NO3	11/14/2001	278	mg/L	0.1525
0248	SL	SEEP	Nitrate as NO3	02/11/2002	290	mg/L	0.1525
0248	SL	SEEP	Nitrate as NO3	02/19/2003	193	mg/L	0.1
0248	SL	SEEP	Nitrate as NO3	02/18/2004	100	mg/L	0.89
0249	SL	SEEP	Nitrate as NO3	04/23/1990	155	mg/L	1
0249	SL	SEEP	Nitrate as NO3	06/25/1990	114	mg/L	1
0249	SL	SEEP	Nitrate as NO3	10/03/1990	170	mg/L	1
0249	SL	SEEP	Nitrate as NO3	04/24/1991	153	mg/L	1
0249	SL	SEEP	Nitrate as NO3	05/18/1994	687	mg/L	1
0249	SL	SEEP	Nitrate as NO3	12/12/1994	800	mg/L	1
0251	SL	SEEP	Nitrate as NO3	04/23/1990	260	mg/L	1
0251	SL	SEEP	Nitrate as NO3	10/05/1990	29.7	mg/L	1
0251	SL	SEEP	Nitrate as NO3	04/24/1991	357	mg/L	1
0251	SL	SEEP	Nitrate as NO3	02/17/1993	676	mg/L	1
0251	SL	SEEP	Nitrate as NO3	04/25/1995	75.9	mg/L	1
0251	SL	SEEP	Nitrate as NO3	11/18/1997	395	mg/L	0
0251	SL	SEEP	Nitrate as NO3	05/14/1998	419	mg/L	0
0251	SL	SEEP	Nitrate as NO3	11/20/1998	2070	mg/L	0
0251	SL	SEEP	Nitrate as NO3	02/16/1999	576	mg/L	0
0251	SL	SEEP	Nitrate as NO3	11/16/1999	2260	mg/L	0
0251	SL	SEEP	Nitrate as NO3	02/15/2000	466	mg/L	0
0251	SL	SEEP	Nitrate as NO3	11/14/2000	946	mg/L	0.314
0251	SL	SEEP	Nitrate as NO3	02/21/2001	339	mg/L	0.785
0251	SL	SEEP	Nitrate as NO3	08/09/2001	285	mg/L	0.1525
0251	SL	SEEP	Nitrate as NO3	02/19/2003	406	mg/L	0.1

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0253	SL	SEEP	Nitrate as NO3	05/10/1991	36.7	mg/L	1
0253	SL	SEEP	Nitrate as NO3	08/25/1991	16	mg/L	0.22
0253	SL	SEEP	Nitrate as NO3	06/22/1993	36	mg/L	1
0253	SL	SEEP	Nitrate as NO3	12/10/1994	124	mg/L	1
0253	SL	SEEP	Nitrate as NO3	04/24/1995	147	mg/L	1
0253	SL	SEEP	Nitrate as NO3	11/17/1995	97	mg/L	1
0253	SL	SEEP	Nitrate as NO3	04/16/1997	158	mg/L	0
0253	SL	SEEP	Nitrate as NO3	11/18/1997	112	mg/L	0
0253	SL	SEEP	Nitrate as NO3	05/14/1998	106	mg/L	0
0253	SL	SEEP	Nitrate as NO3	11/18/1998	94.6	mg/L	0
0253	SL	SEEP	Nitrate as NO3	02/17/1999	128	mg/L	0
0253	SL	SEEP	Nitrate as NO3	05/18/1999	125	mg/L	0
0253	SL	SEEP	Nitrate as NO3	08/18/1999	59.7	mg/L	0
0253	SL	SEEP	Nitrate as NO3	11/17/1999	84.4	mg/L	0
0253	SL	SEEP	Nitrate as NO3	02/15/2000	114	mg/L	0
0253	SL	SEEP	Nitrate as NO3	05/31/2000	112	mg/L	0.0628
0253	SL	SEEP	Nitrate as NO3	08/16/2000	16.2	mg/L	0.0314
0253	SL	SEEP	Nitrate as NO3	11/14/2000	66.5	mg/L	0.0314
0253	SL	SEEP	Nitrate as NO3	02/21/2001	161	mg/L	0.1256
0253	SL	SEEP	Nitrate as NO3	05/24/2001	145	mg/L	0.0342
0253	SL	SEEP	Nitrate as NO3	08/09/2001	16	mg/L	0.0305
0253	SL	SEEP	Nitrate as NO3	11/15/2001	101	mg/L	0.061
0253	SL	SEEP	Nitrate as NO3	02/12/2002	140	mg/L	0.061
0253	SL	SEEP	Nitrate as NO3	05/21/2002	92.6	mg/L	0.02
0254	SL	SEEP	Nitrate as NO3	10/03/1990	994	mg/L	1
0254	SL	SEEP	Nitrate as NO3	05/10/1991	753	mg/L	1
0254	SL	SEEP	Nitrate as NO3	06/22/1993	381	mg/L	1
0254	SL	SEEP	Nitrate as NO3	04/26/1994	416	mg/L	1
0254	SL	SEEP	Nitrate as NO3	12/10/1994	494	mg/L	1
0254	SL	SEEP	Nitrate as NO3	04/24/1995	626	mg/L	1
0254	SL	SEEP	Nitrate as NO3	08/09/2001	400	mg/L	0.1525
0255	SL	SEEP	Nitrate as NO3	04/24/1991	303	mg/L	1
0255	SL	SEEP	Nitrate as NO3	08/24/1991	170	mg/L	0.22
0255	SL	SEEP	Nitrate as NO3	12/13/1991	168	mg/L	10
0255	SL	SEEP	Nitrate as NO3	08/09/1992	97	mg/L	0.075
0255	SL	SEEP	Nitrate as NO3	11/19/1992	102	mg/L	0.1
0255	SL	SEEP	Nitrate as NO3	06/22/1993	405	mg/L	1
0255	SL	SEEP	Nitrate as NO3	05/18/1994	633	mg/L	1
0255	SL	SEEP	Nitrate as NO3	04/17/1997	616	mg/L	0
0255	SL	SEEP	Nitrate as NO3	11/18/1997	425	mg/L	0
0255	SL	SEEP	Nitrate as NO3	05/14/1998	911	mg/L	0
0255	SL	SEEP	Nitrate as NO3	11/19/1998	488	mg/L	0
0255	SL	SEEP	Nitrate as NO3	02/18/1999	579	mg/L	0
0255	SL	SEEP	Nitrate as NO3	08/17/1999	391	mg/L	0
0255	SL	SEEP	Nitrate as NO3	11/17/1999	393	mg/L	0
0255	SL	SEEP	Nitrate as NO3	02/15/2000	393	mg/L	0
0255	SL	SEEP	Nitrate as NO3	05/31/2000	457	mg/L	0.314
0255	SL	SEEP	Nitrate as NO3	08/17/2000	411	mg/L	0.157
0255	SL	SEEP	Nitrate as NO3	11/14/2000	380	mg/L	0.157
0255	SL	SEEP	Nitrate as NO3	02/21/2001	365	mg/L	0.785
0255	SL	SEEP	Nitrate as NO3	05/24/2001	273	mg/L	0.0855
0255	SL	SEEP	Nitrate as NO3	08/09/2001	375	mg/L	0.1525
0255	SL	SEEP	Nitrate as NO3	11/15/2001	375	mg/L	0.1525
0255	SL	SEEP	Nitrate as NO3	02/12/2002	470	mg/L	0.1525
0255	SL	SEEP	Nitrate as NO3	05/22/2002	1190	mg/L	0.4
0256	SL	SEEP	Nitrate as NO3	10/05/1990	1	mg/L	1
0256	SL	SEEP	Nitrate as NO3	06/05/1991	3.8	mg/L	1
0256	SL	SEEP	Nitrate as NO3	08/22/1991	0.22	mg/L	0.22
0256	SL	SEEP	Nitrate as NO3	12/13/1991	2.2	mg/L	1
0256	SL	SEEP	Nitrate as NO3	08/09/1992	2.2	mg/L	0.075
0256	SL	SEEP	Nitrate as NO3	06/23/1993	1	mg/L	1
0256	SL	SEEP	Nitrate as NO3	04/17/1997	0.0262	mg/L	0
0256	SL	SEEP	Nitrate as NO3	11/19/1997	0.138	mg/L	0
0256	SL	SEEP	Nitrate as NO3	05/13/1998	0.0773	mg/L	0
0256	SL	SEEP	Nitrate as NO3	11/19/1998	0.255	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0256	SL	SEEP	Nitrate as NO3	02/18/1999	0.494	mg/L	0
0256	SL	SEEP	Nitrate as NO3	05/18/1999	0.321	mg/L	0
0256	SL	SEEP	Nitrate as NO3	08/18/1999	0.0219	mg/L	0
0256	SL	SEEP	Nitrate as NO3	11/17/1999	0.0332	mg/L	0
0256	SL	SEEP	Nitrate as NO3	02/15/2000	0.421	mg/L	0
0256	SL	SEEP	Nitrate as NO3	05/31/2000	0.18	mg/L	0.0314
0256	SL	SEEP	Nitrate as NO3	11/15/2000	0.0432	mg/L	0.0314
0256	SL	SEEP	Nitrate as NO3	02/21/2001	0.0349	mg/L	0.0314
0256	SL	SEEP	Nitrate as NO3	05/23/2001	0.0171	mg/L	0.0171
0256	SL	SEEP	Nitrate as NO3	02/12/2002	1.31	mg/L	0.0305
0256	SL	SEEP	Nitrate as NO3	05/21/2002	0.0572	mg/L	0.02
0261	SL	SEEP	Nitrate as NO3	08/24/1990	3	mg/L	1
0261	SL	SEEP	Nitrate as NO3	10/03/1990	1	mg/L	1
0261	SL	SEEP	Nitrate as NO3	05/11/1991	8.9	mg/L	1
0261	SL	SEEP	Nitrate as NO3	12/14/1991	1	mg/L	1
0261	SL	SEEP	Nitrate as NO3	12/10/1994	1	mg/L	1
0261	SL	SEEP	Nitrate as NO3	04/24/1995	1	mg/L	1
0261	SL	SEEP	Nitrate as NO3	11/17/1995	1	mg/L	1
0261	SL	SEEP	Nitrate as NO3	04/16/1997	0.102	mg/L	0
0261	SL	SEEP	Nitrate as NO3	11/19/1997	0.474	mg/L	0
0261	SL	SEEP	Nitrate as NO3	05/14/1998	0.108	mg/L	0
0261	SL	SEEP	Nitrate as NO3	11/19/1998	0.22	mg/L	0
0261	SL	SEEP	Nitrate as NO3	02/17/1999	0.577	mg/L	0
0261	SL	SEEP	Nitrate as NO3	05/18/1999	0.0693	mg/L	0
0261	SL	SEEP	Nitrate as NO3	08/18/1999	0.016	mg/L	0
0261	SL	SEEP	Nitrate as NO3	11/17/1999	0.236	mg/L	0
0261	SL	SEEP	Nitrate as NO3	02/14/2000	0.704	mg/L	0
0261	SL	SEEP	Nitrate as NO3	05/31/2000	0.18	mg/L	0.0314
0261	SL	SEEP	Nitrate as NO3	08/16/2000	0.7	mg/L	0.0314
0261	SL	SEEP	Nitrate as NO3	11/14/2000	0.273	mg/L	0.0314
0261	SL	SEEP	Nitrate as NO3	02/21/2001	0.622	mg/L	0.0314
0261	SL	SEEP	Nitrate as NO3	05/24/2001	0.0337	mg/L	0.0171
0261	SL	SEEP	Nitrate as NO3	08/09/2001	0.0305	mg/L	0.0305
0261	SL	SEEP	Nitrate as NO3	11/14/2001	0.0305	mg/L	0.0305
0261	SL	SEEP	Nitrate as NO3	02/11/2002	0.94	mg/L	0.0305
0261	SL	SEEP	Nitrate as NO3	05/21/2002	0.158	mg/L	0.02
0261	SL	SEEP	Nitrate as NO3	02/19/2003	0.0978	mg/L	0.02
0261	SL	SEEP	Nitrate as NO3	02/18/2004	0.71	mg/L	0.044
0264	SL	SEEP	Nitrate as NO3	11/18/1997	468	mg/L	0
0264	SL	SEEP	Nitrate as NO3	05/14/1998	416	mg/L	0
0264	SL	SEEP	Nitrate as NO3	02/18/1999	1110	mg/L	0
0264	SL	SEEP	Nitrate as NO3	11/17/1999	879	mg/L	0
0264	SL	SEEP	Nitrate as NO3	02/15/2000	497	mg/L	0
0264	SL	SEEP	Nitrate as NO3	05/31/2000	514	mg/L	0.314
0264	SL	SEEP	Nitrate as NO3	08/17/2000	452	mg/L	0.157
0264	SL	SEEP	Nitrate as NO3	11/14/2000	533	mg/L	0.314
0264	SL	SEEP	Nitrate as NO3	02/21/2001	376	mg/L	0.785
0264	SL	SEEP	Nitrate as NO3	05/24/2001	427	mg/L	0.0855
0264	SL	SEEP	Nitrate as NO3	11/15/2001	561	mg/L	0.305
0264	SL	SEEP	Nitrate as NO3	02/12/2002	422	mg/L	0.1525
0264	SL	SEEP	Nitrate as NO3	02/18/2004	110	mg/L	0.89
0265	SL	SEEP	Nitrate as NO3	02/14/2000	159	mg/L	0
0265	SL	SEEP	Nitrate as NO3	05/31/2000	145	mg/L	0.0628
0265	SL	SEEP	Nitrate as NO3	08/16/2000	76.9	mg/L	0.0314
0265	SL	SEEP	Nitrate as NO3	11/14/2000	138	mg/L	0.0628
0265	SL	SEEP	Nitrate as NO3	02/21/2001	166	mg/L	0.1256
0265	SL	SEEP	Nitrate as NO3	05/24/2001	131	mg/L	0.0342
0265	SL	SEEP	Nitrate as NO3	08/09/2001	101	mg/L	0.061
0265	SL	SEEP	Nitrate as NO3	11/14/2001	104	mg/L	0.061
0265	SL	SEEP	Nitrate as NO3	02/11/2002	132	mg/L	0.061
0265	SL	SEEP	Nitrate as NO3	05/21/2002	107	mg/L	0.04
0922	SL	SEEP	Nitrate as NO3	04/10/1985	1.8	mg/L	0
0922	SL	SEEP	Nitrate as NO3	07/28/1985	13	mg/L	1
0922	SL	SEEP	Nitrate as NO3	06/01/1988	21.8	mg/L	1
0922	SL	SEEP	Nitrate as NO3	08/30/1988	10	mg/L	1

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0922	SL	SEEP	Nitrate as NO3	06/25/1990	7.8	mg/L	1
0922	SL	SEEP	Nitrate as NO3	10/03/1990	338	mg/L	1
0922	SL	SEEP	Nitrate as NO3	04/25/1991	37.6	mg/L	1
0922	SL	SEEP	Nitrate as NO3	08/24/1991	49	mg/L	0.22
0922	SL	SEEP	Nitrate as NO3	12/14/1991	85.4	mg/L	5
0922	SL	SEEP	Nitrate as NO3	11/18/1992	33	mg/L	0.1
0922	SL	SEEP	Nitrate as NO3	06/21/1993	51	mg/L	1
0922	SL	SEEP	Nitrate as NO3	04/26/1994	73.6	mg/L	1
0922	SL	SEEP	Nitrate as NO3	12/10/1994	201	mg/L	1
0922	SL	SEEP	Nitrate as NO3	04/24/1995	211	mg/L	1
0922	SL	SEEP	Nitrate as NO3	11/17/1995	240	mg/L	1
0922	SL	SEEP	Nitrate as NO3	04/16/1997	213	mg/L	0
0922	SL	SEEP	Nitrate as NO3	11/19/1997	132	mg/L	0
0922	SL	SEEP	Nitrate as NO3	05/14/1998	159	mg/L	0
0922	SL	SEEP	Nitrate as NO3	11/19/1998	171	mg/L	0
0922	SL	SEEP	Nitrate as NO3	02/17/1999	182	mg/L	0
0922	SL	SEEP	Nitrate as NO3	05/18/1999	199	mg/L	0
0922	SL	SEEP	Nitrate as NO3	08/18/1999	157	mg/L	0
0922	SL	SEEP	Nitrate as NO3	11/17/1999	179	mg/L	0
0922	SL	SEEP	Nitrate as NO3	02/14/2000	192	mg/L	0
0922	SL	SEEP	Nitrate as NO3	11/14/2000	171	mg/L	0.0628
0922	SL	SEEP	Nitrate as NO3	02/21/2001	188	mg/L	0.1256
0922	SL	SEEP	Nitrate as NO3	05/24/2001	179	mg/L	0.0342
0922	SL	SEEP	Nitrate as NO3	11/14/2001	152	mg/L	0.061
0922	SL	SEEP	Nitrate as NO3	02/11/2002	175	mg/L	0.061
0922	SL	SEEP	Nitrate as NO3	05/21/2002	190	mg/L	0.04
0922	SL	SEEP	Nitrate as NO3	02/19/2003	74	mg/L	0.02
0923	SL	SEEP	Nitrate as NO3	07/28/1985	1	mg/L	1
0923	SL	SEEP	Nitrate as NO3	06/01/1988	13.7	mg/L	1
0923	SL	SEEP	Nitrate as NO3	04/25/1991	1.5	mg/L	1
0923	SL	SEEP	Nitrate as NO3	08/09/1992	3.4	mg/L	0.075
0923	SL	SEEP	Nitrate as NO3	11/18/1992	4.4	mg/L	0.1
0923	SL	SEEP	Nitrate as NO3	04/16/1997	0.0497	mg/L	0
0923	SL	SEEP	Nitrate as NO3	11/19/1997	1.52	mg/L	0
0923	SL	SEEP	Nitrate as NO3	11/19/1998	4.17	mg/L	0
0923	SL	SEEP	Nitrate as NO3	02/17/1999	5.43	mg/L	0
0923	SL	SEEP	Nitrate as NO3	05/18/1999	0.846	mg/L	0
0923	SL	SEEP	Nitrate as NO3	08/18/1999	0.728	mg/L	0
0923	SL	SEEP	Nitrate as NO3	02/21/2001	1.02	mg/L	0.0314
0923	SL	SEEP	Nitrate as NO3	05/24/2001	0.128	mg/L	0.0171
0924	SL	SEEP	Nitrate as NO3	07/29/1985	18	mg/L	1
0924	SL	SEEP	Nitrate as NO3	08/30/1988	5.5	mg/L	1
0924	SL	SEEP	Nitrate as NO3	11/18/1997	103	mg/L	0
0924	SL	SEEP	Nitrate as NO3	05/14/1998	103	mg/L	0
0924	SL	SEEP	Nitrate as NO3	11/18/1998	69.2	mg/L	0
0924	SL	SEEP	Nitrate as NO3	02/17/1999	95.3	mg/L	0
0924	SL	SEEP	Nitrate as NO3	05/18/1999	98.9	mg/L	0
0924	SL	SEEP	Nitrate as NO3	08/18/1999	50.7	mg/L	0
0924	SL	SEEP	Nitrate as NO3	11/17/1999	73.7	mg/L	0
0924	SL	SEEP	Nitrate as NO3	02/15/2000	91.2	mg/L	0
0924	SL	SEEP	Nitrate as NO3	11/14/2000	72.7	mg/L	0.0314
0924	SL	SEEP	Nitrate as NO3	02/21/2001	116	mg/L	0.1256
0924	SL	SEEP	Nitrate as NO3	05/24/2001	109	mg/L	0.171
0925	SL		Nitrate as NO3	06/01/1988	1	mg/L	1
0925	SL		Nitrate as NO3	08/30/1988	1	mg/L	1
0938	SL		Nitrate as NO3	11/03/1985	1	mg/L	1
0939	SL		Nitrate as NO3	11/02/1985	1	mg/L	1
0939	SL		Nitrate as NO3	11/02/1985	1	mg/L	1
0939	SL		Nitrate as NO3	11/02/1985	1	mg/L	1
0939	SL		Nitrate as NO3	11/02/1985	1	mg/L	1
0939	SL		Nitrate as NO3	11/02/1985	1	mg/L	1
0248	SL	SEEP	Sulfate	04/23/1990	3260	mg/L	0.1
0248	SL	SEEP	Sulfate	06/25/1990	3604.7	mg/L	0.1
0248	SL	SEEP	Sulfate	10/03/1990	3500	mg/L	0.1
0248	SL	SEEP	Sulfate	04/25/1991	3320	mg/L	10

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0248	SL	SEEP	Sulfate	08/24/1991	3700	mg/L	1
0248	SL	SEEP	Sulfate	12/13/1991	3140	mg/L	10
0248	SL	SEEP	Sulfate	06/21/1993	3080	mg/L	1
0248	SL	SEEP	Sulfate	04/28/1994	3220	mg/L	26
0248	SL	SEEP	Sulfate	04/28/1994	3350	mg/L	26
0248	SL	SEEP	Sulfate	12/10/1994	3140	mg/L	35
0248	SL	SEEP	Sulfate	04/24/1995	2900	mg/L	17
0248	SL	SEEP	Sulfate	11/17/1995	3000	mg/L	1
0248	SL	SEEP	Sulfate	04/16/1997	3200	mg/L	0
0248	SL	SEEP	Sulfate	11/19/1997	3060	mg/L	0
0248	SL	SEEP	Sulfate	05/14/1998	3240	mg/L	0
0248	SL	SEEP	Sulfate	02/17/1999	2460	mg/L	0
0248	SL	SEEP	Sulfate	08/18/1999	3180	mg/L	0
0248	SL	SEEP	Sulfate	11/17/1999	2840	mg/L	0
0248	SL	SEEP	Sulfate	02/14/2000	3210	mg/L	0
0248	SL	SEEP	Sulfate	11/14/2000	2680	mg/L	0.2945
0248	SL	SEEP	Sulfate	02/21/2001	3040	mg/L	1.4725
0248	SL	SEEP	Sulfate	05/24/2001	3260	mg/L	0.253
0248	SL	SEEP	Sulfate	08/09/2001	4010	mg/L	0.1265
0248	SL	SEEP	Sulfate	11/14/2001	3740	mg/L	2.05
0248	SL	SEEP	Sulfate	02/11/2002	3520	mg/L	2.05
0248	SL	SEEP	Sulfate	02/19/2003	3010	mg/L	1.97
0248	SL	SEEP	Sulfate	02/18/2004	1900	mg/L	20
0248	SL	SEEP	Sulfate	04/27/2005	2900	mg/L	50
0248	SL	SEEP	Sulfate	09/09/2015	2800	mg/L	50
0248	SL	SEEP	Sulfate	03/15/2016	3000	mg/L	25
0249	SL	SEEP	Sulfate	04/23/1990	3370	mg/L	0.1
0249	SL	SEEP	Sulfate	06/25/1990	3812.5	mg/L	0.1
0249	SL	SEEP	Sulfate	10/03/1990	3320	mg/L	0.1
0249	SL	SEEP	Sulfate	04/24/1991	3380	mg/L	10
0249	SL	SEEP	Sulfate	05/18/1994	3500	mg/L	26
0249	SL	SEEP	Sulfate	05/18/1994	3510	mg/L	26
0249	SL	SEEP	Sulfate	12/12/1994	2850	mg/L	39
0251	SL	SEEP	Sulfate	04/23/1990	1950	mg/L	0.1
0251	SL	SEEP	Sulfate	10/05/1990	2370	mg/L	0.1
0251	SL	SEEP	Sulfate	04/24/1991	2040	mg/L	10
0251	SL	SEEP	Sulfate	02/17/1993	2250	mg/L	1
0251	SL	SEEP	Sulfate	04/25/1995	1400	mg/L	8
0251	SL	SEEP	Sulfate	11/18/1997	1770	mg/L	0
0251	SL	SEEP	Sulfate	05/14/1998	1530	mg/L	0
0251	SL	SEEP	Sulfate	11/20/1998	4780	mg/L	0
0251	SL	SEEP	Sulfate	02/16/1999	2460	mg/L	0
0251	SL	SEEP	Sulfate	11/16/1999	5650	mg/L	0
0251	SL	SEEP	Sulfate	02/15/2000	2410	mg/L	0
0251	SL	SEEP	Sulfate	11/14/2000	3370	mg/L	0.2945
0251	SL	SEEP	Sulfate	02/21/2001	2150	mg/L	1.4725
0251	SL	SEEP	Sulfate	08/09/2001	614	mg/L	0.0506
0251	SL	SEEP	Sulfate	02/19/2003	1820	mg/L	0.788
0253	SL	SEEP	Sulfate	05/10/1991	3520	mg/L	10
0253	SL	SEEP	Sulfate	08/25/1991	3200	mg/L	1
0253	SL	SEEP	Sulfate	06/22/1993	2980	mg/L	1
0253	SL	SEEP	Sulfate	12/10/1994	2730	mg/L	35
0253	SL	SEEP	Sulfate	04/24/1995	3240	mg/L	17
0253	SL	SEEP	Sulfate	11/17/1995	2500	mg/L	1
0253	SL	SEEP	Sulfate	04/16/1997	3030	mg/L	0
0253	SL	SEEP	Sulfate	11/18/1997	4280	mg/L	0
0253	SL	SEEP	Sulfate	05/14/1998	3290	mg/L	0
0253	SL	SEEP	Sulfate	11/18/1998	3110	mg/L	0
0253	SL	SEEP	Sulfate	02/17/1999	3200	mg/L	0
0253	SL	SEEP	Sulfate	05/18/1999	3300	mg/L	0
0253	SL	SEEP	Sulfate	08/18/1999	4070	mg/L	0
0253	SL	SEEP	Sulfate	11/17/1999	2780	mg/L	0
0253	SL	SEEP	Sulfate	02/15/2000	3050	mg/L	0
0253	SL	SEEP	Sulfate	05/31/2000	2840	mg/L	1.178
0253	SL	SEEP	Sulfate	08/16/2000	2600	mg/L	0.2945

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0253	SL	SEEP	Sulfate	11/14/2000	3030	mg/L	0.2945
0253	SL	SEEP	Sulfate	02/21/2001	3190	mg/L	1.4725
0253	SL	SEEP	Sulfate	05/24/2001	3390	mg/L	0.1265
0253	SL	SEEP	Sulfate	08/09/2001	2170	mg/L	0.1265
0253	SL	SEEP	Sulfate	11/15/2001	4290	mg/L	2.05
0253	SL	SEEP	Sulfate	02/12/2002	3920	mg/L	2.05
0253	SL	SEEP	Sulfate	05/21/2002	3340	mg/L	1.97
0254	SL	SEEP	Sulfate	10/03/1990	3400	mg/L	0.1
0254	SL	SEEP	Sulfate	05/10/1991	3040	mg/L	10
0254	SL	SEEP	Sulfate	04/26/1994	3000	mg/L	26
0254	SL	SEEP	Sulfate	04/26/1994	2880	mg/L	26
0254	SL	SEEP	Sulfate	12/10/1994	2300	mg/L	35
0254	SL	SEEP	Sulfate	04/24/1995	3010	mg/L	17
0254	SL	SEEP	Sulfate	08/09/2001	3880	mg/L	0.1265
0254	SL	SEEP	Sulfate	04/27/2005	2800	mg/L	50
0255	SL	SEEP	Sulfate	04/24/1991	3470	mg/L	10
0255	SL	SEEP	Sulfate	08/24/1991	2900	mg/L	1
0255	SL	SEEP	Sulfate	12/13/1991	3330	mg/L	10
0255	SL	SEEP	Sulfate	08/09/1992	2900	mg/L	0.059
0255	SL	SEEP	Sulfate	11/19/1992	2770	mg/L	1
0255	SL	SEEP	Sulfate	11/19/1992	2770	mg/L	1
0255	SL	SEEP	Sulfate	06/22/1993	3060	mg/L	1
0255	SL	SEEP	Sulfate	05/18/1994	3110	mg/L	26
0255	SL	SEEP	Sulfate	05/18/1994	3760	mg/L	26
0255	SL	SEEP	Sulfate	04/17/1997	3160	mg/L	0
0255	SL	SEEP	Sulfate	11/18/1997	2620	mg/L	0
0255	SL	SEEP	Sulfate	05/14/1998	4810	mg/L	0
0255	SL	SEEP	Sulfate	11/19/1998	3330	mg/L	0
0255	SL	SEEP	Sulfate	02/18/1999	3900	mg/L	0
0255	SL	SEEP	Sulfate	08/17/1999	3400	mg/L	0
0255	SL	SEEP	Sulfate	11/17/1999	3440	mg/L	0
0255	SL	SEEP	Sulfate	02/15/2000	3190	mg/L	0
0255	SL	SEEP	Sulfate	05/31/2000	3340	mg/L	1.178
0255	SL	SEEP	Sulfate	08/17/2000	3580	mg/L	0.2945
0255	SL	SEEP	Sulfate	11/14/2000	2940	mg/L	0.2945
0255	SL	SEEP	Sulfate	02/21/2001	2900	mg/L	1.4725
0255	SL	SEEP	Sulfate	05/24/2001	3020	mg/L	0.1265
0255	SL	SEEP	Sulfate	08/09/2001	3540	mg/L	0.1265
0255	SL	SEEP	Sulfate	11/15/2001	3420	mg/L	2.05
0255	SL	SEEP	Sulfate	02/12/2002	3640	mg/L	2.05
0255	SL	SEEP	Sulfate	05/22/2002	7000	mg/L	3.94
0256	SL	SEEP	Sulfate	10/05/1990	2860	mg/L	0.1
0256	SL	SEEP	Sulfate	06/05/1991	2290	mg/L	10
0256	SL	SEEP	Sulfate	08/22/1991	2500	mg/L	1
0256	SL	SEEP	Sulfate	12/13/1991	2300	mg/L	10
0256	SL	SEEP	Sulfate	08/09/1992	2200	mg/L	1.2
0256	SL	SEEP	Sulfate	06/23/1993	2780	mg/L	1
0256	SL	SEEP	Sulfate	04/17/1997	2120	mg/L	0
0256	SL	SEEP	Sulfate	11/19/1997	3260	mg/L	0
0256	SL	SEEP	Sulfate	05/13/1998	2100	mg/L	0
0256	SL	SEEP	Sulfate	11/19/1998	2640	mg/L	0
0256	SL	SEEP	Sulfate	02/18/1999	2310	mg/L	0
0256	SL	SEEP	Sulfate	05/18/1999	2160	mg/L	0
0256	SL	SEEP	Sulfate	08/18/1999	2330	mg/L	0
0256	SL	SEEP	Sulfate	11/17/1999	1890	mg/L	0
0256	SL	SEEP	Sulfate	02/15/2000	2050	mg/L	0
0256	SL	SEEP	Sulfate	05/31/2000	2380	mg/L	0.589
0256	SL	SEEP	Sulfate	11/15/2000	2750	mg/L	0.2945
0256	SL	SEEP	Sulfate	02/21/2001	2530	mg/L	1.4725
0256	SL	SEEP	Sulfate	05/23/2001	2250	mg/L	0.1265
0256	SL	SEEP	Sulfate	02/12/2002	2230	mg/L	2.05
0256	SL	SEEP	Sulfate	05/21/2002	2470	mg/L	1.97
0261	SL	SEEP	Sulfate	06/25/1990	3652.1	mg/L	0.1
0261	SL	SEEP	Sulfate	10/03/1990	3280	mg/L	0.1
0261	SL	SEEP	Sulfate	05/11/1991	3060	mg/L	10

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0261	SL	SEEP	Sulfate	12/14/1991	3050	mg/L	10
0261	SL	SEEP	Sulfate	12/10/1994	2690	mg/L	35
0261	SL	SEEP	Sulfate	04/24/1995	3270	mg/L	17
0261	SL	SEEP	Sulfate	11/17/1995	2800	mg/L	1
0261	SL	SEEP	Sulfate	04/16/1997	3040	mg/L	0
0261	SL	SEEP	Sulfate	11/19/1997	3100	mg/L	0
0261	SL	SEEP	Sulfate	05/14/1998	3420	mg/L	0
0261	SL	SEEP	Sulfate	11/19/1998	3220	mg/L	0
0261	SL	SEEP	Sulfate	02/17/1999	3440	mg/L	0
0261	SL	SEEP	Sulfate	05/18/1999	3950	mg/L	0
0261	SL	SEEP	Sulfate	08/18/1999	3610	mg/L	0
0261	SL	SEEP	Sulfate	11/17/1999	3420	mg/L	0
0261	SL	SEEP	Sulfate	02/14/2000	3210	mg/L	0
0261	SL	SEEP	Sulfate	05/31/2000	3220	mg/L	1.178
0261	SL	SEEP	Sulfate	08/16/2000	3330	mg/L	0.2945
0261	SL	SEEP	Sulfate	11/14/2000	2940	mg/L	0.2945
0261	SL	SEEP	Sulfate	02/21/2001	2710	mg/L	1.4725
0261	SL	SEEP	Sulfate	05/24/2001	3430	mg/L	0.253
0261	SL	SEEP	Sulfate	08/09/2001	3590	mg/L	0.1265
0261	SL	SEEP	Sulfate	11/14/2001	3390	mg/L	2.05
0261	SL	SEEP	Sulfate	02/11/2002	2950	mg/L	2.05
0261	SL	SEEP	Sulfate	05/21/2002	3350	mg/L	1.97
0261	SL	SEEP	Sulfate	02/19/2003	3060	mg/L	1.97
0261	SL	SEEP	Sulfate	02/18/2004	2900	mg/L	50
0261	SL	SEEP	Sulfate	04/27/2005	3200	mg/L	50
0264	SL	SEEP	Sulfate	11/18/1997	3020	mg/L	0
0264	SL	SEEP	Sulfate	05/14/1998	2770	mg/L	0
0264	SL	SEEP	Sulfate	02/18/1999	4440	mg/L	0
0264	SL	SEEP	Sulfate	11/17/1999	6310	mg/L	0
0264	SL	SEEP	Sulfate	02/15/2000	4380	mg/L	0
0264	SL	SEEP	Sulfate	05/31/2000	3590	mg/L	1.178
0264	SL	SEEP	Sulfate	08/17/2000	3370	mg/L	0.2945
0264	SL	SEEP	Sulfate	11/14/2000	3320	mg/L	0.2945
0264	SL	SEEP	Sulfate	02/21/2001	2750	mg/L	1.4725
0264	SL	SEEP	Sulfate	05/24/2001	3260	mg/L	0.1265
0264	SL	SEEP	Sulfate	11/15/2001	4000	mg/L	2.05
0264	SL	SEEP	Sulfate	02/12/2002	3450	mg/L	2.05
0264	SL	SEEP	Sulfate	02/18/2004	1100	mg/L	20
0264	SL	SEEP	Sulfate	04/27/2005	2800	mg/L	50
0265	SL	SEEP	Sulfate	02/14/2000	3630	mg/L	0
0265	SL	SEEP	Sulfate	05/31/2000	3210	mg/L	1.178
0265	SL	SEEP	Sulfate	08/16/2000	2430	mg/L	0.2945
0265	SL	SEEP	Sulfate	11/14/2000	4290	mg/L	0.2945
0265	SL	SEEP	Sulfate	02/21/2001	3610	mg/L	1.4725
0265	SL	SEEP	Sulfate	05/24/2001	3770	mg/L	0.253
0265	SL	SEEP	Sulfate	08/09/2001	3790	mg/L	0.1265
0265	SL	SEEP	Sulfate	11/14/2001	4200	mg/L	2.05
0265	SL	SEEP	Sulfate	02/11/2002	3840	mg/L	2.05
0265	SL	SEEP	Sulfate	05/21/2002	3580	mg/L	1.97
0266	SL		Sulfate	09/09/2015	2600	mg/L	50
0267	SL		Sulfate	09/09/2015	2800	mg/L	50
0267	SL		Sulfate	03/15/2016	2900	mg/L	25
0267	SL		Sulfate	10/03/2016	3000	mg/L	50
0922	SL	SEEP	Sulfate	04/10/1985	3670	mg/L	0
0922	SL	SEEP	Sulfate	07/28/1985	3640	mg/L	0.1
0922	SL	SEEP	Sulfate	06/01/1988	3160	mg/L	0.1
0922	SL	SEEP	Sulfate	08/30/1988	3070	mg/L	0.1
0922	SL	SEEP	Sulfate	06/25/1990	3907.2	mg/L	0.1
0922	SL	SEEP	Sulfate	10/03/1990	3420	mg/L	0.1
0922	SL	SEEP	Sulfate	04/25/1991	3470	mg/L	10
0922	SL	SEEP	Sulfate	08/24/1991	3800	mg/L	1
0922	SL	SEEP	Sulfate	12/14/1991	3170	mg/L	10
0922	SL	SEEP	Sulfate	11/18/1992	2610	mg/L	1
0922	SL	SEEP	Sulfate	11/18/1992	2870	mg/L	1
0922	SL	SEEP	Sulfate	06/21/1993	3420	mg/L	1

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0922	SL	SEEP	Sulfate	04/28/1994	3330	mg/L	26
0922	SL	SEEP	Sulfate	12/10/1994	2880	mg/L	39
0922	SL	SEEP	Sulfate	04/24/1995	3030	mg/L	17
0922	SL	SEEP	Sulfate	11/17/1995	2900	mg/L	1
0922	SL	SEEP	Sulfate	04/16/1997	3070	mg/L	0
0922	SL	SEEP	Sulfate	11/19/1997	3400	mg/L	0
0922	SL	SEEP	Sulfate	05/14/1998	3190	mg/L	0
0922	SL	SEEP	Sulfate	11/19/1998	2880	mg/L	0
0922	SL	SEEP	Sulfate	02/17/1999	3050	mg/L	0
0922	SL	SEEP	Sulfate	05/18/1999	3000	mg/L	0
0922	SL	SEEP	Sulfate	08/18/1999	3040	mg/L	0
0922	SL	SEEP	Sulfate	11/17/1999	3040	mg/L	0
0922	SL	SEEP	Sulfate	02/14/2000	3130	mg/L	0
0922	SL	SEEP	Sulfate	11/14/2000	2980	mg/L	0.2945
0922	SL	SEEP	Sulfate	02/21/2001	3130	mg/L	1.4725
0922	SL	SEEP	Sulfate	05/24/2001	3050	mg/L	0.1265
0922	SL	SEEP	Sulfate	11/14/2001	3470	mg/L	2.05
0922	SL	SEEP	Sulfate	02/11/2002	3270	mg/L	2.05
0922	SL	SEEP	Sulfate	05/21/2002	3420	mg/L	1.97
0922	SL	SEEP	Sulfate	02/19/2003	3240	mg/L	1.97
0922	SL	SEEP	Sulfate	04/27/2005	3000	mg/L	50
0923	SL	SEEP	Sulfate	07/28/1985	3570	mg/L	0.1
0923	SL	SEEP	Sulfate	06/01/1988	3330	mg/L	0.1
0923	SL	SEEP	Sulfate	04/25/1991	4840	mg/L	10
0923	SL	SEEP	Sulfate	08/09/1992	2700	mg/L	1.2
0923	SL	SEEP	Sulfate	11/18/1992	2990	mg/L	1
0923	SL	SEEP	Sulfate	11/18/1992	2980	mg/L	1
0923	SL	SEEP	Sulfate	06/22/1993	3180	mg/L	1
0923	SL	SEEP	Sulfate	04/16/1997	3170	mg/L	0
0923	SL	SEEP	Sulfate	11/19/1997	3850	mg/L	0
0923	SL	SEEP	Sulfate	11/19/1998	2320	mg/L	0
0923	SL	SEEP	Sulfate	02/17/1999	3160	mg/L	0
0923	SL	SEEP	Sulfate	05/18/1999	3330	mg/L	0
0923	SL	SEEP	Sulfate	08/18/1999	2840	mg/L	0
0923	SL	SEEP	Sulfate	02/21/2001	1460	mg/L	0.2356
0923	SL	SEEP	Sulfate	05/24/2001	6000	mg/L	0.253
0924	SL	SEEP	Sulfate	07/29/1985	2580	mg/L	0.1
0924	SL	SEEP	Sulfate	08/30/1988	2570	mg/L	0.1
0924	SL	SEEP	Sulfate	11/18/1997	3770	mg/L	0
0924	SL	SEEP	Sulfate	05/14/1998	3550	mg/L	0
0924	SL	SEEP	Sulfate	11/18/1998	2720	mg/L	0
0924	SL	SEEP	Sulfate	02/17/1999	3010	mg/L	0
0924	SL	SEEP	Sulfate	05/18/1999	3460	mg/L	0
0924	SL	SEEP	Sulfate	08/18/1999	3020	mg/L	0
0924	SL	SEEP	Sulfate	11/17/1999	2730	mg/L	0
0924	SL	SEEP	Sulfate	02/15/2000	3190	mg/L	0
0924	SL	SEEP	Sulfate	11/14/2000	2920	mg/L	0.2945
0924	SL	SEEP	Sulfate	02/21/2001	2570	mg/L	1.4725
0924	SL	SEEP	Sulfate	05/24/2001	3130	mg/L	0.1265
0925	SL		Sulfate	06/01/1988	3270	mg/L	0.1
0925	SL		Sulfate	08/30/1988	2830	mg/L	0.1
0938	SL		Sulfate	11/03/1985	129	mg/L	0.1
0939	SL		Sulfate	11/02/1985	150	mg/L	0.1
0939	SL		Sulfate	11/02/1985	151	mg/L	0.1
0939	SL		Sulfate	11/02/1985	156	mg/L	0.1
0939	SL		Sulfate	11/02/1985	158	mg/L	0.1
0939	SL		Sulfate	11/02/1985	138	mg/L	0.1
0248	SL	SEEP	Total Dissolved Solids	04/23/1990	5050	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	06/25/1990	5170	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	10/03/1990	5780	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	04/25/1991	5670	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	08/24/1991	5600	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	12/13/1991	5220	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	06/21/1993	5060	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	04/28/1994	5350	mg/L	10

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0248	SL	SEEP	Total Dissolved Solids	12/10/1994	5030	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	04/24/1995	5250	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	11/17/1995	4800	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	04/16/1997	5790	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	11/19/1997	5320	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	05/14/1998	5930	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	02/17/1999	4490	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	08/18/1999	5760	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	11/17/1999	5260	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	02/14/2000	5540	mg/L	0
0248	SL	SEEP	Total Dissolved Solids	11/14/2000	5120	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	02/21/2001	5380	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	05/24/2001	2650	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	08/09/2001	7440	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	11/14/2001	6380	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	02/11/2002	6170	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	02/19/2003	5640	mg/L	10
0248	SL	SEEP	Total Dissolved Solids	02/18/2004	3200	mg/L	40
0248	SL	SEEP	Total Dissolved Solids	04/27/2005	4800	mg/L	80
0248	SL	SEEP	Total Dissolved Solids	09/09/2015	4900	mg/L	80
0248	SL	SEEP	Total Dissolved Solids	03/15/2016	7800	mg/L	1000
0249	SL	SEEP	Total Dissolved Solids	04/23/1990	2980	mg/L	10
0249	SL	SEEP	Total Dissolved Solids	06/25/1990	5640	mg/L	10
0249	SL	SEEP	Total Dissolved Solids	10/03/1990	5880	mg/L	10
0249	SL	SEEP	Total Dissolved Solids	04/24/1991	5920	mg/L	10
0249	SL	SEEP	Total Dissolved Solids	05/18/1994	6680	mg/L	10
0249	SL	SEEP	Total Dissolved Solids	12/12/1994	6210	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	04/23/1990	3520	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	10/05/1990	4080	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	04/24/1991	4290	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	02/17/1993	5220	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	04/25/1995	3270	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	11/18/1997	3770	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	05/14/1998	3540	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	11/20/1998	14200	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	02/16/1999	5140	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	11/16/1999	13500	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	02/15/2000	4780	mg/L	0
0251	SL	SEEP	Total Dissolved Solids	11/14/2000	7840	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	02/21/2001	4220	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	08/09/2001	1570	mg/L	10
0251	SL	SEEP	Total Dissolved Solids	02/19/2003	4150	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	05/10/1991	5870	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	08/25/1991	5000	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	06/22/1993	4980	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	12/10/1994	5330	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	04/24/1995	5900	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	11/17/1995	4300	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	04/16/1997	5470	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	11/18/1997	7310	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	05/14/1998	5980	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	11/18/1998	5790	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	02/17/1999	5900	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	05/18/1999	6020	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	08/18/1999	7250	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	11/17/1999	5060	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	02/15/2000	5320	mg/L	0
0253	SL	SEEP	Total Dissolved Solids	05/31/2000	5520	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	08/16/2000	4300	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	11/14/2000	5370	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	02/21/2001	5700	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	05/24/2001	6270	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	08/09/2001	3640	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	11/15/2001	6860	mg/L	10
0253	SL	SEEP	Total Dissolved Solids	02/12/2002	6810	mg/L	10

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0253	SL	SEEP	Total Dissolved Solids	05/21/2002	5850	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	10/03/1990	6900	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	05/10/1991	5020	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	04/26/1994	5690	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	12/10/1994	5210	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	04/24/1995	6060	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	08/09/2001	7470	mg/L	10
0254	SL	SEEP	Total Dissolved Solids	04/27/2005	5300	mg/L	80
0255	SL	SEEP	Total Dissolved Solids	04/24/1991	6020	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	08/24/1991	4900	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	12/13/1991	5700	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	08/09/1992	5800	mg/L	42
0255	SL	SEEP	Total Dissolved Solids	06/22/1993	5580	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	05/18/1994	6600	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	04/17/1997	6410	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	11/18/1997	5070	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	05/14/1998	9840	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	11/19/1998	6590	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	02/18/1999	7400	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	08/17/1999	6440	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	11/17/1999	6180	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	02/15/2000	5820	mg/L	0
0255	SL	SEEP	Total Dissolved Solids	05/31/2000	6620	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	08/17/2000	6460	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	11/14/2000	5610	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	02/21/2001	5460	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	05/24/2001	5790	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	08/09/2001	6710	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	11/15/2001	5970	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	02/12/2002	6780	mg/L	10
0255	SL	SEEP	Total Dissolved Solids	05/22/2002	9900	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	10/05/1990	4760	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	06/05/1991	3700	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	08/22/1991	4100	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	12/13/1991	3890	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	08/09/1992	4200	mg/L	42
0256	SL	SEEP	Total Dissolved Solids	06/23/1993	4670	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	04/17/1997	3740	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	11/19/1997	5910	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	05/13/1998	3650	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	11/19/1998	5000	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	02/18/1999	4220	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	05/18/1999	3890	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	08/18/1999	4500	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	11/17/1999	3660	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	02/15/2000	3560	mg/L	0
0256	SL	SEEP	Total Dissolved Solids	05/31/2000	4590	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	11/15/2000	4930	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	02/21/2001	4390	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	05/23/2001	4090	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	02/12/2002	3700	mg/L	10
0256	SL	SEEP	Total Dissolved Solids	05/21/2002	4330	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	06/25/1990	5220	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	10/03/1990	5330	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	05/11/1991	5030	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	12/14/1991	4860	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	12/10/1994	5390	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	04/24/1995	5640	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	11/17/1995	5900	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	04/16/1997	5190	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	11/19/1997	5120	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	05/14/1998	5780	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	11/19/1998	5870	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	02/17/1999	5720	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	05/18/1999	6720	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0261	SL	SEEP	Total Dissolved Solids	08/18/1999	6180	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	11/17/1999	5620	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	02/14/2000	5110	mg/L	0
0261	SL	SEEP	Total Dissolved Solids	05/31/2000	5740	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	08/16/2000	6160	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	11/14/2000	4940	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	02/21/2001	4440	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	05/24/2001	5690	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	08/09/2001	6220	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	11/14/2001	5110	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	02/11/2002	4740	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	05/21/2002	5490	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	02/19/2003	5280	mg/L	10
0261	SL	SEEP	Total Dissolved Solids	02/18/2004	4700	mg/L	80
0261	SL	SEEP	Total Dissolved Solids	04/27/2005	5000	mg/L	80
0264	SL	SEEP	Total Dissolved Solids	11/18/1997	5960	mg/L	0
0264	SL	SEEP	Total Dissolved Solids	05/14/1998	5720	mg/L	0
0264	SL	SEEP	Total Dissolved Solids	02/18/1999	9920	mg/L	0
0264	SL	SEEP	Total Dissolved Solids	11/17/1999	11300	mg/L	0
0264	SL	SEEP	Total Dissolved Solids	02/15/2000	7870	mg/L	0
0264	SL	SEEP	Total Dissolved Solids	05/31/2000	7170	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	08/17/2000	6420	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	11/14/2000	6460	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	02/21/2001	5550	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	05/24/2001	6450	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	11/15/2001	8200	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	02/12/2002	6660	mg/L	10
0264	SL	SEEP	Total Dissolved Solids	02/18/2004	2500	mg/L	40
0264	SL	SEEP	Total Dissolved Solids	04/27/2005	5000	mg/L	80
0265	SL	SEEP	Total Dissolved Solids	02/14/2000	6330	mg/L	0
0265	SL	SEEP	Total Dissolved Solids	05/31/2000	6150	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	08/16/2000	4640	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	11/14/2000	7900	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	02/21/2001	6420	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	05/24/2001	6650	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	08/09/2001	6960	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	11/14/2001	6990	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	02/11/2002	6680	mg/L	10
0265	SL	SEEP	Total Dissolved Solids	05/21/2002	6440	mg/L	10
0266	SL		Total Dissolved Solids	09/09/2015	4500	mg/L	80
0267	SL		Total Dissolved Solids	09/09/2015	4500	mg/L	80
0267	SL		Total Dissolved Solids	03/15/2016	4000	mg/L	1000
0267	SL		Total Dissolved Solids	10/03/2016	4400	mg/L	80
0922	SL	SEEP	Total Dissolved Solids	04/10/1985	6120	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	07/28/1985	6160	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	06/01/1988	5490	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	08/30/1988	5230	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	06/25/1990	5540	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	10/03/1990	5670	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	04/25/1991	6140	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	08/24/1991	5800	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	12/14/1991	5550	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	06/21/1993	5700	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	12/10/1994	5750	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	04/24/1995	5540	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	11/17/1995	5900	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	04/16/1997	5600	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	11/19/1997	5960	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	05/14/1998	5800	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	11/19/1998	5610	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	02/17/1999	5630	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	05/18/1999	5790	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	08/18/1999	5770	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	11/17/1999	5350	mg/L	0
0922	SL	SEEP	Total Dissolved Solids	02/14/2000	5570	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0922	SL	SEEP	Total Dissolved Solids	11/14/2000	5460	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	02/21/2001	5620	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	05/24/2001	5660	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	11/14/2001	5800	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	02/11/2002	5620	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	05/21/2002	6250	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	02/19/2003	5920	mg/L	10
0922	SL	SEEP	Total Dissolved Solids	04/27/2005	4800	mg/L	80
0923	SL	SEEP	Total Dissolved Solids	07/28/1985	5750	mg/L	10
0923	SL	SEEP	Total Dissolved Solids	06/01/1988	5310	mg/L	10
0923	SL	SEEP	Total Dissolved Solids	04/25/1991	7780	mg/L	10
0923	SL	SEEP	Total Dissolved Solids	08/09/1992	4700	mg/L	42
0923	SL	SEEP	Total Dissolved Solids	06/22/1993	5150	mg/L	10
0923	SL	SEEP	Total Dissolved Solids	04/16/1997	5280	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	11/19/1997	6250	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	11/19/1998	4090	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	02/17/1999	5160	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	05/18/1999	5520	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	08/18/1999	4760	mg/L	0
0923	SL	SEEP	Total Dissolved Solids	02/21/2001	2330	mg/L	10
0923	SL	SEEP	Total Dissolved Solids	05/24/2001	9820	mg/L	10
0924	SL	SEEP	Total Dissolved Solids	07/29/1985	4380	mg/L	10
0924	SL	SEEP	Total Dissolved Solids	08/30/1988	4310	mg/L	10
0924	SL	SEEP	Total Dissolved Solids	11/18/1997	6470	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	05/14/1998	6140	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	11/18/1998	5060	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	02/17/1999	5440	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	05/18/1999	6110	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	11/17/1999	4930	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	02/15/2000	5460	mg/L	0
0924	SL	SEEP	Total Dissolved Solids	11/14/2000	5400	mg/L	10
0924	SL	SEEP	Total Dissolved Solids	02/21/2001	5250	mg/L	10
0924	SL	SEEP	Total Dissolved Solids	05/24/2001	5640	mg/L	10
0925	SL		Total Dissolved Solids	06/01/1988	5070	mg/L	10
0925	SL		Total Dissolved Solids	08/30/1988	4630	mg/L	10
0938	SL		Total Dissolved Solids	11/03/1985	337	mg/L	0.1
0939	SL		Total Dissolved Solids	11/02/1985	369	mg/L	10
0939	SL		Total Dissolved Solids	11/02/1985	357	mg/L	10
0939	SL		Total Dissolved Solids	11/02/1985	401	mg/L	10
0939	SL		Total Dissolved Solids	11/02/1985	356	mg/L	10
0939	SL		Total Dissolved Solids	11/02/1985	329	mg/L	10
0248	SL	SEEP	Uranium	04/23/1990	0.46	mg/L	0.003
0248	SL	SEEP	Uranium	06/25/1990	0.538	mg/L	0.003
0248	SL	SEEP	Uranium	10/03/1990	0.5	mg/L	0.001
0248	SL	SEEP	Uranium	04/25/1991	0.399	mg/L	0.001
0248	SL	SEEP	Uranium	08/24/1991	0.507	mg/L	0.0003
0248	SL	SEEP	Uranium	12/13/1991	0.583	mg/L	0.001
0248	SL	SEEP	Uranium	06/21/1993	0.443	mg/L	0.001
0248	SL	SEEP	Uranium	06/21/1993	0.434	mg/L	0.001
0248	SL	SEEP	Uranium	04/28/1994	0.604	mg/L	0.001
0248	SL	SEEP	Uranium	04/28/1994	0.582	mg/L	0.001
0248	SL	SEEP	Uranium	12/10/1994	0.592	mg/L	0.001
0248	SL	SEEP	Uranium	04/24/1995	0.642	mg/L	0.001
0248	SL	SEEP	Uranium	11/17/1995	0.548	mg/L	0.001
0248	SL	SEEP	Uranium	04/16/1997	0.615	mg/L	0
0248	SL	SEEP	Uranium	11/19/1997	0.58	mg/L	0
0248	SL	SEEP	Uranium	05/14/1998	0.676	mg/L	0
0248	SL	SEEP	Uranium	02/17/1999	0.411	mg/L	0
0248	SL	SEEP	Uranium	08/18/1999	0.605	mg/L	0
0248	SL	SEEP	Uranium	11/17/1999	0.579	mg/L	0
0248	SL	SEEP	Uranium	02/14/2000	0.551	mg/L	0
0248	SL	SEEP	Uranium	11/14/2000	0.566	mg/L	0.0025
0248	SL	SEEP	Uranium	02/21/2001	0.578	mg/L	0.0001
0248	SL	SEEP	Uranium	05/24/2001	0.596	mg/L	0.0001
0248	SL	SEEP	Uranium	08/09/2001	0.779	mg/L	0.0005

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0248	SL	SEEP	Uranium	11/14/2001	0.643	mg/L	0.0001
0248	SL	SEEP	Uranium	02/11/2002	0.691	mg/L	0.0001
0248	SL	SEEP	Uranium	02/19/2003	0.591	mg/L	0.0001
0248	SL	SEEP	Uranium	02/18/2004	0.38	mg/L	0.000028
0248	SL	SEEP	Uranium	04/27/2005	0.53	mg/L	0.000022
0248	SL	SEEP	Uranium	09/09/2015	0.43	mg/L	0.000029
0248	SL	SEEP	Uranium	09/09/2015	0.42	mg/L	0.000029
0248	SL	SEEP	Uranium	03/15/2016	0.38	mg/L	0.000012
0248	SL	SEEP	Uranium	03/15/2016	0.38	mg/L	0.000012
0248	SL	SEEP	Uranium	10/03/2016	0.44	mg/L	0.000012
0249	SL	SEEP	Uranium	04/23/1990	0.73	mg/L	0.003
0249	SL	SEEP	Uranium	06/25/1990	0.718	mg/L	0.003
0249	SL	SEEP	Uranium	10/03/1990	0.806	mg/L	0.001
0249	SL	SEEP	Uranium	04/24/1991	0.483	mg/L	0.001
0249	SL	SEEP	Uranium	05/18/1994	1.15	mg/L	0.001
0249	SL	SEEP	Uranium	05/18/1994	1.18	mg/L	0.001
0249	SL	SEEP	Uranium	12/12/1994	0.816	mg/L	0.001
0251	SL	SEEP	Uranium	04/23/1990	0.468	mg/L	0.003
0251	SL	SEEP	Uranium	10/05/1990	0.178	mg/L	0.001
0251	SL	SEEP	Uranium	04/24/1991	0.407	mg/L	0.001
0251	SL	SEEP	Uranium	02/17/1993	0.711	mg/L	0.001
0251	SL	SEEP	Uranium	04/25/1995	0.101	mg/L	0.001
0251	SL	SEEP	Uranium	11/18/1997	0.46	mg/L	0
0251	SL	SEEP	Uranium	05/14/1998	0.449	mg/L	0
0251	SL	SEEP	Uranium	11/20/1998	1.57	mg/L	0
0251	SL	SEEP	Uranium	02/16/1999	0.633	mg/L	0
0251	SL	SEEP	Uranium	11/16/1999	2.1	mg/L	0
0251	SL	SEEP	Uranium	02/15/2000	0.64	mg/L	0
0251	SL	SEEP	Uranium	11/14/2000	0.885	mg/L	0.0025
0251	SL	SEEP	Uranium	02/21/2001	0.578	mg/L	0.0001
0251	SL	SEEP	Uranium	08/09/2001	0.0126	mg/L	0.0001
0251	SL	SEEP	Uranium	02/19/2003	0.506	mg/L	0.0001
0253	SL	SEEP	Uranium	05/10/1991	0.208	mg/L	0.001
0253	SL	SEEP	Uranium	08/25/1991	0.358	mg/L	0.0003
0253	SL	SEEP	Uranium	06/22/1993	0.257	mg/L	0.001
0253	SL	SEEP	Uranium	06/22/1993	0.276	mg/L	0.001
0253	SL	SEEP	Uranium	12/10/1994	0.379	mg/L	0.001
0253	SL	SEEP	Uranium	04/24/1995	0.488	mg/L	0.001
0253	SL	SEEP	Uranium	11/17/1995	0.243	mg/L	0.001
0253	SL	SEEP	Uranium	04/16/1997	0.385	mg/L	0
0253	SL	SEEP	Uranium	11/18/1997	0.466	mg/L	0
0253	SL	SEEP	Uranium	05/14/1998	0.37	mg/L	0
0253	SL	SEEP	Uranium	11/18/1998	0.283	mg/L	0
0253	SL	SEEP	Uranium	02/17/1999	0.33	mg/L	0
0253	SL	SEEP	Uranium	05/18/1999	0.336	mg/L	0
0253	SL	SEEP	Uranium	08/18/1999	0.345	mg/L	0
0253	SL	SEEP	Uranium	11/17/1999	0.274	mg/L	0
0253	SL	SEEP	Uranium	02/15/2000	0.261	mg/L	0
0253	SL	SEEP	Uranium	05/31/2000	0.288	mg/L	0
0253	SL	SEEP	Uranium	08/16/2000	0.017	mg/L	0.0001
0253	SL	SEEP	Uranium	11/14/2000	0.251	mg/L	0.0001
0253	SL	SEEP	Uranium	02/21/2001	0.386	mg/L	0.0001
0253	SL	SEEP	Uranium	05/24/2001	0.391	mg/L	0.0001
0253	SL	SEEP	Uranium	08/09/2001	0.0726	mg/L	0.0001
0253	SL	SEEP	Uranium	11/15/2001	0.354	mg/L	0.0001
0253	SL	SEEP	Uranium	02/12/2002	0.384	mg/L	0.0001
0253	SL	SEEP	Uranium	05/21/2002	0.309	mg/L	0.0001
0254	SL	SEEP	Uranium	10/03/1990	0.784	mg/L	0.001
0254	SL	SEEP	Uranium	05/10/1991	0.772	mg/L	0.001
0254	SL	SEEP	Uranium	06/22/1993	0.73	mg/L	0.001
0254	SL	SEEP	Uranium	06/22/1993	0.75	mg/L	0.001
0254	SL	SEEP	Uranium	04/26/1994	0.58	mg/L	0.001
0254	SL	SEEP	Uranium	04/26/1994	0.612	mg/L	0.001
0254	SL	SEEP	Uranium	12/10/1994	0.747	mg/L	0.001
0254	SL	SEEP	Uranium	04/24/1995	0.811	mg/L	0.001

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0254	SL	SEEP	Uranium	08/09/2001	0.838	mg/L	0.0005
0254	SL	SEEP	Uranium	04/27/2005	0.62	mg/L	0.000022
0255	SL	SEEP	Uranium	04/24/1991	0.628	mg/L	0.001
0255	SL	SEEP	Uranium	08/24/1991	0.568	mg/L	0.0003
0255	SL	SEEP	Uranium	12/13/1991	0.748	mg/L	0.001
0255	SL	SEEP	Uranium	11/19/1992	0.555	mg/L	0.001
0255	SL	SEEP	Uranium	11/19/1992	0.62	mg/L	0.001
0255	SL	SEEP	Uranium	06/22/1993	0.769	mg/L	0.001
0255	SL	SEEP	Uranium	06/22/1993	0.801	mg/L	0.001
0255	SL	SEEP	Uranium	05/18/1994	1.29	mg/L	0.001
0255	SL	SEEP	Uranium	05/18/1994	1.23	mg/L	0.001
0255	SL	SEEP	Uranium	04/17/1997	0.803	mg/L	0
0255	SL	SEEP	Uranium	11/18/1997	0.643	mg/L	0
0255	SL	SEEP	Uranium	05/14/1998	1.37	mg/L	0
0255	SL	SEEP	Uranium	11/19/1998	1.09	mg/L	0
0255	SL	SEEP	Uranium	02/18/1999	1.03	mg/L	0
0255	SL	SEEP	Uranium	08/17/1999	0.856	mg/L	0
0255	SL	SEEP	Uranium	11/17/1999	0.879	mg/L	0
0255	SL	SEEP	Uranium	02/15/2000	0.765	mg/L	0
0255	SL	SEEP	Uranium	05/31/2000	0.81	mg/L	0
0255	SL	SEEP	Uranium	08/17/2000	0.852	mg/L	0.0005
0255	SL	SEEP	Uranium	11/14/2000	0.754	mg/L	0.0025
0255	SL	SEEP	Uranium	02/21/2001	0.704	mg/L	0.0001
0255	SL	SEEP	Uranium	05/24/2001	0.662	mg/L	0.0001
0255	SL	SEEP	Uranium	08/09/2001	0.833	mg/L	0.0005
0255	SL	SEEP	Uranium	11/15/2001	0.699	mg/L	0.0001
0255	SL	SEEP	Uranium	02/12/2002	0.772	mg/L	0.0001
0255	SL	SEEP	Uranium	05/22/2002	1.71	mg/L	0.001
0256	SL	SEEP	Uranium	10/05/1990	0.021	mg/L	0.001
0256	SL	SEEP	Uranium	06/05/1991	0.033	mg/L	0.001
0256	SL	SEEP	Uranium	08/22/1991	0.0336	mg/L	0.0003
0256	SL	SEEP	Uranium	12/13/1991	0.033	mg/L	0.001
0256	SL	SEEP	Uranium	06/23/1993	0.01	mg/L	0.001
0256	SL	SEEP	Uranium	06/23/1993	0.01	mg/L	0.001
0256	SL	SEEP	Uranium	04/17/1997	0.0342	mg/L	0
0256	SL	SEEP	Uranium	11/19/1997	0.0202	mg/L	0
0256	SL	SEEP	Uranium	05/13/1998	0.0232	mg/L	0
0256	SL	SEEP	Uranium	11/19/1998	0.0276	mg/L	0
0256	SL	SEEP	Uranium	02/18/1999	0.0302	mg/L	0
0256	SL	SEEP	Uranium	05/18/1999	0.0255	mg/L	0
0256	SL	SEEP	Uranium	08/18/1999	0.0218	mg/L	0
0256	SL	SEEP	Uranium	11/17/1999	0.0206	mg/L	0
0256	SL	SEEP	Uranium	02/15/2000	0.0266	mg/L	0
0256	SL	SEEP	Uranium	05/31/2000	0.029	mg/L	0
0256	SL	SEEP	Uranium	11/15/2000	0.0455	mg/L	0.0001
0256	SL	SEEP	Uranium	02/21/2001	0.0456	mg/L	0.0001
0256	SL	SEEP	Uranium	05/23/2001	0.0309	mg/L	0.0001
0256	SL	SEEP	Uranium	02/12/2002	0.0286	mg/L	0.0001
0256	SL	SEEP	Uranium	05/21/2002	0.0209	mg/L	0.0001
0261	SL	SEEP	Uranium	06/25/1990	0.021	mg/L	0.003
0261	SL	SEEP	Uranium	10/03/1990	0.023	mg/L	0.001
0261	SL	SEEP	Uranium	05/11/1991	0.014	mg/L	0.001
0261	SL	SEEP	Uranium	12/14/1991	0.046	mg/L	0.001
0261	SL	SEEP	Uranium	12/10/1994	0.094	mg/L	0.001
0261	SL	SEEP	Uranium	04/24/1995	0.04	mg/L	0.001
0261	SL	SEEP	Uranium	11/17/1995	0.036	mg/L	0.001
0261	SL	SEEP	Uranium	04/16/1997	0.0226	mg/L	0
0261	SL	SEEP	Uranium	11/19/1997	0.0231	mg/L	0
0261	SL	SEEP	Uranium	05/14/1998	0.0148	mg/L	0
0261	SL	SEEP	Uranium	11/19/1998	0.0324	mg/L	0
0261	SL	SEEP	Uranium	02/17/1999	0.0301	mg/L	0
0261	SL	SEEP	Uranium	05/18/1999	0.0324	mg/L	0
0261	SL	SEEP	Uranium	08/18/1999	0.017	mg/L	0
0261	SL	SEEP	Uranium	11/17/1999	0.0377	mg/L	0
0261	SL	SEEP	Uranium	02/14/2000	0.0234	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0261	SL	SEEP	Uranium	05/31/2000	0.0241	mg/L	0
0261	SL	SEEP	Uranium	08/16/2000	0.0119	mg/L	0.0001
0261	SL	SEEP	Uranium	11/14/2000	0.0374	mg/L	0.0001
0261	SL	SEEP	Uranium	02/21/2001	0.0229	mg/L	0.0001
0261	SL	SEEP	Uranium	05/24/2001	0.0194	mg/L	0.0001
0261	SL	SEEP	Uranium	08/09/2001	0.007	mg/L	0.0001
0261	SL	SEEP	Uranium	11/14/2001	0.0216	mg/L	0.0001
0261	SL	SEEP	Uranium	02/11/2002	0.0227	mg/L	0.0001
0261	SL	SEEP	Uranium	05/21/2002	0.019	mg/L	0.0001
0261	SL	SEEP	Uranium	02/19/2003	0.0194	mg/L	0.0001
0261	SL	SEEP	Uranium	02/18/2004	0.027	mg/L	0.0000028
0261	SL	SEEP	Uranium	04/27/2005	0.022	mg/L	0.0000022
0264	SL	SEEP	Uranium	11/18/1997	0.788	mg/L	0
0264	SL	SEEP	Uranium	05/14/1998	0.787	mg/L	0
0264	SL	SEEP	Uranium	02/18/1999	1.44	mg/L	0
0264	SL	SEEP	Uranium	11/17/1999	2.16	mg/L	0
0264	SL	SEEP	Uranium	02/15/2000	1.23	mg/L	0
0264	SL	SEEP	Uranium	05/31/2000	0.914	mg/L	0
0264	SL	SEEP	Uranium	08/17/2000	0.802	mg/L	0.0005
0264	SL	SEEP	Uranium	11/14/2000	0.898	mg/L	0.0025
0264	SL	SEEP	Uranium	02/21/2001	0.667	mg/L	0.0001
0264	SL	SEEP	Uranium	05/24/2001	0.733	mg/L	0.0001
0264	SL	SEEP	Uranium	11/15/2001	1.17	mg/L	0.0005
0264	SL	SEEP	Uranium	02/12/2002	0.835	mg/L	0.0001
0264	SL	SEEP	Uranium	02/18/2004	0.12	mg/L	0.000028
0264	SL	SEEP	Uranium	04/27/2005	0.63	mg/L	0.000022
0265	SL	SEEP	Uranium	02/14/2000	0.357	mg/L	0
0265	SL	SEEP	Uranium	05/31/2000	0.36	mg/L	0
0265	SL	SEEP	Uranium	08/16/2000	0.164	mg/L	0.0001
0265	SL	SEEP	Uranium	11/14/2000	0.584	mg/L	0.0025
0265	SL	SEEP	Uranium	02/21/2001	0.452	mg/L	0.0001
0265	SL	SEEP	Uranium	05/24/2001	0.386	mg/L	0.0001
0265	SL	SEEP	Uranium	08/09/2001	0.361	mg/L	0.0001
0265	SL	SEEP	Uranium	11/14/2001	0.36	mg/L	0.0001
0265	SL	SEEP	Uranium	02/11/2002	0.368	mg/L	0.0001
0265	SL	SEEP	Uranium	05/21/2002	0.327	mg/L	0.0001
0266	SL		Uranium	09/09/2015	0.09	mg/L	0.000029
0266	SL		Uranium	09/09/2015	0.087	mg/L	0.000029
0267	SL		Uranium	09/09/2015	0.017	mg/L	0.000029
0267	SL		Uranium	09/09/2015	0.018	mg/L	0.000029
0267	SL		Uranium	03/15/2016	0.021	mg/L	0.000012
0267	SL		Uranium	10/03/2016	0.021	mg/L	0.000012
0267	SL		Uranium	10/03/2016	0.021	mg/L	0.000012
0922	SL	SEEP	Uranium	04/10/1985	0.295	mg/L	0.003
0922	SL	SEEP	Uranium	07/28/1985	0.212	mg/L	0.003
0922	SL	SEEP	Uranium	06/01/1988	0.22	mg/L	0.003
0922	SL	SEEP	Uranium	08/30/1988	0.268	mg/L	0.003
0922	SL	SEEP	Uranium	06/25/1990	0.367	mg/L	0.003
0922	SL	SEEP	Uranium	10/03/1990	0.297	mg/L	0.001
0922	SL	SEEP	Uranium	04/25/1991	0.212	mg/L	0.001
0922	SL	SEEP	Uranium	08/24/1991	0.358	mg/L	0.0003
0922	SL	SEEP	Uranium	12/14/1991	0.434	mg/L	0.001
0922	SL	SEEP	Uranium	11/18/1992	0.23	mg/L	0.001
0922	SL	SEEP	Uranium	11/18/1992	0.228	mg/L	0.001
0922	SL	SEEP	Uranium	06/21/1993	0.339	mg/L	0.001
0922	SL	SEEP	Uranium	06/21/1993	0.353	mg/L	0.001
0922	SL	SEEP	Uranium	04/26/1994	0.34	mg/L	0.001
0922	SL	SEEP	Uranium	04/28/1994	0.313	mg/L	0.001
0922	SL	SEEP	Uranium	12/10/1994	0.503	mg/L	0.001
0922	SL	SEEP	Uranium	04/24/1995	0.48	mg/L	0.001
0922	SL	SEEP	Uranium	11/17/1995	0.428	mg/L	0.001
0922	SL	SEEP	Uranium	04/16/1997	0.448	mg/L	0
0922	SL	SEEP	Uranium	11/19/1997	0.337	mg/L	0
0922	SL	SEEP	Uranium	05/14/1998	0.366	mg/L	0
0922	SL	SEEP	Uranium	11/19/1998	0.342	mg/L	0

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0922	SL	SEEP	Uranium	02/17/1999	0.334	mg/L	0
0922	SL	SEEP	Uranium	05/18/1999	0.365	mg/L	0
0922	SL	SEEP	Uranium	08/18/1999	0.346	mg/L	0
0922	SL	SEEP	Uranium	11/17/1999	0.397	mg/L	0
0922	SL	SEEP	Uranium	02/14/2000	0.372	mg/L	0
0922	SL	SEEP	Uranium	11/14/2000	0.372	mg/L	0.0001
0922	SL	SEEP	Uranium	02/21/2001	0.418	mg/L	0.0001
0922	SL	SEEP	Uranium	05/24/2001	0.407	mg/L	0.0001
0922	SL	SEEP	Uranium	11/14/2001	0.368	mg/L	0.0001
0922	SL	SEEP	Uranium	02/11/2002	0.398	mg/L	0.0001
0922	SL	SEEP	Uranium	05/21/2002	0.48	mg/L	0.0001
0922	SL	SEEP	Uranium	02/19/2003	0.252	mg/L	0.0001
0922	SL	SEEP	Uranium	04/27/2005	0.37	mg/L	0.000011
0923	SL	SEEP	Uranium	07/28/1985	0.0118	mg/L	0.003
0923	SL	SEEP	Uranium	06/01/1988	0.02	mg/L	0.003
0923	SL	SEEP	Uranium	04/25/1991	0.021	mg/L	0.001
0923	SL	SEEP	Uranium	11/18/1992	0.022	mg/L	0.001
0923	SL	SEEP	Uranium	11/18/1992	0.024	mg/L	0.001
0923	SL	SEEP	Uranium	06/22/1993	0.037	mg/L	0.001
0923	SL	SEEP	Uranium	06/22/1993	0.039	mg/L	0.001
0923	SL	SEEP	Uranium	04/16/1997	0.0184	mg/L	0
0923	SL	SEEP	Uranium	11/19/1997	0.0327	mg/L	0
0923	SL	SEEP	Uranium	11/19/1998	0.0213	mg/L	0
0923	SL	SEEP	Uranium	02/17/1999	0.0269	mg/L	0
0923	SL	SEEP	Uranium	05/18/1999	0.0213	mg/L	0
0923	SL	SEEP	Uranium	08/18/1999	0.0155	mg/L	0
0923	SL	SEEP	Uranium	02/21/2001	0.0165	mg/L	0.0001
0923	SL	SEEP	Uranium	05/24/2001	0.0282	mg/L	0.0001
0924	SL	SEEP	Uranium	07/29/1985	0.229	mg/L	0.003
0924	SL	SEEP	Uranium	08/30/1988	0.234	mg/L	0.003
0924	SL	SEEP	Uranium	11/18/1997	0.403	mg/L	0
0924	SL	SEEP	Uranium	05/14/1998	0.396	mg/L	0
0924	SL	SEEP	Uranium	11/18/1998	0.238	mg/L	0
0924	SL	SEEP	Uranium	02/17/1999	0.29	mg/L	0
0924	SL	SEEP	Uranium	05/18/1999	0.323	mg/L	0
0924	SL	SEEP	Uranium	08/18/1999	0.19	mg/L	0
0924	SL	SEEP	Uranium	11/17/1999	0.234	mg/L	0
0924	SL	SEEP	Uranium	02/15/2000	0.274	mg/L	0
0924	SL	SEEP	Uranium	11/14/2000	0.367	mg/L	0.0001
0924	SL	SEEP	Uranium	02/21/2001	0.34	mg/L	0.0001
0924	SL	SEEP	Uranium	05/24/2001	0.332	mg/L	0.0001
0925	SL		Uranium	06/01/1988	0.019	mg/L	0.003
0925	SL		Uranium	08/30/1988	0.019	mg/L	0.003
0938	SL		Uranium	11/03/1985	0.0009	mg/L	0.003
0939	SL		Uranium	11/02/1985	0.005	mg/L	0.003
0939	SL		Uranium	11/02/1985	0.0022	mg/L	0.003
0939	SL		Uranium	11/02/1985	0.0025	mg/L	0.003
0939	SL		Uranium	11/02/1985	0.0051	mg/L	0.003
0939	SL		Uranium	11/02/1985	0.0024	mg/L	0.003
0248	SL	SEEP	Uranium-234	09/09/2015	151	pCi/L	0.066
0248	SL	SEEP	Uranium-234	09/09/2015	142	pCi/L	0.063
0248	SL	SEEP	Uranium-234	03/15/2016	170	pCi/L	0.1
0248	SL	SEEP	Uranium-234	03/15/2016	163	pCi/L	0.04
0248	SL	SEEP	Uranium-234	10/03/2016	178	pCi/L	0.34
0266	SL		Uranium-234	09/09/2015	37.5	pCi/L	0.041
0266	SL		Uranium-234	09/09/2015	34.9	pCi/L	0.028
0267	SL		Uranium-234	09/09/2015	8.17	pCi/L	0.025
0267	SL		Uranium-234	09/09/2015	9.3	pCi/L	0.035
0267	SL		Uranium-234	03/15/2016	11.5	pCi/L	0.04
0267	SL		Uranium-234	10/03/2016	11.2	pCi/L	0.028
0267	SL		Uranium-234	10/03/2016	10.6	pCi/L	0.034
0248	SL	SEEP	Uranium-238	09/09/2015	119	pCi/L	0.088
0248	SL	SEEP	Uranium-238	09/09/2015	115	pCi/L	0.075
0248	SL	SEEP	Uranium-238	03/15/2016	137	pCi/L	0.076
0248	SL	SEEP	Uranium-238	03/15/2016	128	pCi/L	0.04

Sample Location	Location Type	Matrix	Analyte	Sample Date	Result	Unit	Detection Limit
0248	SL	SEEP	Uranium-238	10/03/2016	140	pCi/L	0.14
0266	SL		Uranium-238	09/09/2015	30.6	pCi/L	0.028
0266	SL		Uranium-238	09/09/2015	27	pCi/L	0.013
0267	SL		Uranium-238	09/09/2015	5.48	pCi/L	0.014
0267	SL		Uranium-238	09/09/2015	6.02	pCi/L	0.016
0267	SL		Uranium-238	03/15/2016	7.06	pCi/L	0.043
0267	SL		Uranium-238	10/03/2016	7.33	pCi/L	0.028
0267	SL		Uranium-238	10/03/2016	6.69	pCi/L	0.034

Location Type

- WL = monitoring well
- BH = bore hole
- SL = surface location

Matrix

- GW = groundwater
- SEEP = seep water

Unit

- mg/L = milligrams per liter
- pCi/L = picocuries per liter