

Technical Memorandum

To: Uranium One, USA, Inc.

From: Petrotek Engineering Corporation

Date: 7/30/10

Subject: Assessment of the Hydraulic Relationship of the Negley Subdivision to the Ludeman ISR Uranium Project in Converse County, Wyoming

Executive Summary

Uranium One intends to develop and extract uranium from the Fort Union Formation at the Ludeman Project in Converse County, Wyoming using ISR mining. The target ore-bodies are located within the designated 80 and 90 Sands. Teton conducted an ISR uranium pilot project in the northwest portion of the current Ludeman License Area from 1979 to 1982. The pilot was called the Leuenberger Project. The Negley subdivision is located adjacent to the northwest portion of License Area and includes twenty two private water wells.

An assessment was conducted to evaluate the hydraulic relationship between the Negley water wells and the target ore bearing aquifers. Based on a review of available well records, well inspections, and geologic data, none of the Negley wells are completed within the 90 Sand, the primary target ore-bearing aquifer for planned uranium mining in the northwest portion of the Ludeman License Area. The deepest well in the Negley subdivision is 210 feet. The depth to the top of the 90 Sand in that area is 250 to 300 feet. Most of the Negley wells are completed in the 110 and 120 Sands and three are completed within the 100 Sand. The 100 Sand is the overlying aquifer to the target production zone 90 Sand in the area. One well, located one mile west of the License Area may be completed in either the 80 or 70 Sand, but the water quality in that well does not exceed any Wyoming or EPA standards.

Aquifer testing conducted by Teton within the 90 Sand indicated negligible response in the overlying aquifer. Reported drawdown in the overlying aquifer was less than 0.1 feet during a 36 hour, 43.5 gpm test in which over 30 feet of drawdown was recorded in 90 Sand observation wells at 300 feet from the pumping well. Hydrologic testing conducted by Uranium One in 2008 in the 90 Sand showed no response in the overlying aquifer after 3.2 days of pumping at a rate of 32.2 gpm. Results of these tests demonstrate that the overlying shale provides adequate confinement between the production zone aquifer and the overlying aquifers.

Baseline water quality conducted by Uranium One in 2008-2009 indicates elevated levels of uranium, sulfate, TDS, gross alpha and manganese in many of the wells. Isoconcentration maps show a general increasing trend in uranium, gross alpha and bicarbonate to the northwest, away from the License Area.

Sampling conducted by Teton as part of the baseline monitoring for the Leuenberger Project indicated that similar water quality existed prior to the pilot test in most wells. One well (N-18) completed in the 110 Sand, has significant increases in a number of constituents since the 1979 sampling. However, several additional wells are located between N-18 and the License Area boundary that did not show increases in parameter concentrations, making it highly unlikely that the changes in water quality at N-18 are related to the Leuenberger pilot project.

Uranium One will conduct adequate aquifer testing to characterize the degree of hydraulic communication between the target production zone aquifer and the Negley subdivision wells as part of the Mine Unit application. The data will be included in the Wellfield Data Package. Based on the currently available data, no additional hydrologic testing is proposed for the application for an NRC License for the Ludeman Uranium Project.

Introduction

Uranium One, USA, Inc. (Uranium One) plans to develop and extract uranium from in-situ recovery (ISR) wellfields within the Fort Union Formation at the Ludeman Project in Converse County, Wyoming. The target ore-bodies are located within the designated 80 and 90 Sands. From 1979 to 1982, UNC-Teton Drilling Exploration, Inc (Teton) conducted an ISR uranium pilot project (then identified as the Leuenberger Project) in the NE ¼, NE ¼ of Section 14, T34N, R74W. The former Leuenberger Project area is within the northwest portion of the Ludeman License area.

North and west of the Ludeman License boundary is the Negley subdivision. Figure 1 shows the location of the Negley subdivision relative to the Ludeman License boundary. Twenty two private water wells (used for domestic, stock and irrigation purposes) have been identified within the subdivision and many of these wells are used for domestic water supply. An additional private well one mile west of the License boundary was also included in the area of investigation. An assessment was performed to

- 1) determine if private wells within the Negley subdivision are completed within the target ore bearing aquifers (80 and 90 sands), or are hydraulically connected to them; and
- 2) identify if water quality in the Negley subdivision private wells was impacted by the Teton ISR pilot project.

The assessment includes a review of existing well records, published reports and permit applications, available site specific geologic and hydrologic data, and historic and recent water quality sampling results. Results of the assessment are summarized within this document.

Conclusions developed from this assessment are that none of the Negley wells are completed deep enough to intercept the target ore-bearing aquifers and that the ISR pilot project did not impact water quality in any of the Negley wells. However baseline

water quality data indicate elevated levels of uranium and total dissolved solids existed prior to 1980. A single well outside of the Negley subdivision and located one mile west of the License boundary is completed within the 70 or 80 Sand. That well is hydraulically cross gradient to upgradient of the Ludeman License Area and has not been impacted from historic ISR activities.

Leuenberger Pilot Project

Teton recognized that the Negley development in Section 11 posed potential water quality issues for the ISR pilot and eventual commercial operation. Accordingly, up to eleven landowner wells were tested weekly for excursion parameters prior to, and during, pilot operations. Monitoring data from these wells demonstrated that no solution migration to the subdivision occurred during or after termination of the pilot operation. In addition, the following edited document prepared for the USNRC by Oak Ridge National Laboratory and the University of Idaho (NUREG/CR-3967 ORNL/TM-9956 "An Analysis of Excursions at Selected In Situ Uranium Mines in Wyoming and Texas", July 1986) substantiates that there was no effect on the subdivision wells by the Teton pilot project.

"Description of the Site

Teton Exploration Drilling Company (TEDC) operated the Leuenberger in situ uranium mine in Converse County, Wyoming, about 12 km (7.5 mi) northeast of Glenrock. Solution mining research and development operations began on January 22, 1980, with two well fields. The N and M (equivalent to the 90 and 80 Sands designation used by Uranium One) ore zones were mined separately in each of the two well fields. The N (90 sand) and M (80 sand) ore bodies are located in Section 14, T34N, R74W. All mining, processing, and restoration were concluded at the Leuenberger mine as of January, 1982. Post-restoration monitoring continued through 1982.

History of Mining Operations

Research and development testing began January 22, 1980, in two separate five-spot well patterns. One pattern was designated for each of the N and M ore zones. Each test pattern consisted of four injection wells placed approximately 15 m (50 ft) apart surrounding a central pumping well. Two additional five-spot patterns contiguous to the original M zone pattern were drilled and operated.

The pilot testing operation utilized a sodium carbonate/bicarbonate lixiviate at a concentration ranging from 0.5 to 2 g/L (as HCO_3) with a hydrogen peroxide oxidant at a concentration of 0.5 g/L. Leaching was terminated in the N well field area on June 1, 1980, after about 47 aquifer pore volumes of lixiviate were circulated through the test pattern. Approximately 29 aquifer pore volumes of lixiviate were circulated through the three M zone test patterns by the completion of mining on February 17, 1981.....

Monitoring Well System and Well Construction

Monitoring wells were placed in the N and M sandstones (ore zones) and in the aquifers above and below both ore zones (O (100 & 110 sands) and Basal sandstones (70 sand), respectively). Monitoring wells utilized during the research and development operations were

sampled every two weeks for excursion indicators chloride, alkalinity, sodium, sulfate, uranium, and conductivity.

Monitoring wells at the research and development test site were completed in the N and M sandstones at a distance of about 60 m (200 ft) from the well field boundary. One Basal Sandstone monitoring well and two O Sandstone monitoring wells were used at the test site.

Analysis of Excursions

No excursions were reported during TEDC's 13 month research and development operations from January, 1980, through February, 1981. TEDC was never required to proceed with corrective measures to control possible leachate migrations.

Monitoring well 309 which is completed in the N Sandstone (ore zone) slightly exceeded its UCL's for conductivity, sulfate, and alkalinity on February 6, 1980. Subsequent samples from this well indicated that the three excursion indicators declined below their UCL's and remained there.

Basal Sandstone monitoring well 314 and M Sandstone (ore zone) monitoring well MM-2 exceeded UCL's on one or more sampling dates in April and May, 1980. Well 314 exceeded UCL's for chloride, sulfate, and/or alkalinity for three nonconsecutive sampling dates. Well MM-2 exceeded UCL's for sulfate and sodium on one sampling date only. No corrective actions were initiated for these apparent excursions.

The report goes on to describe the restoration of the two research and development areas. Restoration was conducted at the N (90 Sand) research and development area from June 1980 through November 1990. The report stated that the N (90 Sand) wellfield was considered to have been restored successfully to the highest potential pre-mining use citing a 1983 NRC document. Restoration of the M (80 sand) wellfield was conducted from February through December 1981. The M (80 Sand) wellfield was also considered to have been restored successfully to the highest potential pre-mining use and Teton was issued a permit to mine uranium commercially at the Leuenberger site. However, The Leuenberger Project was never commercially mined because of unfavorable economic conditions for uranium production.

Negley Subdivision Wells

The Negley development is an unplatted "subdivision" consisting of approximately thirty individual land owners located in Section 11, Township 34N, Range 74W, Converse County, Wyoming. Search of the State Engineers Office (SEO) records and physical inspection of the area indicate that there are twenty two private wells located within the Negley subdivision. Another well included in this assessment is located approximately one mile west of the License boundary. Well records were reviewed to determine permit numbers, drilling date, total depth, completion interval and other construction details of the Negley subdivision wells. Initial review of the well records indicated that insufficient data were available to determine the drilling depth of three of the Negley

subdivision wells, N-14, N-18 and N-19. A field survey was conducted to verify the total depth of those three wells. Subsequent records search turned up well files for those three wells. The well depths determined in the field were slightly shallower than indicated on the records, most likely because of sediment settling within the wells. Table 1 presents a summary of the well records search. Figure 2 indicates the location of the Negley subdivision wells.

As shown on Table 1, with the exception of the single well located west of the License area (outside of the Negley subdivision in Section 10 and identified as well N-8), the deepest well in the Negley subdivision is recorded as 210 feet below ground surface (ft bgs).

Based on the geologic data described in the following section, none of Negley subdivision wells (except for N-8) are completed in the target ore-bearing aquifers (the 80 and 90 Sands). Well N-8 appears to be completed in the 80 Sand, or possibly the deeper 70 Sand. The well was drilled to provide irrigation water but has not been used for any purposes because the well has insufficient yield for the landowners needs. The majority of the Negley wells are completed in the 110 or 120 Sands. Three of the wells appear to be completed within the 100 Sand which is the overlying aquifer to the 90 Sand, the primary production zone for this portion of the License Area.

All of these wells have been sampled by Uranium One to establish baseline water quality. Uranium One has designated the Negley wells as N-1 through N-23 (Figure 2). Many of these wells existed at the time of the Teton pilot project and were sampled for baseline and post-mining water quality under the prescribed monitoring program although some of the wells have changed ownership. In fact, a number of the current Negley wells were installed by Teton to provide monitoring of potential impacts from the ISR activities and were subsequently turned over to the private landowners for use as water supply wells following restoration and termination of the project. Results of the water sampling are discussed under the water quality section of this document.

Geology

The Ludeman Project is located in the southwestern part of the Powder River Basin. The Fort Union Formation underlies the surgical Wasatch formation in the area, and consists of a series of mudstones, siltstones and clays with minor cross-bedded sandstone channels and occasional thin limestone and lignite beds. The Fort Union Formation sandstones were deposited in a fluvial paleo-drainage system which flowed generally in a north-northeasterly direction. The sandstones of the Lebo member of the Fort Union Formation are the host rocks for the uranium ore deposits at Ludeman. The channel deposits are confined by mudstones that serve as aquitards to the sand-dominated aquifers.

The subsurface geology (to depths of 600 to 700 ft bgs) of the License Area and extending beneath the Negley subdivision is well characterized as a result of extensive exploratory and delineation drilling conducted by previous uranium mining ventures and

by Uranium One. Several of the figures used in this assessment to describe the geology of the site are from the Ludeman Project NRC License Amendment Application, Technical Report (Uranium One 2010) and are identified as such.

A brief summary of the geologic units of interest from shallowest to deepest is provided below. The discussion is primarily focused on the northwest portion of the License Area, identified as the Leuenberger Area. Uranium One nomenclature for the stratigraphy in the area includes numbering the sand units, decreasing with depth. Figure 2.6-1 from the Technical Report presents the local stratigraphy.

The 120 Sand is the uppermost sand unit in the Leuenberger Area. This sand has been eroded in various locations in the Leuenberger Area and throughout the Ludeman License Area. The 120 Sand ranges from 29 to 147 feet thick across the License Area.

The 110 Sand is an overlying aquifer in the Leuenberger area. It is separated from the 120 Sand by the 120/110 Shale, which ranges from 2 to 82 feet thick across the License Area. The 110 Sand ranges in thickness from 5 to 139 feet across the License Area. The 110 Sand has been eroded in various locations throughout the License Area but is continuous in the Leuenberger Area.

The 100 Sand is the overlying aquifer to the 90 Sand. The 100 Sand pinches out in various locations in the Leuenberger area. In the locations where the 100 Sand is not present, the 110 Sand is the overlying aquifer. Across the License Area, approximately 4 to 119 feet of the 110/100 Shale separate the 110 and 100 Sands. The 100 Sand ranges in thickness from 0 to 176 feet across the License Area.

The 90 Sand is the shallowest proposed production zone. The 90 Sand is separated from the 100 Sand by the 100/90 Shale. The 100/90 Shale ranges from 3 to 145 feet thick across the License Area. The 90 Sand pinches out in various locations within the License Area, but is continuous in the Leuenberger Area. Its thickness ranges from 0 to 181 feet.

The 80 Sand is beneath the 90 Sand and is also a proposed production zone. The 80 Sand is separated from the 90 Sand by the 90/80 Shale which ranges from 2 to 156 feet thick. The 80 Sand ranges from 0 to 161 feet thick across the License Area. Although pinch-outs are present within the License Area, the 80 Sand is continuous in the Leuenberger Area.

The 70 Sand is the underlying aquifer in the Leuenberger Area and is separated from the 80 Sand by 4 to 128 feet of 80/70 Shale. The 70 Sand ranges from 0 to 164 feet thick, pinching out in various locations within the License Area although this unit is continuous within the Leuenberger Area.

Sands beneath the 70 Sand include the 60, 50, 40 etc, but these units have no consequence to the Negley wells with respect to ISR mining as they are several hundreds of feet deeper than any of the private water well depths.

The Teton nomenclature for the stratigraphic units was alphanumeric. Correlation of these units is summarized below.

Table 2. Correlation of Uranium One and Teton Sand Nomenclature

Uranium One	120	110	100	90	80	70
Teton	Not Designated	O2	O1	N	M	P

Uranium One included several cross-sections across the License Area in the Ludeman Project Technical Report as shown on Figure 2.6-2. Cross-sections A-A', B-B' and G-G' (Figures 2.6-3, 2.6-4 and 2.6-9 of the Technical Report) are located across or near the Negley Subdivision wells and provide a clear indication that those wells do not intercept the 80 or 90 Sand.

Cross-section A-A' cuts across the northern portion of the Negley subdivision from southwest to northeast. Cross-Section B-B' is oriented west to east across the southern portion of the Negley subdivision. Cross section G-G' runs from northwest to southeast, just northeast of the Negley Subdivision and is provided mainly to tie the other two cross-sections together.

Several of the deeper Negley wells are projected onto the cross-sections. The projections illustrate that none of the Negley wells penetrate the 80 or 90 Sands, the target ore bearing zones. In the vicinity of the Negley subdivision, the confining unit between the 90 and 100 Sands (the 100-90 Shale) is between 18 and 111 feet thick (Figure 2.6-29 of the Technical Report).

Hydrogeology

Potentiometric surface maps and pumping tests were reviewed to evaluate the extent of hydraulic communication that exists between the ore bearing target zones (80 and 90 Sands) and the overlying 100 through 120 Sands.

The potentiometric surface maps provided in the Ludeman Project License Amendment Application Technical Report (Uranium One 2010) indicate a generally northeast hydraulic gradient in the proposed production zone 80 and 90 Sands in the vicinity of the Negley Subdivision (Figures 2.7-14 and 2.7-15 respectively). The potentiometric surface of the 100 Sand appears to have a more northerly hydraulic gradient; however, the water level elevation in the 100 Sand in the vicinity of the Negley Subdivision wells may be similar to that seen in the 80 and 90 Sands (Figure 2.7-16). The water level elevation in the nearest 110 Sand monitor well is significantly higher (> 30 ft) than in the 80, 90 or 100 Sands, clearly indicating hydraulic separation. The original Teton License Application for Leuenberger also indicated a large difference in water levels (> 35 ft)

between the 90 Sand (the N Sand) and the overlying aquifer (identified as the O Sand but not differentiated between the O1 or O2 Sand).

Pumping tests conducted in the 90 Sand by Teton showed minimal response in the monitor well completed in overlying aquifer, less than 0.1 ft compared to more than 30 feet in the 90 Sand at distances of 300 feet from the pumped well. No barometric corrections were reported so it is unclear if the "observed" drawdown of less than 0.1 ft during the test was related to barometric changes or was a response to pumping of the 90 Sand. The test was run for 36.5 hours at 43.1 gpm. The negligible drawdown observed in the overlying monitor well suggests that hydraulic communication between the 90 Sand and the overlying aquifer is minimal.

Uranium One conducted a series of aquifer tests in the 80 and 90 Sands in 2008 in the Leuenberger portion of the License Area. A 90 Sand test was conducted at well LWP-2 (shown on Figure 1) for a period of 3.2 days at a rate of 32.2 gpm. Drawdown in the pumping well was over 71 feet. An observation well completed in the overlying 110 Sand (LMO-1) and located 10 feet from the pumping well showed no drawdown response during the test. There is no 100 Sand at this location. Results of this pump test demonstrate that the overlying shale unit provides adequate confinement for ISR operations.

The water level and pumping test data demonstrate that there is adequate hydraulic separation between the 90 Sand and the overlying aquifer. Additional aquifer testing will be conducted and submitted as part of a Wellfield Data Package to further demonstrate the degree of hydraulic communication between the 90 Sand and the overlying aquifers.

Water Quality

As previously described, each of the twenty two Negley Subdivision wells and the single well located west of the License Area have been sampled by Uranium One for baseline water quality. Additionally, many of those wells existed at the time of the Teton Leuenberger pilot project and were sampled for baseline and post mining water quality to assess potential impacts of ISR mining. Results of the water quality sampling are described herein.

Analytical results from four quarters of groundwater samples collected from the Negley wells under the current Uranium One baseline monitoring program are included the Ludeman Project License Amendment Application Technical Report (2010) in Addendum 2.7E. Table 3 of this report provides an average of the major ion concentration for each of the wells. All but three of the wells exceed the Wyoming Class I standard for TDS (500 mg/l) and ten of the twenty three wells exceed the Class I standard for sulfate (250 mg/l). With respect to radionuclides, shown on Table 4, nine of the Negley wells exceed the EPA Maximum Contaminant Level (MCL) for uranium (0.035 mg/l), four exceed the EPA MCL for radium 226+288 (5.0 pCi/l) and twenty two of the well averages exceed the Wyoming Class I standard for gross alpha. Average concentration of trace metals are shown on Table 5. With the exception of manganese,

most samples were below detection limits and standards for trace constituents. Two wells exceeded the selenium Class I standard of 0.05 mg/l. Nine wells exceeded the Wyoming Class I standard for manganese (0.05 mg/l). The analytical data summarized in the previous tables are provided in Attachment A to this report.

Isoconcentration maps were developed for several of the analytes. Figures 3, 4 and 5 show the distribution of dissolved uranium, bicarbonate and gross alpha in the Negley subdivision. The pattern that is exhibited for each of these maps is that the overall trend shows an increase to the northwest, away from the Leuenberger Area except that one well (N-18) is consistently elevated.

The depth of well N-18 was recently measured and found to be 106.8 ft. Well N-14 and N-19 were also measured in the field to verify total depth. Based on cross section B-B', well N-18 is completed in the 110 Sand. Well N-18 has the highest average concentration of TDS, sulfate, chloride, uranium, gross alpha and selenium of any of the Negley wells. Other Negley wells located to the south (and closer to the area where the pilot test was conducted) have much lower values of those constituents.

The increasing trend in uranium to the northwest away from the License Area, and the generally low uranium values along the north License Area boundary, make it unlikely that the pilot test negatively impacted water quality in the Negley wells even though many of the wells exceed Class I standards for uranium, gross alpha, sulfate, TDS, and manganese. Uranium ore has been identified in borings drilled into the 100 sands in areas near the Negley subdivision and may be the cause of the elevated levels observed.

Baseline data collected during the Teton pilot project confirm that the water quality in many of the Negley wells exceeded Wyoming Class I standards for a number of constituents prior to mining and are essentially the same quality today as pre-mining. Table 6 compares the 1979 and 2008/2009 water quality data for wells that were sampled over both time periods. Most values are similar with the exception being N-18. In N-18, the concentration of most major ions, as well as TDS, nitrate (as N) and uranium showed sharp increases from 1979 to 2008/2009. No explanation is readily apparent; however the dramatic increase in nitrate suggests that this well may have received some form of surface contamination or infiltration. Field investigations identified that the well was in poor condition and may be prone to surface infiltration.

A series of stiff diagrams were developed from the average water quality data collected as part of the Uranium One Ludeman baseline monitoring program. The stiff diagrams show a general change in water quality with depth (Figures 6 and 7). Wells completed in the 120 and 110 Sands have higher TDS and are predominately calcium-sulfate type water. Wells completed in the 80 Sand are predominately calcium-carbonate waters with much lower TDS. Wells completed within the 100 and 90 Sands are generally transitional between the calcium-carbonate and calcium-sulfate water types and intermediate TDS levels.

Summary

Uranium One intends to develop and extract uranium from the Fort Union Formation at the Ludeman Project in Converse County, Wyoming using ISR mining. The target ore-bodies are located within the designated 80 and 90 Sands. Teton conducted an ISR uranium pilot project in the northwest portion of the current Ludeman License Area from 1979 to 1982. The pilot was called the Leuenberger Project. The Negley subdivision is located adjacent to the northwest portion of License Area and includes twenty two private water wells.

Based on a review of available well records, well inspections, and geologic data, none of the Negley wells are completed within the 90 Sand, the primary target ore-bearing aquifer for planned uranium mining in the northwest portion of the Ludeman License Area. The deepest well in the Negley subdivision is 210 feet. The depth to the top of the 90 Sand in that area is 250 to 300 feet. Most of the Negley wells are completed in the 110 and 120 Sands and three are completed within the 100 Sand. The 100 Sand is the overlying aquifer to the target production zone 90 Sand in the area. One well, located one mile west of the License Area may be completed in either the 80 or 70 Sand, but the water quality in that well does not exceed any Wyoming or EPA standards.

Aquifer testing conducted by Teton within the 90 Sand indicated negligible response in the overlying aquifer. Reported drawdown in the overlying aquifer was less than 0.1 feet during a 36.5 hour, 43.1 gpm test in which over 30 feet of drawdown was recorded in 90 Sand observation wells at 300 feet from the pumping well. Aquifer testing of the 90 Sand conducted by Uranium One in the Leuenberger area in 2008 indicated no response in the overlying aquifer after 3.2 days of pumping at 32.2 gpm. Results of these tests demonstrate adequate confinement between the 90 Sand and the overlying aquifers in the area.

Baseline water quality conducted by Uranium One in 2008-2009 indicates elevated levels of uranium, sulfate, TDS, gross alpha and manganese in many of the wells. Isoconcentration maps show a general increasing trend in uranium, gross alpha and bicarbonate to the northwest, away from the License Area.

Sampling conducted by Teton as part of the baseline monitoring for the Leuenberger Project indicated that similar water quality existed prior to the pilot test in most wells. One well (N-18) completed in the 110 Sand, has significant increases in a number of constituents since the 1979 sampling. However, several additional wells are located between N-18 and the License Area boundary that did not show increases in parameter concentrations, making it highly unlikely that the changes in water quality at N-18 are related to the Leuenberger pilot project.

Uranium One will conduct adequate aquifer testing to characterize the degree of hydraulic communication between the target production zone aquifer and the Negley

subdivision wells as part of the Wellfield Data Package. Uranium One believes that the additional data supports the conclusion that 1) none of the Negley wells are completed in the production zones; 2) adequate confinement exists between the production zone and the overlying zones; and 3) the existing water quality in the Negley wells is similar to the water quality noted during preoperational testing for the Leuenberger Pilot Project. Uranium One believes that adequate information is available to allow NRC to evaluate potential impacts on groundwater in the Negley subdivision from the proposed facility under both normal operating conditions and accidents and that this information meets the acceptance criteria in NUREG-1569, section 2.2.3 and that additional hydrologic testing should not be necessary at this time for the technical review of the amendment application for the Ludeman Uranium Project to proceed.

Tables

Table 1. Negley Well Information

Uranium One Designation	Well ID	Name (Original)	Applicant	Permit Number	Latitude North	Longitude West	Easting	Northing
							(NAD 27) (ft)	(NAD 27) (ft)
N-1	Zwetzig #2	LaPlant #1	E LaPlant	50986	42°55.674	105°41.904	357587	824383
N-2	Zwetzig #1	Negley #3	J Negley	26629	42°55.543	105°41.812	357984	823579
N-3	Yoder Negley #6	Negley #6 / Anderson #1	W Yoder	42818/83767	42°56.116	105°41.529	359265	827070
N-4	Yoder Bourquin #2	Bourquin #2	W Yoder	40688	42°56.042	105°41.849	357843	826605
N-5	Yoder Bourquin #1	Bourquin #1	W Yoder	40689	42°56.051	105°41.952	357388	826681
N-6	Yoder Teton MW KT2	Teton MW KT-2	R Haun	50985	42°55.936	105°41.717	358428	825982
N-7	Yoder Negley #5	Negley #5	J.Negley	26631	42°56.138	105°41.821	357980	827187
N-8	Woeck	-	Woeck	173339	42°55.541	105°43.994	348262	823643
N-9	Vollman Windmill #2	Layton #4 or Layton #5	AC Layton	180	42°56.581	105°41.137	361050	829865
N-10	Vollman Windmill #1	AC #1	AC Layton	24572 *	42°55.959	105°42.251	356045	826143
N-11	Vollman #1	Layton #1	AC Layton	P08605P	42°56.392	105°41.524	359302	828746
N-12	Saxon	Huxtable #1	G Huxtable	64309	42°55.550	105°41.717	358413	823613
N-13	Raney	Bobbie #1 / Jean #1	E Evanoff/R Deveraux	30262*/30263*	42°55.798	105°41.542	359199	825139
N-14	Ossa #2	ELRU #1	E Doege	46720	42°55.812	105°41.722	358405	825217
N-15	Ossa #1	Hickerson #1	M Hickerson	32804	42°55.766	105°41.857	357805	824929
N-16	Milligan #2	Highway Corner #2	M Dunham	30265	42°55.555	105°41.617	358868	823646
N-17	Milligan #1	Highway Corner #1	M Dunham	30264	42°55.618	105°41.559	359112	824046
N-18	Hull	Negley #2	J Negley	9485	42°55.698	105°41.745	358285	824525
N-19	Hart	Negley #4	J Negley	26630	42°55.548	105°41.951	357368	823619
N-20	Geho #2	KT-1	R Haun	26415	42°55.827	105°41.777	358156	825327
N-21	Geho #1	Lucky Five #1	E Doege	26463	42°55.760	105°41.702	358501	824888
N-22	Dunnahoe	Lucky Five #2	E Doege	42928	42°55.806	105°41.682	358583	825179
N-23	Albaugh	Albaugh # 1	J Albaugh	161492	42°55.741	105°41.836	357885	824783

* - permit cancelled

NAD 27-North American Datum 1927

ft - feet

Table 2. Negley Well Information

Uranium One Designation	Well ID	Surface Elevation (ft amsl)	Casing ID (in.)	TD (ft bgs)	TD Elev (ft amsl)	Completion Interval (ft bgs)	Completion (Teton)	Completion (Uranium 1)
N-1	Zwetzig #2	5262	5"	131	5131	71-131	O2	110
N-2	Zwetzig #1	5255	5"	120	5135	80-120	O2	110
N-3	Yoder Negley #6	5277	5"	120	5157	40-120	O2/O3	110/120
N-4	Yoder Bourquin #2	5269	5"	200	5069	140-200	O1	100
N-5	Yoder Bourquin #1	5307	5"	125	5182	60-125	O2/O3	110/120
N-6	Yoder Teton MW KT2	5260	5"	196	5064	106-186	O1/O2	100/110
N-7	Yoder Negley #5	5290	6"	120	5170	80-120	O2/O3	110/120
N-8	Woeck	5215	10"	380	4835	340-380	M	80
N-9	Vollman Windmill #2	5371	5"	180	5191	SEO Doc NA	O3	120
N-10	Vollman Windmill #1	5237	5"	150	5087	na	O2	110
N-11	Vollman #1	5310	5"	140	5170	SEO Doc NA	O3	120
N-12	Sexon	5288	5"	160	5128	120-160	O2	110
N-13	Raney	5293	5"	210	5083	200-210	O2	110
N-14	Ossa #2	5272	6"	180	5100	135-175	O2	110
N-15	Ossa #1	5258	5"	195	5063	160-195	O1	100
N-16	Milligan #2	5281	6"	160	5121	120-160	O2	110
N-17	Milligan #1	5261	5"	180	5081	140-180	O2	110
N-18	Hull	5252	5"	130	5122	50-130	O2	110
N-19	Hart	5214	5"	135	5079	95-135	O2	110
N-20	Geho #2	5289	5"	180	5109	120-160	O2	110
N-21	Geho #1	5285	5"	180	5105	140-180	O2	110
N-22	Dunnahoe	5265	5"	180	5085	135-175	O2	110
N-23	Albaugh	5260	5"	165	5095	na	O2/O3	110/120

ft - feet in - inches
ft amsl - feet above mean sea level
ft bgs - feet below ground surface
TD - total depth

Table 3. Water Quality, Major Ions, Negley Wells, Uranium One Baseline Monitoring

Well ID	Well Owner	Bicarbonate (mg/l)	Chloride (mg/l)	Sulfate (mg/l)	Calcium (mg/l)	Magnesium (mg/l)	Potassium (mg/l)	Sodium (mg/l)	TDS (mg/l)
N-1	Zwetzig #2	245	1	242	111	22	9	25	574
N-2	Zwetzig #1	252	2	247	113	23	8	30	582
N-3	Yoder Negley #6	152	115	578	249	37	13	37	1238
N-4	Yoder Bourquin #2	322	8	191	121	20	10	35	588
N-5	Yoder Bourquin #1	345	5	197	109	22	10	30	599
N-6	Yoder Teton MW KT2	238	1	245	111	23	8	27	555
N-7	Yoder Negley #5	338	7	253	145	24	10	34	688
N-8	Woeck	263	3	78	69	15	7	21	324
N-9	Vollman Windmill #2	311	13	343	182	25	12	38	840
N-10	Vollman Windmill #1	374	6	202	133	26	8	30	650
N-11	Vollman #1	290	35	210	153	24	11	26	712
N-12	Sexon	247	1	261	117	25	9	29	600
N-13	Raney	236	9	235	109	23	8	28	576
N-14	Ossa #2	252	73	60	96	16	9	26	436
N-15	Ossa #1	246	2	250	117	25	9	28	593
N-16	Milligan #2	247	8	286	130	24	10	32	643
N-17	Milligan #1	243	2	276	125	24	9	28	612
N-18	Hull	330	121	580	237	47	8	72	1413
N-19	Hart	252	5	185	100	21	8	26	486
N-20	Geho #2	238	<1	260	104	23	8	29	582
N-21	Geho #1	240	<1	256	120	23	9	28	600
N-22	Dunnahoe	245	2	245	110	23	8	27	567
N-23	Albaugh	226	8	346	147	30	10	35	817

mg/l - milligrams per liter

Values in bold exceed Wyoming Class I Drinking Water Standard

Table 4. Water Quality, Trace Metals, Negley Wells, Uranium One Baseline Monitoring

Well ID	Well Owner	Al	As	Ba	Be	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Vn	Zn
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
N-1	Zwetsag #2	<0.1	<0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.06	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-2	Zwetsag #1	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.003	<0.1	0.018
N-3	Yoder Negley #6	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.110	<0.1	0.010
N-4	Yoder Bourquin #2	<0.1	<0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.028	<0.1	<0.01
N-5	Yoder Bourquin #1	<0.1	0.0025	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.027	<0.1	0.030
N-6	Yoder Teton MW KT2	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.15	<0.001	<0.1	<0.05	<0.001	<0.1	0.030
N-7	Yoder Negley #5	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.036	<0.1	0.033
N-8	Woock	<0.1	<0.001	<0.1	0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.03	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-9	Vollman Windmill #2	<0.1	<0.001	<0.1	0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.01	<0.001	<0.1	<0.05	0.048	<0.1	0.100
N-10	Vollman Windmill #1	<0.1	<0.001	<0.1	0.1	<0.005	<0.05	0.02	<0.03	<0.001	0.01	<0.001	<0.1	<0.05	0.014	<0.1	0.143
N-11	Vollman #1	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.02	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.042	<0.1	0.020
N-12	Saxon	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.02	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-13	Raney	<1.0	0.002	<0.1	0.1	<0.005	<0.05	<0.01	<0.12	<0.002	<0.01	<0.001	<0.1	<0.05	0.006	<0.1	<0.008
N-14	Ossa #2	<0.1	<0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.007	<0.1	0.010
N-15	Ossa #1	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.1275	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-16	Milligan #2	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.07	<0.001	<0.1	<0.05	0.003	<0.1	0.020
N-17	Milligan #1	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.12	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-18	Hull	<0.1	<0.001	<0.1	<0.1	<0.005	<0.05	0.03	<0.03	<0.001	<0.01	<0.001	<0.1	<0.05	0.127	<0.1	0.020
N-19	Hart	<0.2	0.001	<0.1	<0.1	<0.005	<0.05	<0.02	<0.04	<0.001	<0.01	<0.001	<0.1	<0.05	0.007	<0.1	<0.03
N-20	Geho #2	<0.1	0.001	<0.1	<0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.11	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-21	Geho #1	<0.1	0.001	<0.1	0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.1725	<0.001	<0.1	<0.05	<0.001	<0.1	0.010
N-22	Dunnahoe	<0.1	0.001	<0.1	0.1	<0.005	<0.05	<0.01	<0.03	<0.001	0.155	<0.001	<0.1	<0.05	<0.001	<0.1	<0.01
N-23	Albaugh	<0.1	0.002	<0.1	<0.2	<0.005	<0.05	<0.01	<0.05	<0.001	0.1235	<0.001	<0.1	<0.05	0.024	<0.1	<0.02

< - analytical results less than reporting limit

mg/l - milligrams per liter

Values in bold exceed Wyoming Class I Drinking Water Standard

Table 5. Water Quality, Radionuclides, Negley Wells, Uranium One Baseline Monitoring

Well ID	Well Owner	Gross Alpha (pCi/l)	Gross Beta (pCi/l)	Lead 210 (pCi/l)	Polonium 210 (pCi/l)	Radium 226 (pCi/l)	Radium 228 (pCi/l)	Ra 226+228 (pCi/l)	Thorium 230 (pCi/l)	Uranium (mg/l)
N-1	Zwetzig #2	31.0	14.0	<3.3	<0.7	0.52	2.03	2.55	<0.2	0.011
N-2	Zwetzig #1	53.2	17.2	<3.6	<0.8	0.51	1.80	2.31	<0.2	0.021
N-3	Yoder Negley #6	124.8	33.9	4.3	<0.7	0.56	2.60	3.16	<0.2	0.039
N-4	Yoder Bourquin #2	98.3	32.0	<3.0	<0.8	0.62	3.08	3.69	<0.2	0.073
N-5	Yoder Bourquin #1	96.1	28.0	<2.8	<0.8	0.75	2.50	3.25	<0.2	0.080
N-6	Yoder Teton MW KT2	48.4	18.6	<3.1	<0.7	0.67	3.50	4.17	<0.2	0.010
N-7	Yoder Negley #5	172.8	46.7	<5.8	<0.6	0.87	5.50	6.37	<0.2	0.100
N-8	Woeck	5.7	7.2	<4.0	<0.6	0.65	1.60	2.25	<0.3	0.000
N-9	Vollman Windmill #2	169.7	35.0	<4.8	<0.5	0.35	2.47	2.81	<0.4	0.081
N-10	Vollman Windmill #1	166.0	36.7	<4.5	<0.6	0.38	2.13	2.51	<0.2	0.099
N-11	Vollman #1	121.5	31.0	<3.7	<0.8	0.87	4.40	5.27	<0.2	0.064
N-12	Sexon	39.7	14.0	<4.1	<0.7	0.32	1.60	1.92	<0.4	0.013
N-13	Raney	46.6	19.6	<2.7	<0.9	1.02	4.20	5.22	<0.2	0.015
N-14	Ossa #2	75.4	23.5	<2.5	<0.5	1.05	1.80	2.85	<0.3	0.038
N-15	Ossa #1	41.7	14.4	<3.5	<0.8	0.69	2.70	3.39	<0.3	0.015
N-16	Milligan #2	44.3	19.9	<3.9	<0.7	1.02	2.40	3.42	<0.2	0.029
N-17	Milligan #1	42.5	14.3	<4.4	<0.7	0.66	2.10	2.76	<0.2	0.013
N-18	Hull	269.5	52.6	<2.6	<0.7	0.44	<1.6	<2.04	<0.3	0.188
N-19	Hart	56.4	22.7	<3.4	<0.8	0.74	4.15	4.89	<0.4	0.034
N-20	Geho #2	27.8	14.4	<2.7	<0.6	0.52	4.30	4.82	<0.4	0.010
N-21	Geho #1	41.4	17.3	<5.1	<0.5	<0.77	2.90	<3.67	<0.2	0.010
N-22	Dunnahoe	37.3	24.1	<3.3	<0.8	0.59	4.70	5.29	<0.3	0.011
N-23	Albaugh	40.3	16.4	<3.5	<0.6	1.00	2.45	3.45	<0.3	0.012

< - analytical result less than reporting limit

Ra226+228 -combined Radium 226 and Radium 228

pCi/l - picoCuries per liter

mg/l - milligrams per liter

Values in bold exceed Wyoming Class I Drinking Water Standard or EPA MCL

Table 6. Comparison of Water Quality from UNC-Teton and Uranium One Baseline Monitoring

Well ID	Sample Period	Parameter											
		Bicarbonate	Chloride	Sulfate	Calcium	Magnesium	Potassium	Sodium	Conductivity	pH	TDS	Nitrogen	Uranium
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	umhos/cm	s.u.	(mg/l)	(mg/l)	(mg/l)
N-1	11/18/1979	262.00	2.00	230.00	154.00	7.00	9.50	27.50	700.00	8.01	536.00	<1	<0.1
	Avg. 2008/2009	247.50	1.00	241.00	111.00	22.25	8.75	25.50	817.50	7.70	570.50	<0.05	0.011
N-2	8/79 to 7/80	257.00	4.50	256.00	118.00	25.10	9.90	33.90	947.00	7.46	605.00	0.40	0.022
	Avg. 2008/2009	252.25	1.75	247.00	113.25	22.50	8.00	30.00	833.75	7.81	581.50	0.10	0.021
N-6	12/4/1979	251.00	2.00	108.00	80.00	18.00	7.00	32.00	875.00	7.95	618.00	<1	<0.1
	Avg. 2008/2009	238.00	1.00	244.75	110.75	22.50	8.00	26.75	807.50	7.70	555.00	<0.05	0.010
N-11	8/79 to 7/80	275.00	6.00	300.00	113.00	22.70	10.80	33.30	748.00	7.81	627.00	1.64	0.012
	Avg. 2008/2009	289.50	34.75	209.75	153.00	24.25	10.50	26.00	1052.50	7.68	712.25	18.73	0.064
N-13	8/79 to 7/80	241.00	3.60	269.00	120.00	21.60	9.30	31.50	866.00	7.68	619.00	0.42	0.015
	Avg. 2008/2009	236.00	9.00	234.75	108.75	22.50	8.25	27.75	824.25	7.68	576.00	0.48	0.015
N-15	8/79 to 7/80	252.00	5.20	244.00	111.00	23.60	8.70	30.80	790.00	7.62	617.00	0.41	0.017
	Avg. 2008/2009	245.75	2.00	250.00	116.75	24.75	8.75	27.50	828.00	7.74	592.50	<0.13	0.015
N-16	8/79 to 7/80	254.00	4.30	254.00	121.00	22.50	9.60	33.00	814.00	7.70	635.00	0.36	0.014
	Avg. 2008/2009	244.75	1.50	245.25	110.25	22.50	8.00	27.00	809.00	7.70	566.50	<0.1	0.011
N-17	8/79 to 7/80	244.00	3.20	271.00	126.00	22.20	9.30	31.10	805.00	7.69	648.00	0.45	0.300
	Avg. 2008/2009	243.00	2.25	276.25	124.75	23.75	8.75	28.00	864.75	7.79	611.50	0.09	0.013
N-18	8/79 to 7/80	266.00	5.70	237.00	123.00	19.40	8.80	32.60	792.00	7.49	598.00	0.83	0.080
	Avg. 2008/2009	330.00	121.25	580.00	237.00	47.25	7.50	72.00	1870.00	7.56	1412.50	14.13	0.188
N-20	8/79 to 7/80	247.00	4.30	252.00	118.00	22.70	9.10	32.00	805.00	7.58	612.00	0.31	0.013
	Avg. 2008/2009	238.00	<1	260.00	104.00	23.00	8.00	29.00	842.00	7.45	582.00	<0.05	0.010
N-21	8/79 to 7/80	258.00	4.30	257.00	117.00	24.50	9.90	32.60	790.00	7.41	638.00	0.27	0.014
	Avg. 2008/2009	240.25	<1	256.00	119.50	23.25	8.50	27.50	824.25	7.67	599.50	<0.07	0.010
N-22	8/79 to 7/80	247.00	4.30	252.00	118.00	22.70	9.10	32.00	805.00	7.58	612.00	0.31	0.013
	Avg. 2008/2009	244.75	1.50	245.25	110.25	22.50	8.00	27.00	809.00	7.70	566.50	<0.1	0.011

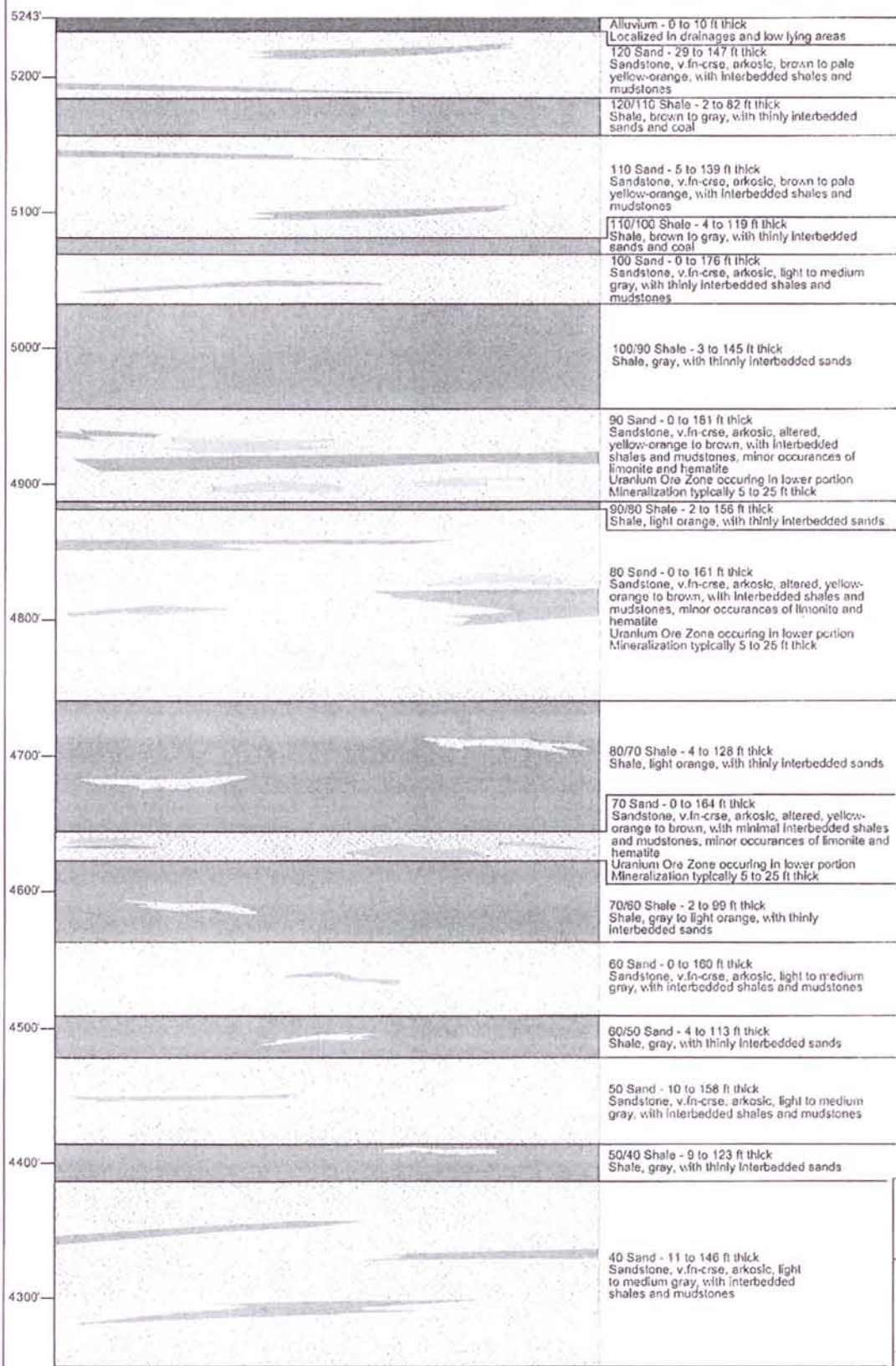
mg/l - milligram per liter

s.u. - standard pH units

umhos/cm - microohms per centimeter

Value in bold indicates significant change from 1979/80 data

Cross Sections



SCALE BASED ON TYPE LOG IN FIGURE 2.6-17



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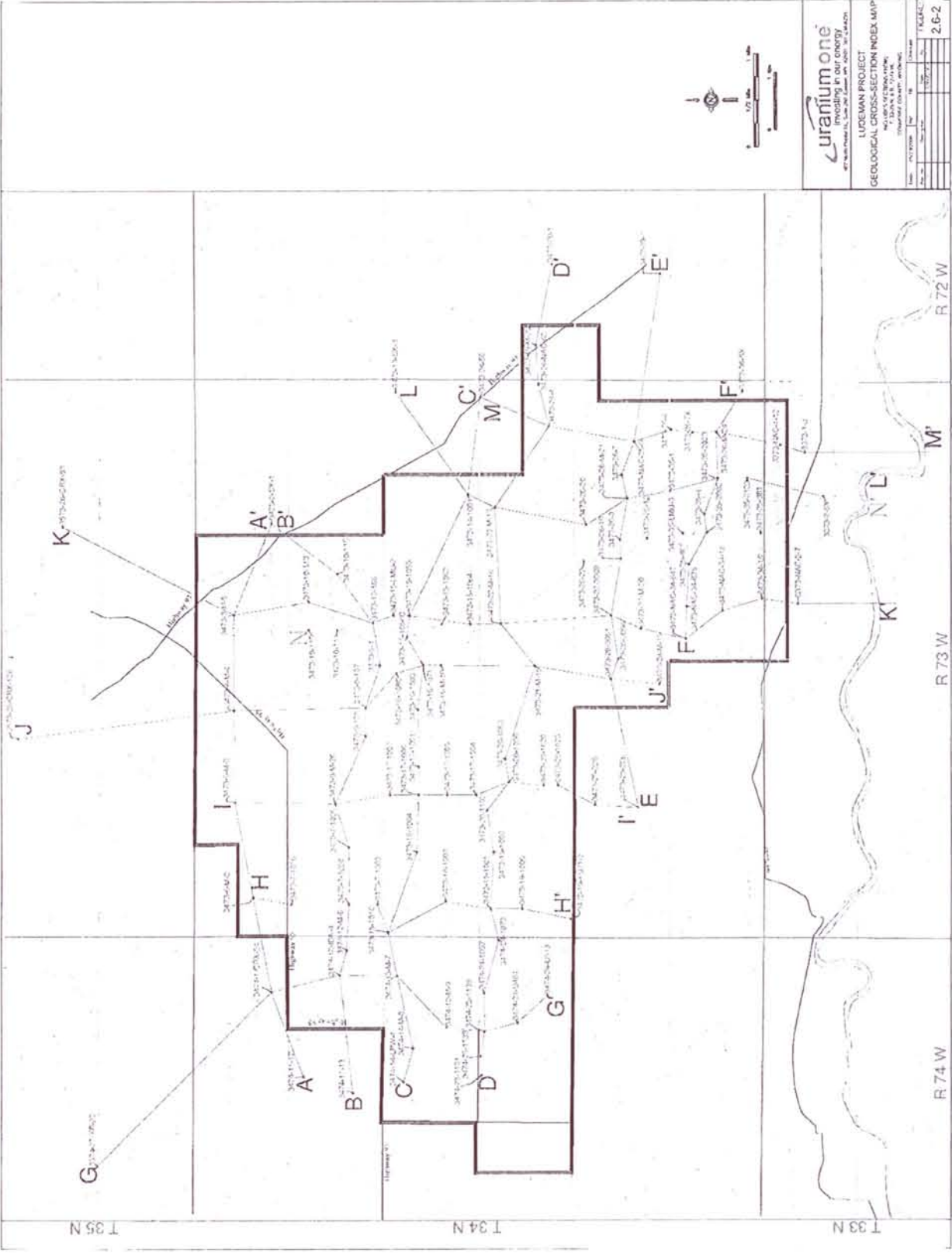
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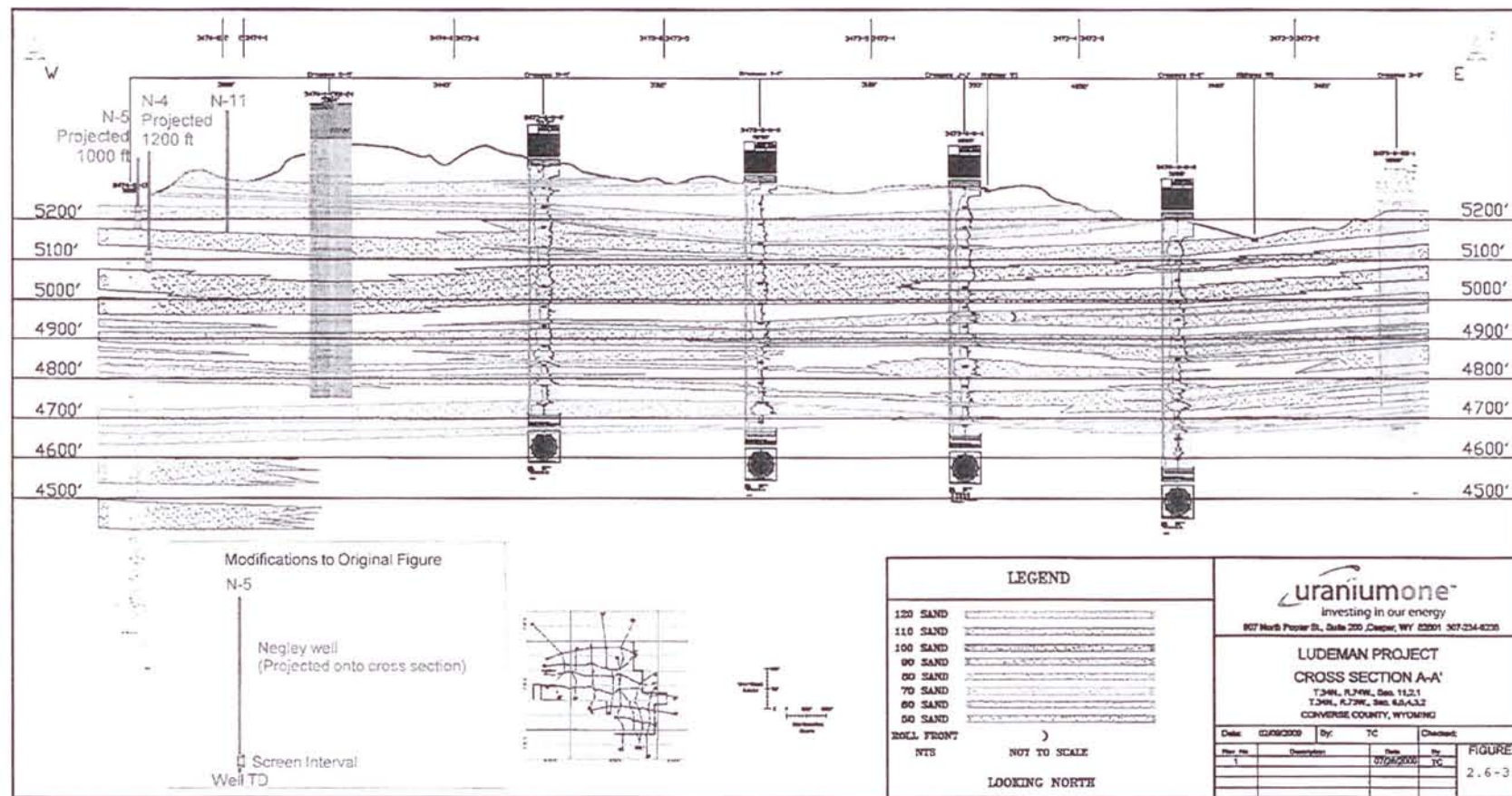
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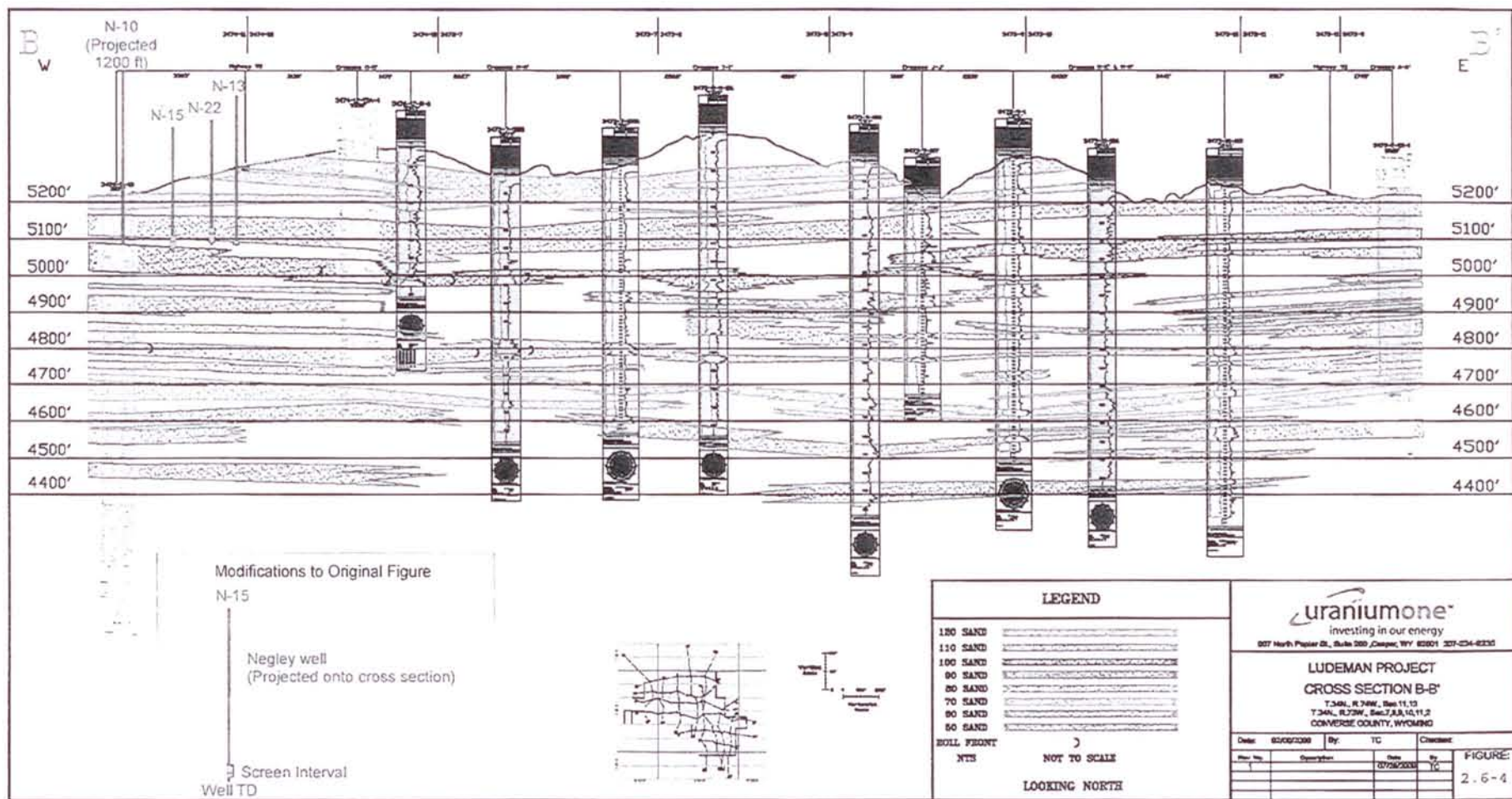
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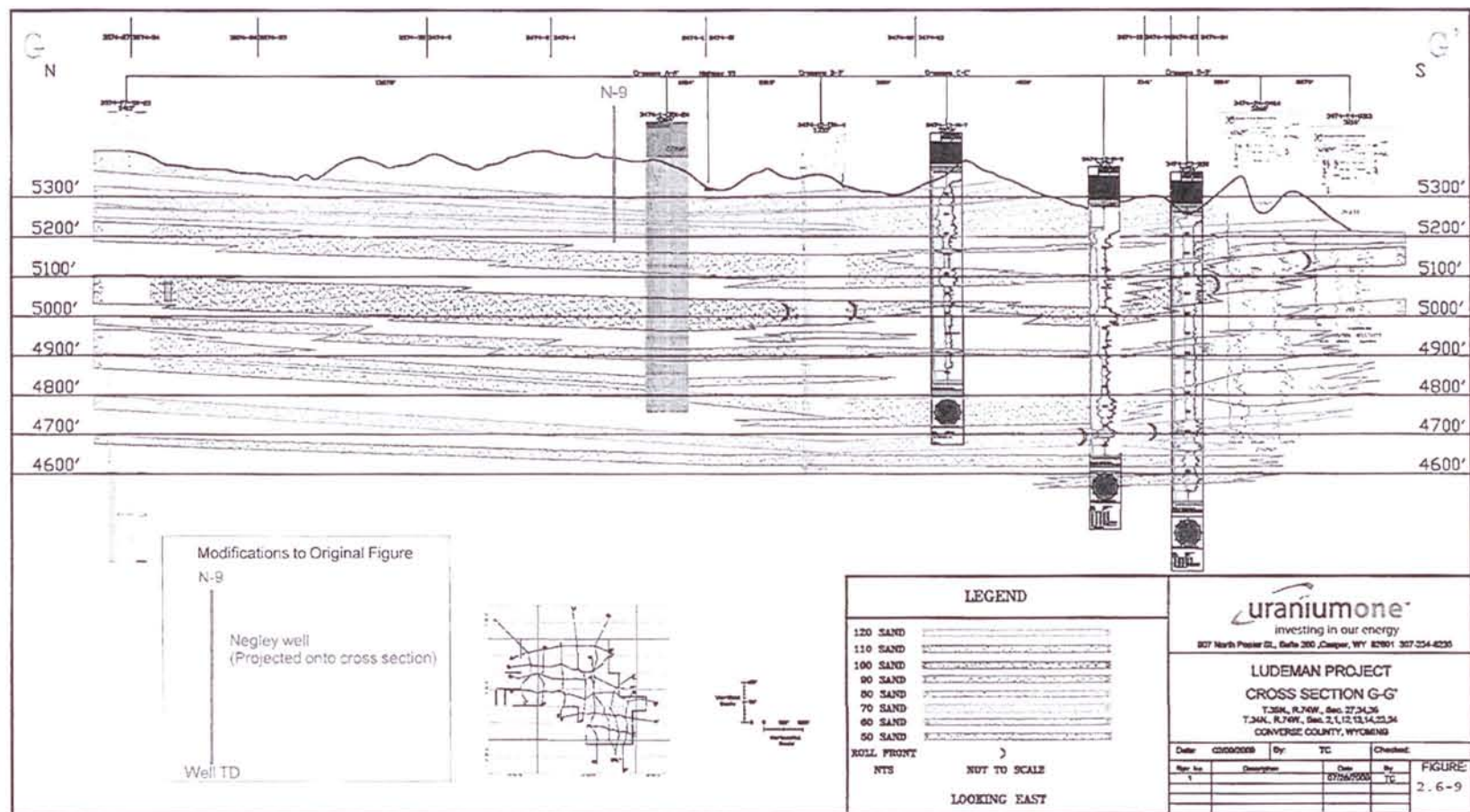
FIGURE

2.6-1

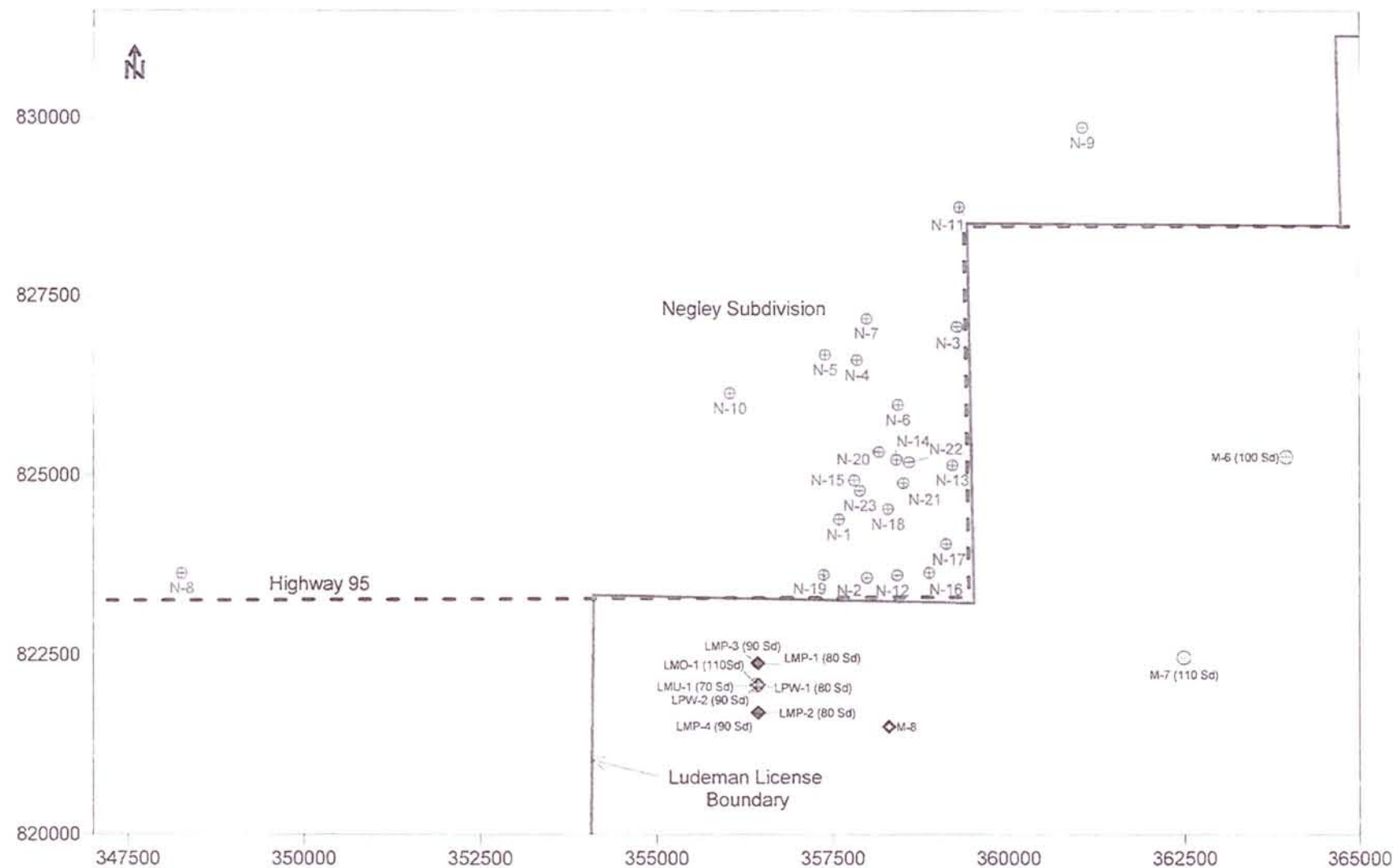








Figures



- ⊕ Negley Wells
- N-5 Uranium One Designation
- ⊖ 100 or 110 Sand Monitor Wells
- ◆ 90 Sand Monitor Wells
- ◇ 80 Sand Monitor Wells
- ✦ 70 Sand Monitor Wells



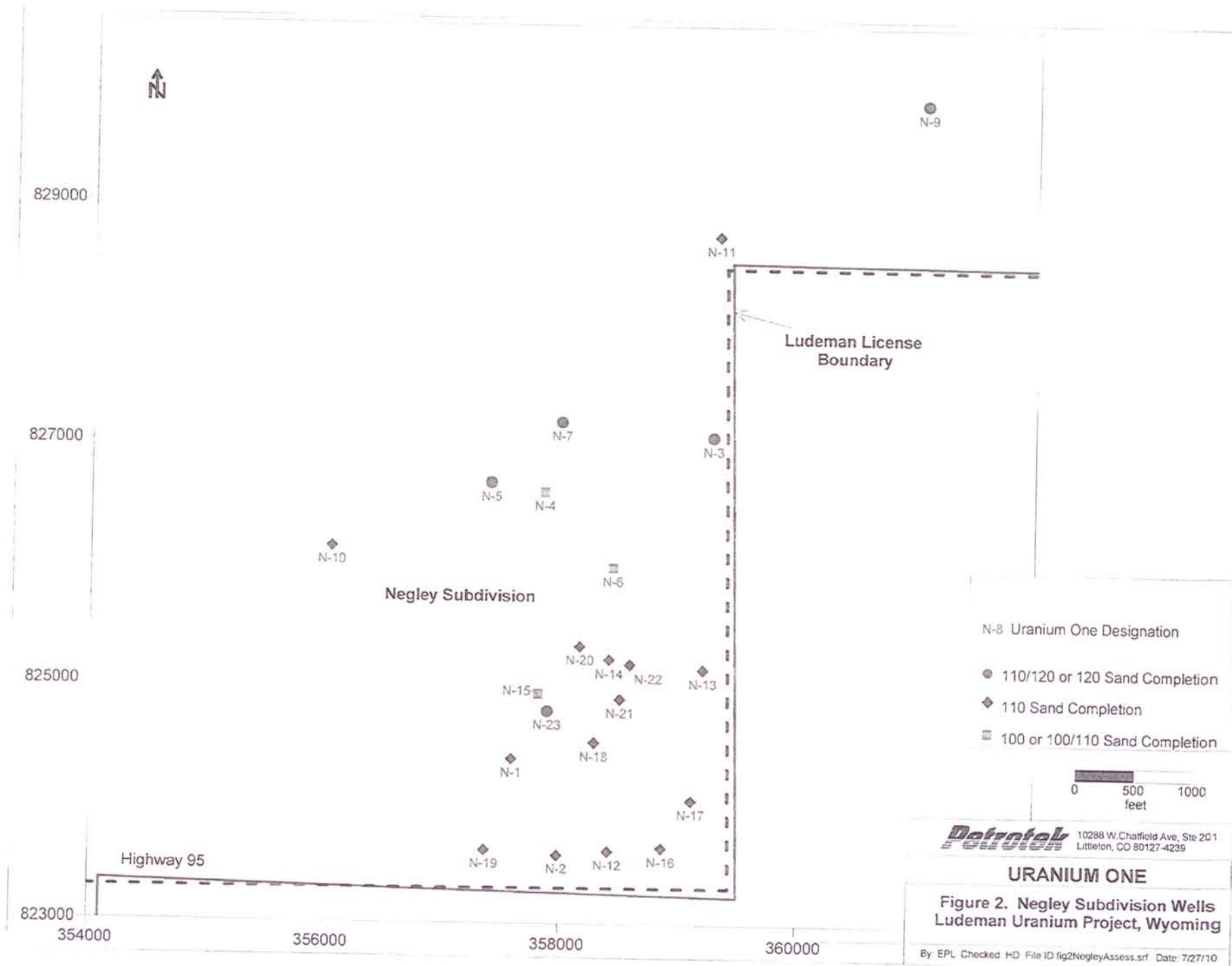
Petrotek

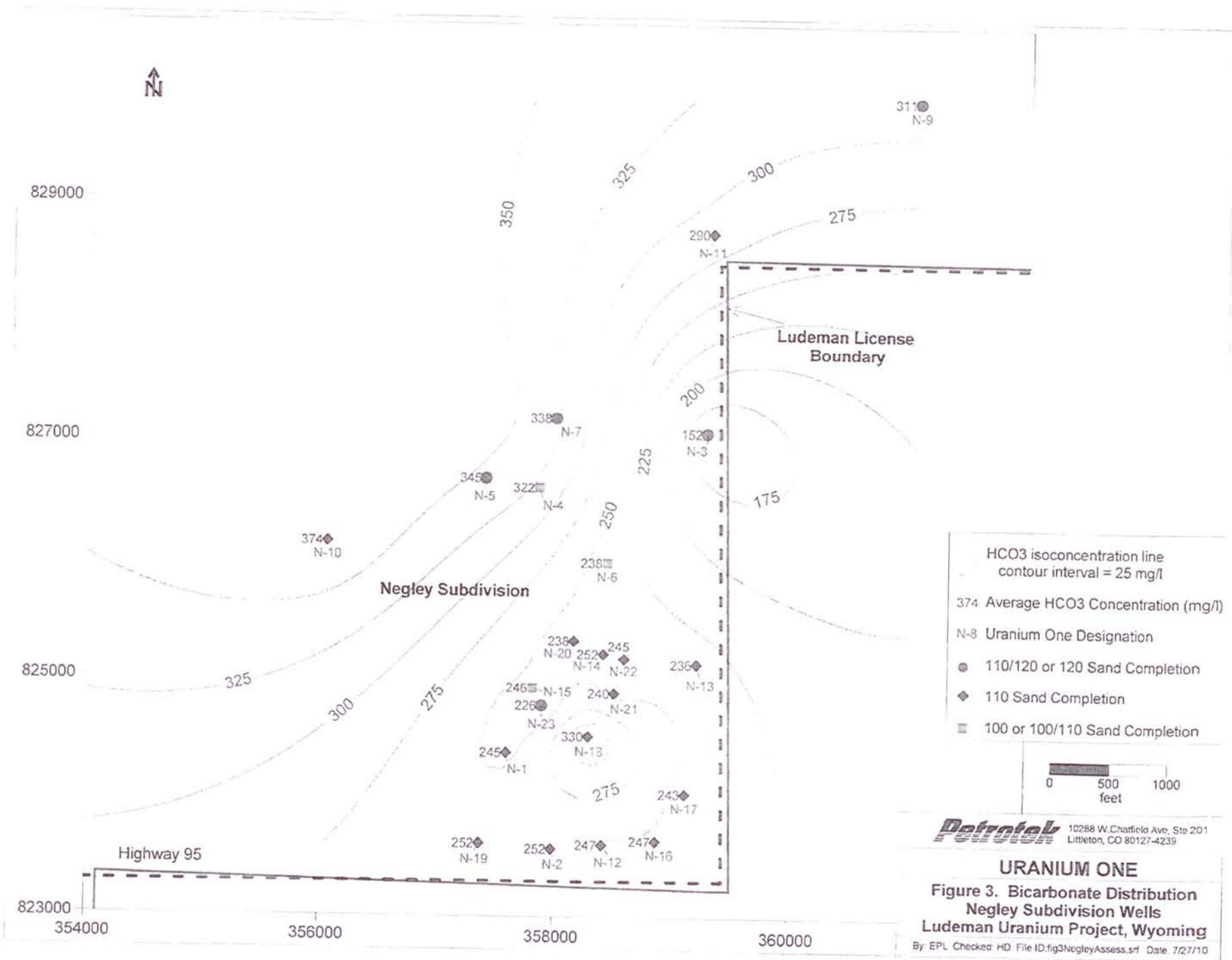
10288 W. Chatfield Ave., Ste 201
Littleton, CO 80127-4239

URANIUM ONE

**Figure 1. Private Water Wells and Monitor Wells,
Area of Investigation, Negley Subdivision
Ludeman Uranium Project, Wyoming**

By: EPL Checked: HD File ID: fig1NegleyAssess.srf Date: 7/27/10





HCO₃ isoconcentration line
contour interval = 25 mg/l

374 Average HCO₃ Concentration (mg/l)

N-8 Uranium One Designation

● 110/120 or 120 Sand Completion

◆ 110 Sand Completion

■ 100 or 100/110 Sand Completion

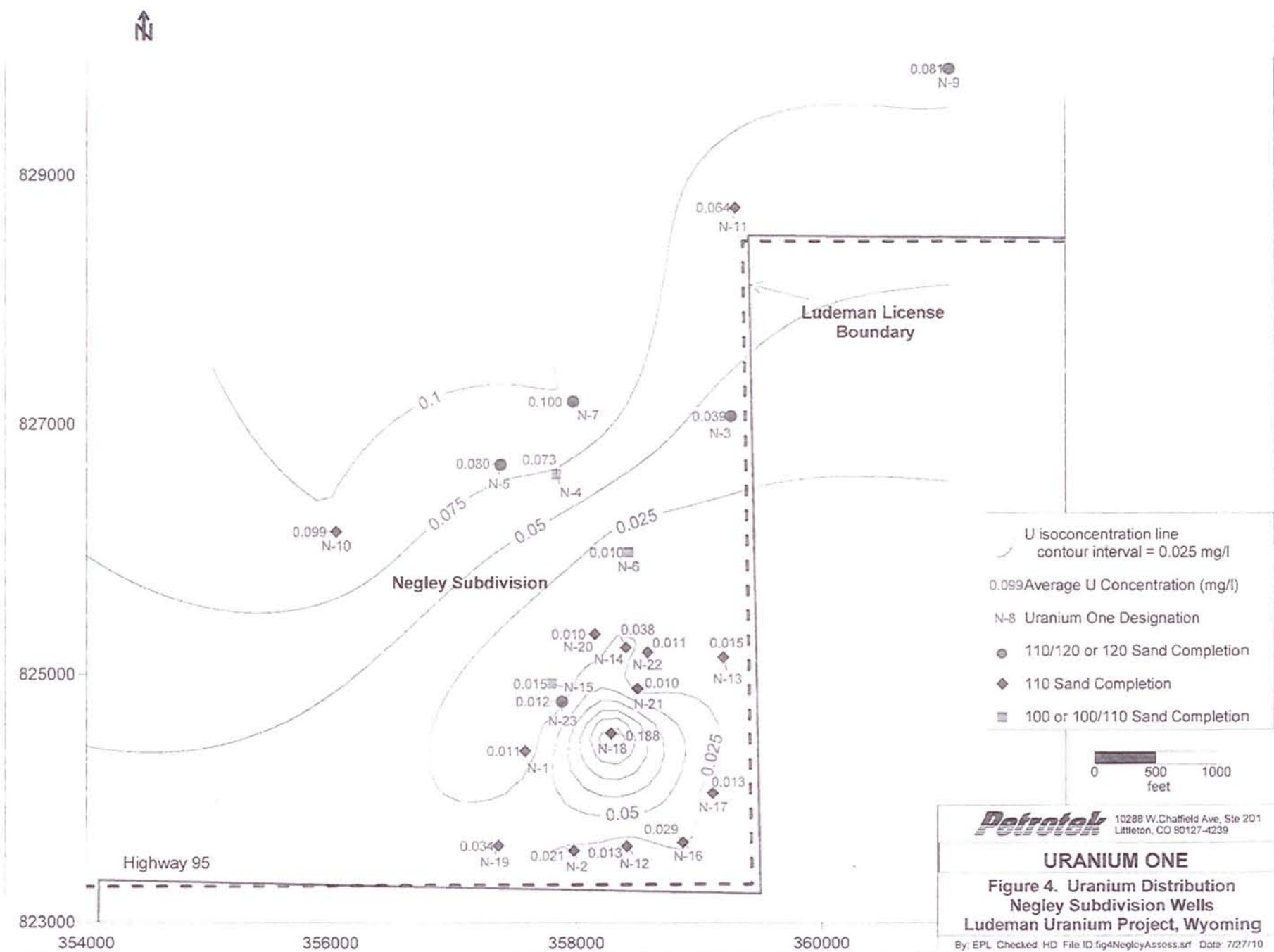
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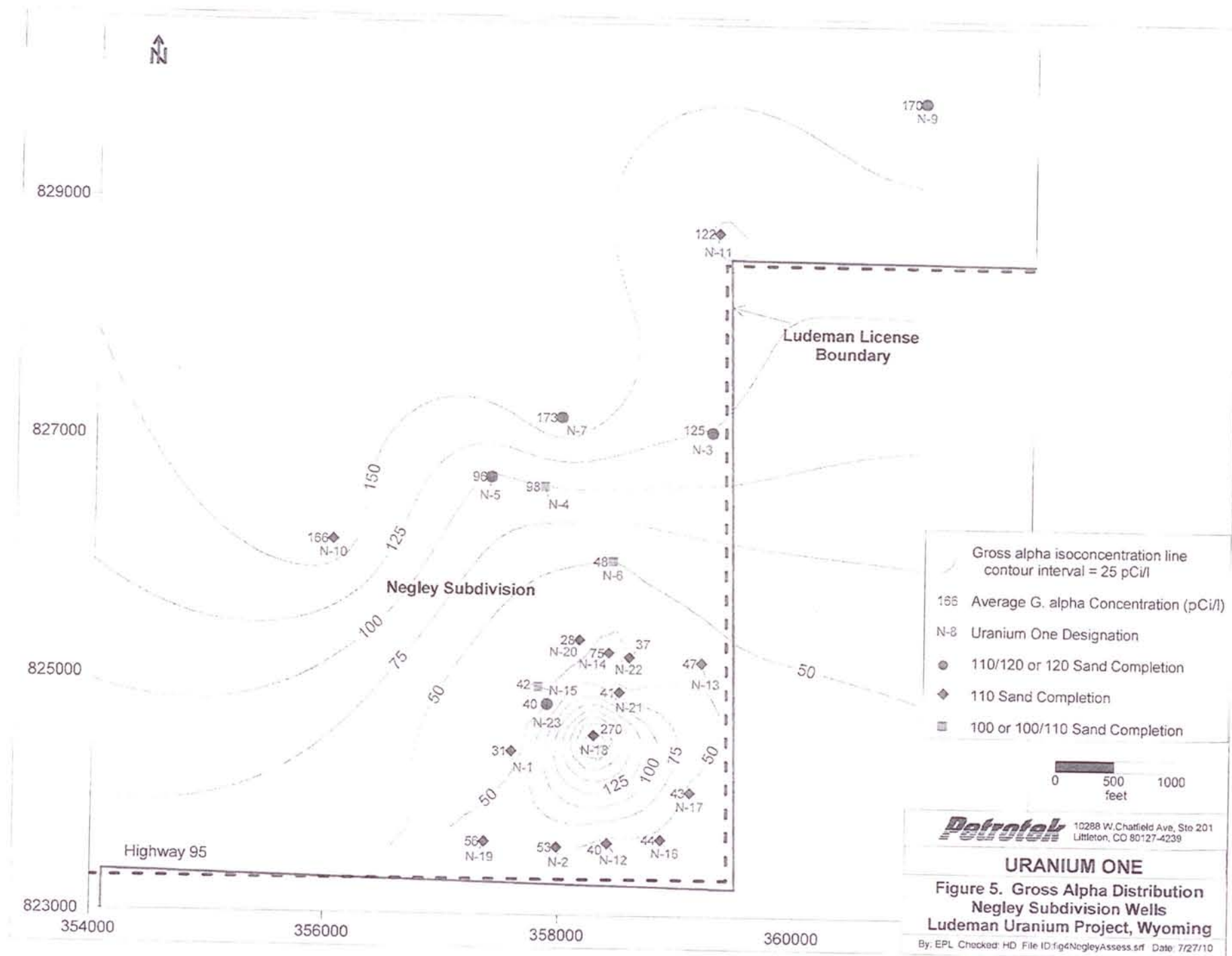
Petrotek 10268 W. Chatfield Ave, Ste 201
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URANIUM ONE

Figure 3. Bicarbonate Distribution
Negley Subdivision Wells
Ludeman Uranium Project, Wyoming

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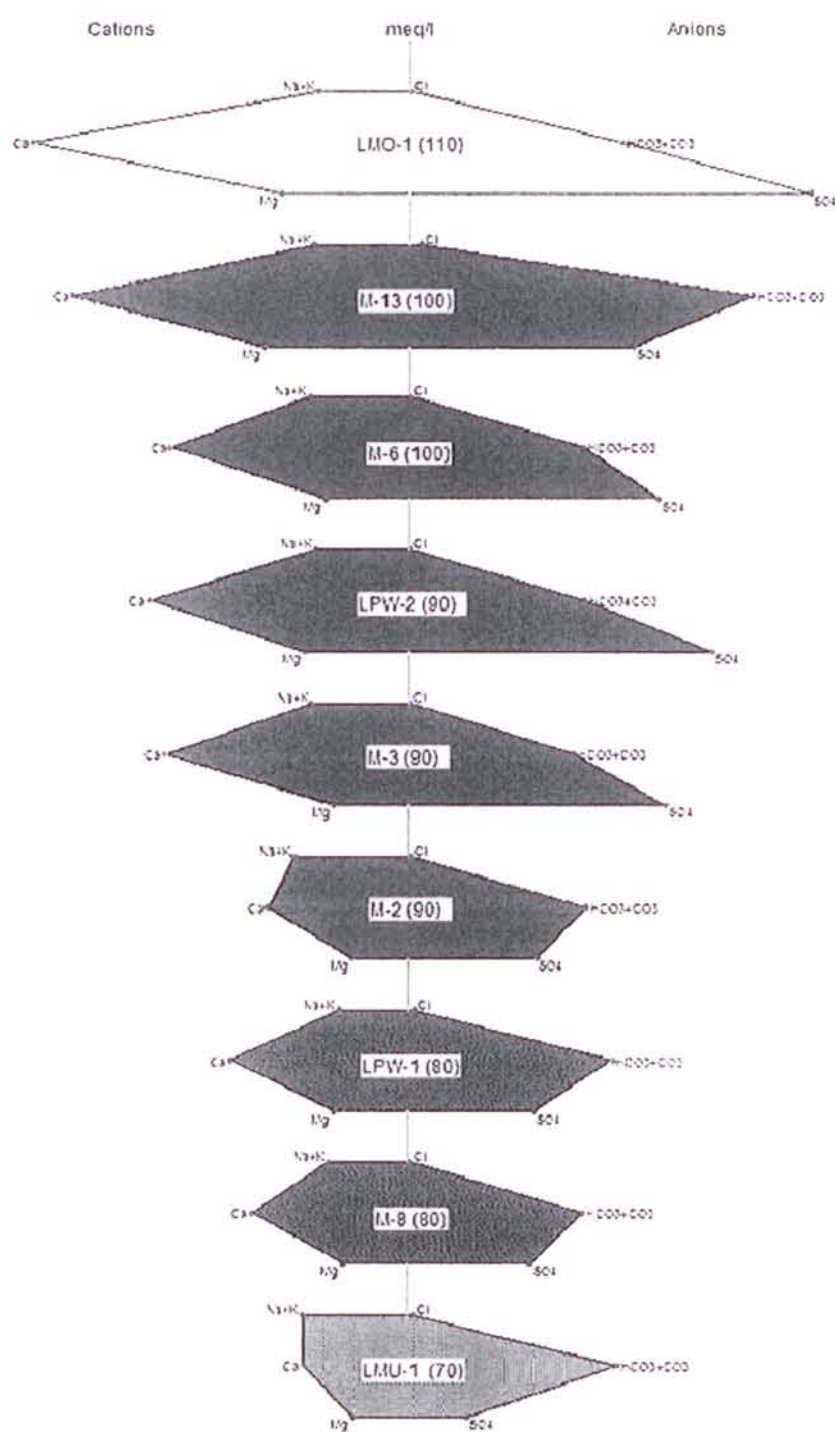


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URANIUM ONE

Figure 5. Gross Alpha Distribution
Negley Subdivision Wells
Ludeman Uranium Project, Wyoming

By: EPL Checked: HD File ID: fig4NegleyAssess.srf Date: 7/27/10



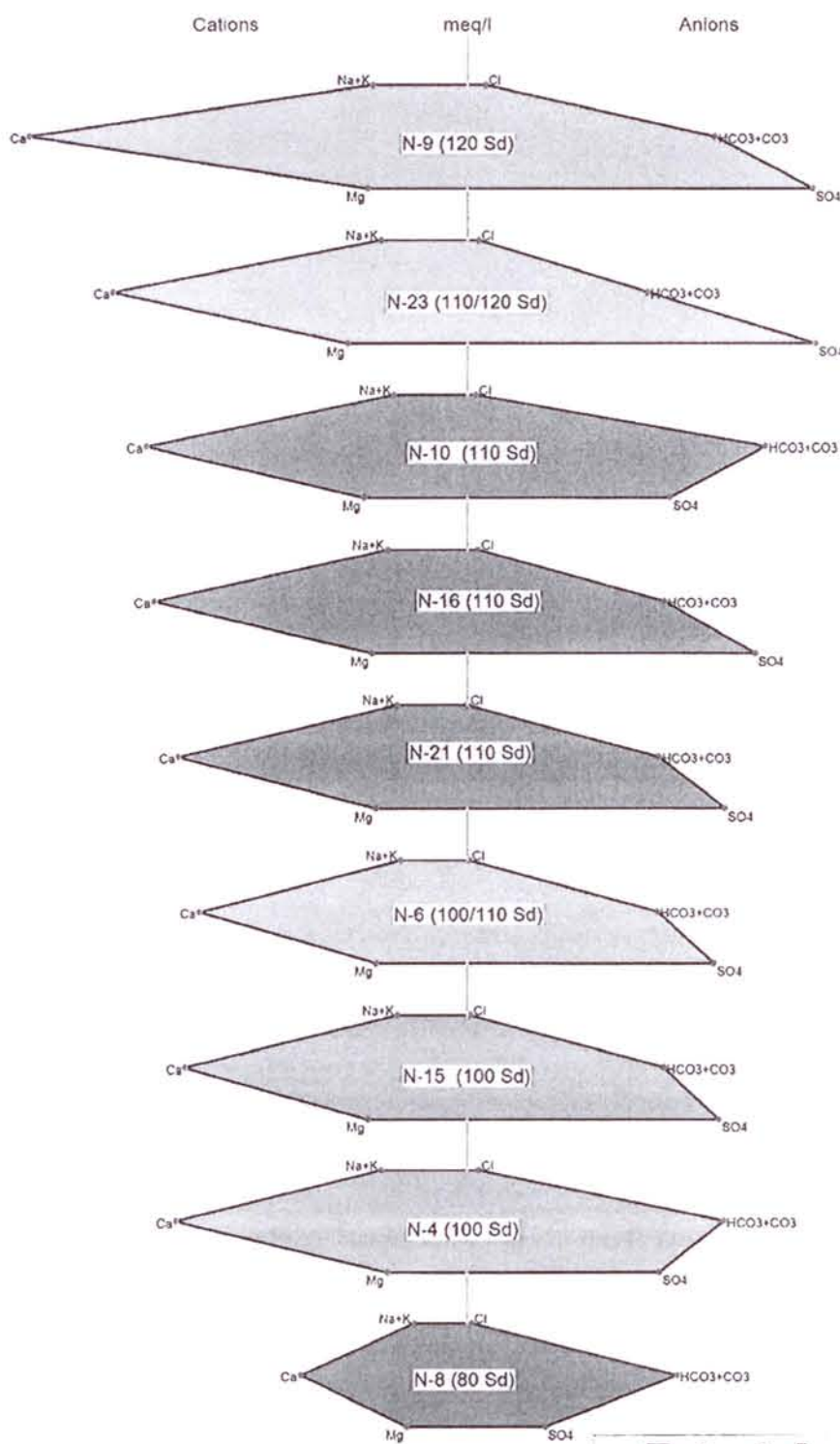
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URANIUM ONE

Figure 6. Stiff Diagrams
Uranium One Monitor Wells
Ludeman Uranium Project, Wyoming

By: EPL Checked: HD File ID: fig1NegleyAssess.srf Date: 7/27/10



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URANIUM ONE

Figure 7. Stiff Diagrams

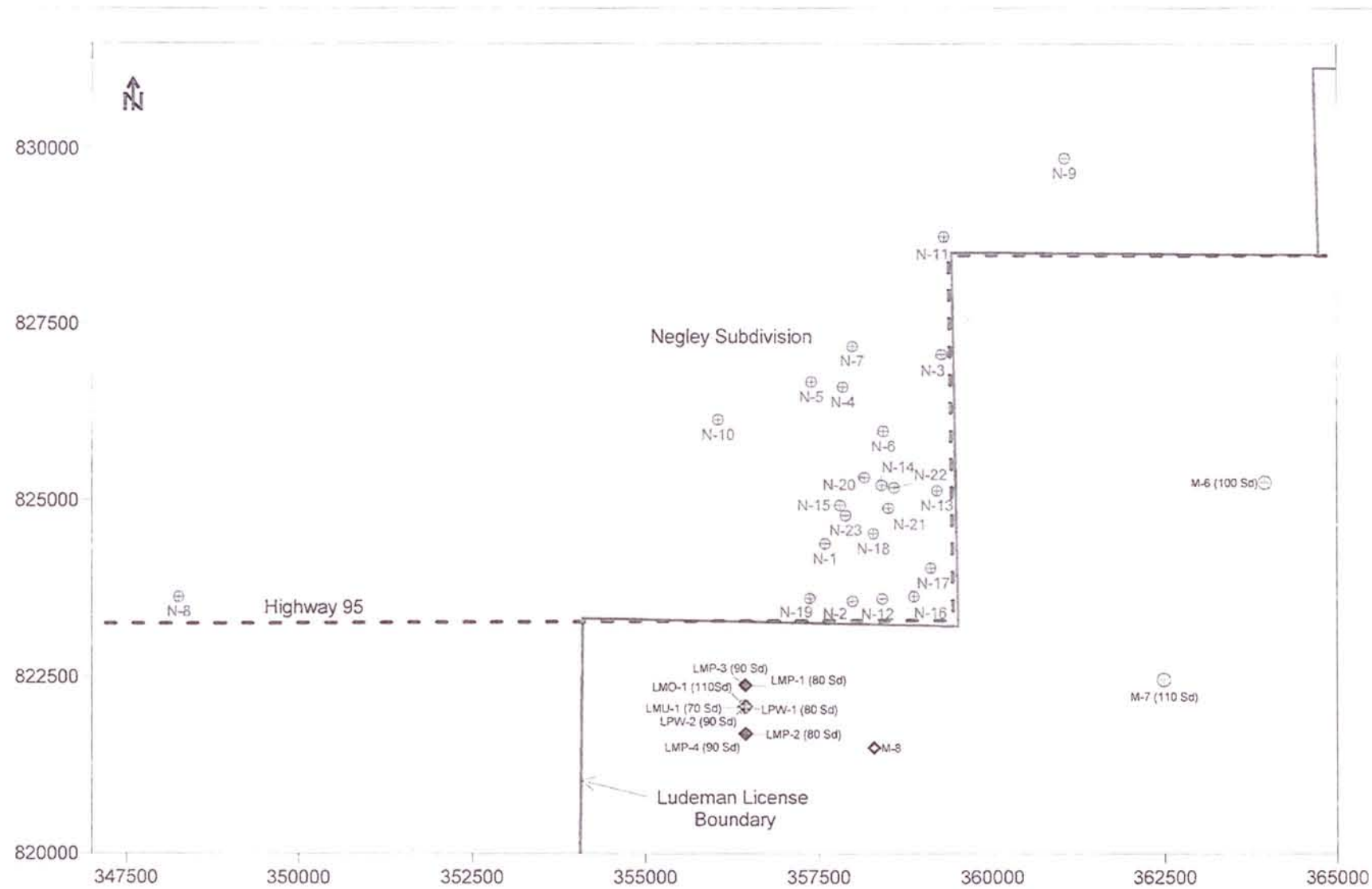
Negley Water Wells

Ludeman Uranium Project, Wyoming

By: EPL Checked: HD File ID: fig7NegleyAssess.srf Date: 7/27/10

Figures

Figure 1: The figure shows the results of the experiment.



- ⊕ Negley Wells
- N-8 Uranium One Designation
- ⊖ 100 or 110 Sand Monitor Wells
- ◆ 90 Sand Monitor Wells
- ◇ 80 Sand Monitor Wells
- ✦ 70 Sand Monitor Wells

0 2000 4000
feet

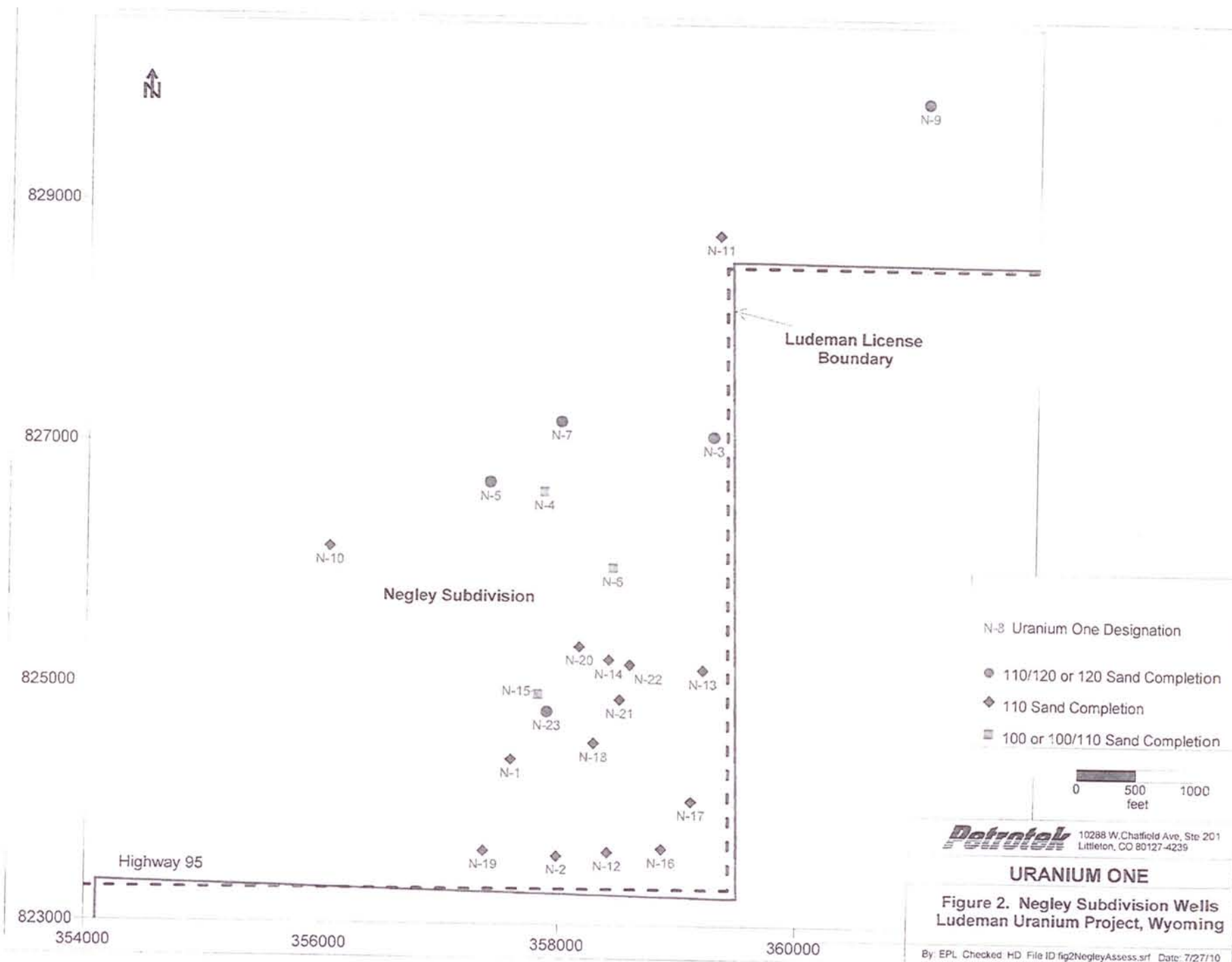
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URANIUM ONE

Figure 1. Private Water Wells and Monitor Wells,
Area of Investigation, Negley Subdivision
Ludeman Uranium Project, Wyoming

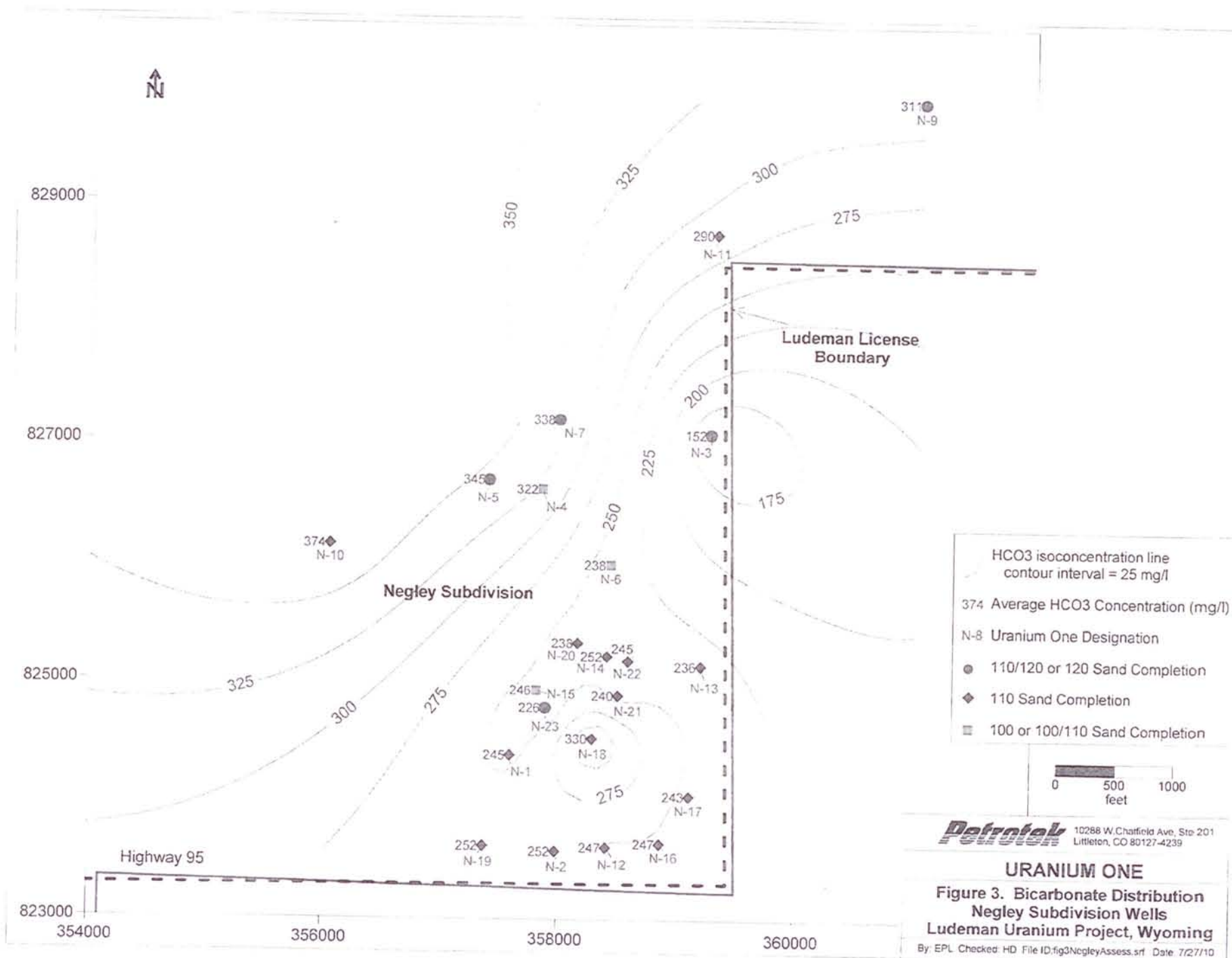
By: EPL Checked: HD File ID: fig1NegleyAssess.srf Date: 7/27/10

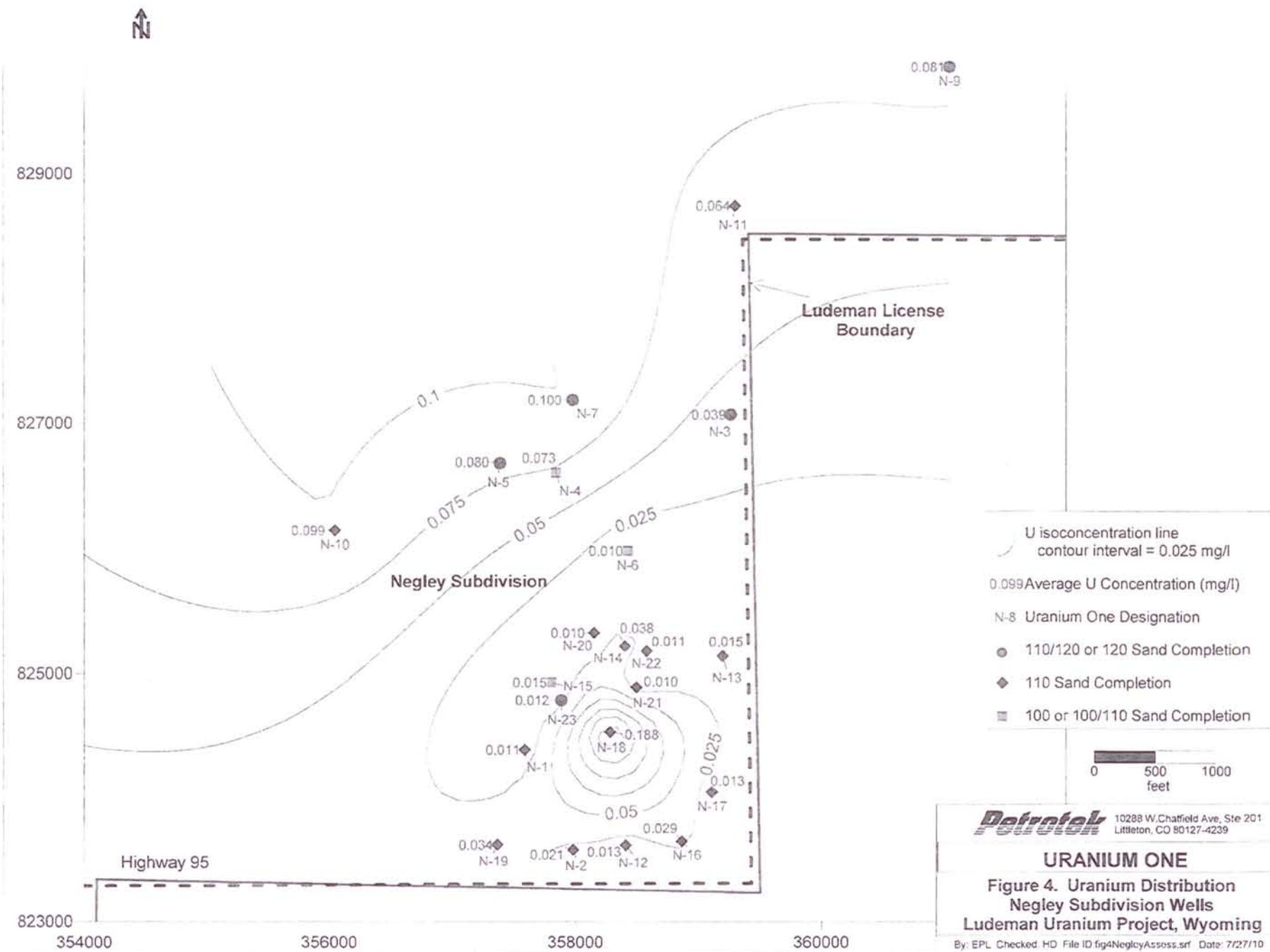


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URANIUM ONE

Figure 2. Negley Subdivision Wells
Ludeman Uranium Project, Wyoming

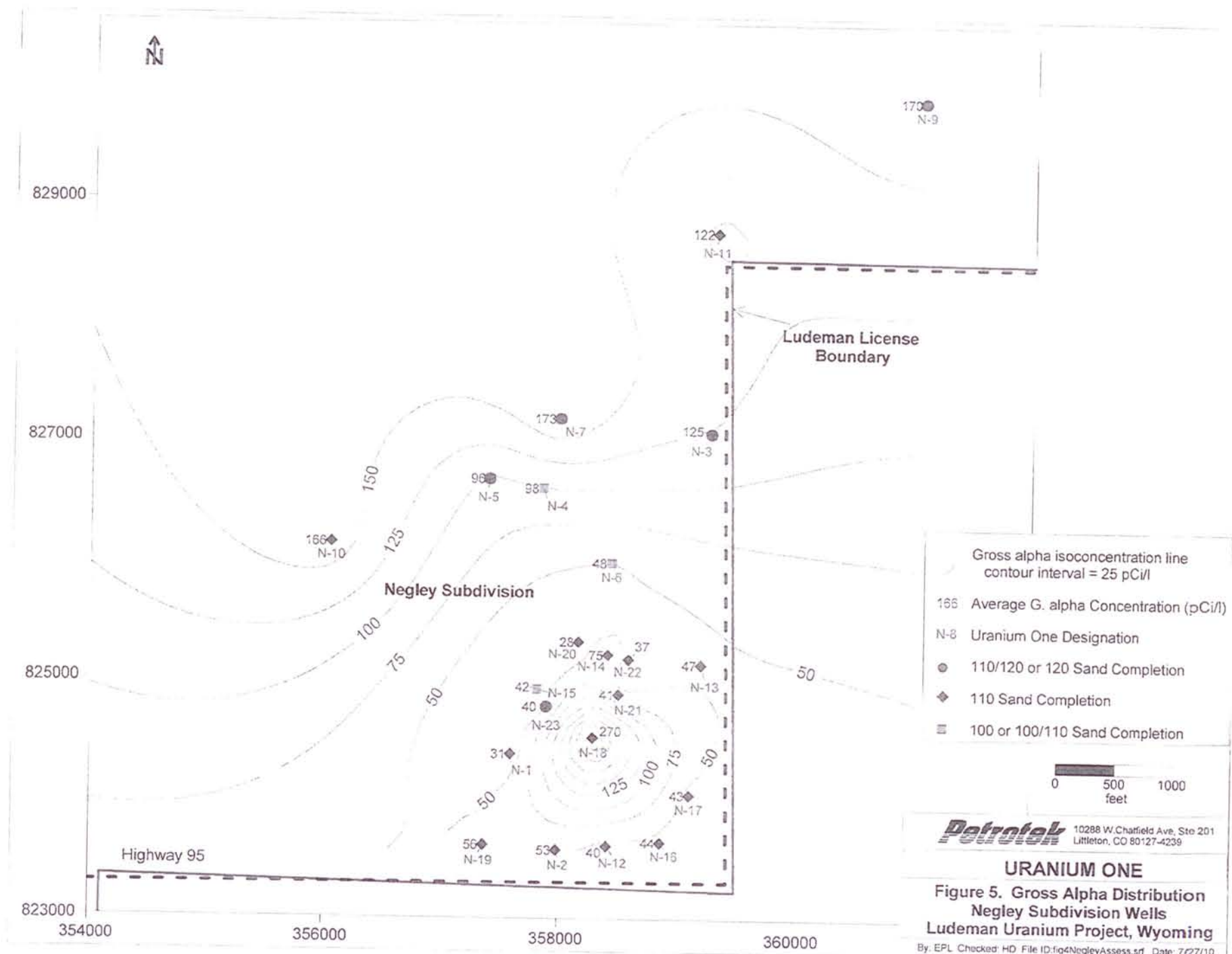




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URANIUM ONE
Figure 4. Uranium Distribution
Negley Subdivision Wells
Ludeman Uranium Project, Wyoming

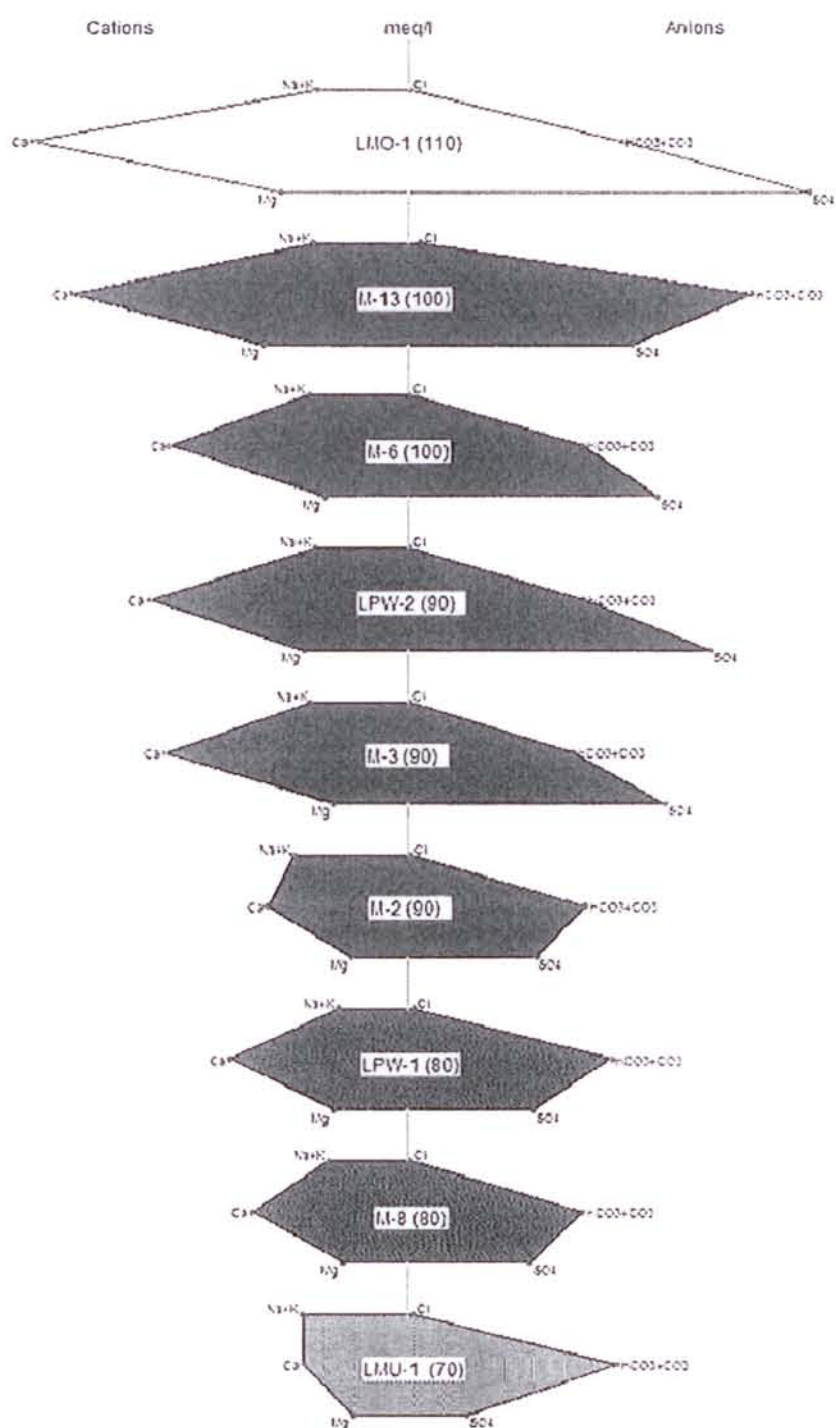
By: EPL Checked: HD File ID: fig4NegleyAssess.srf Date: 7/27/10



- Gross alpha isoconcentration line
contour interval = 25 pCi/l
- 166 Average G. alpha Concentration (pCi/l)
- N-8 Uranium One Designation
- 110/120 or 120 Sand Completion
 - ◆ 110 Sand Completion
 - 100 or 100/110 Sand Completion

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URANIUM ONE
Figure 5. Gross Alpha Distribution
Negley Subdivision Wells
Ludeman Uranium Project, Wyoming
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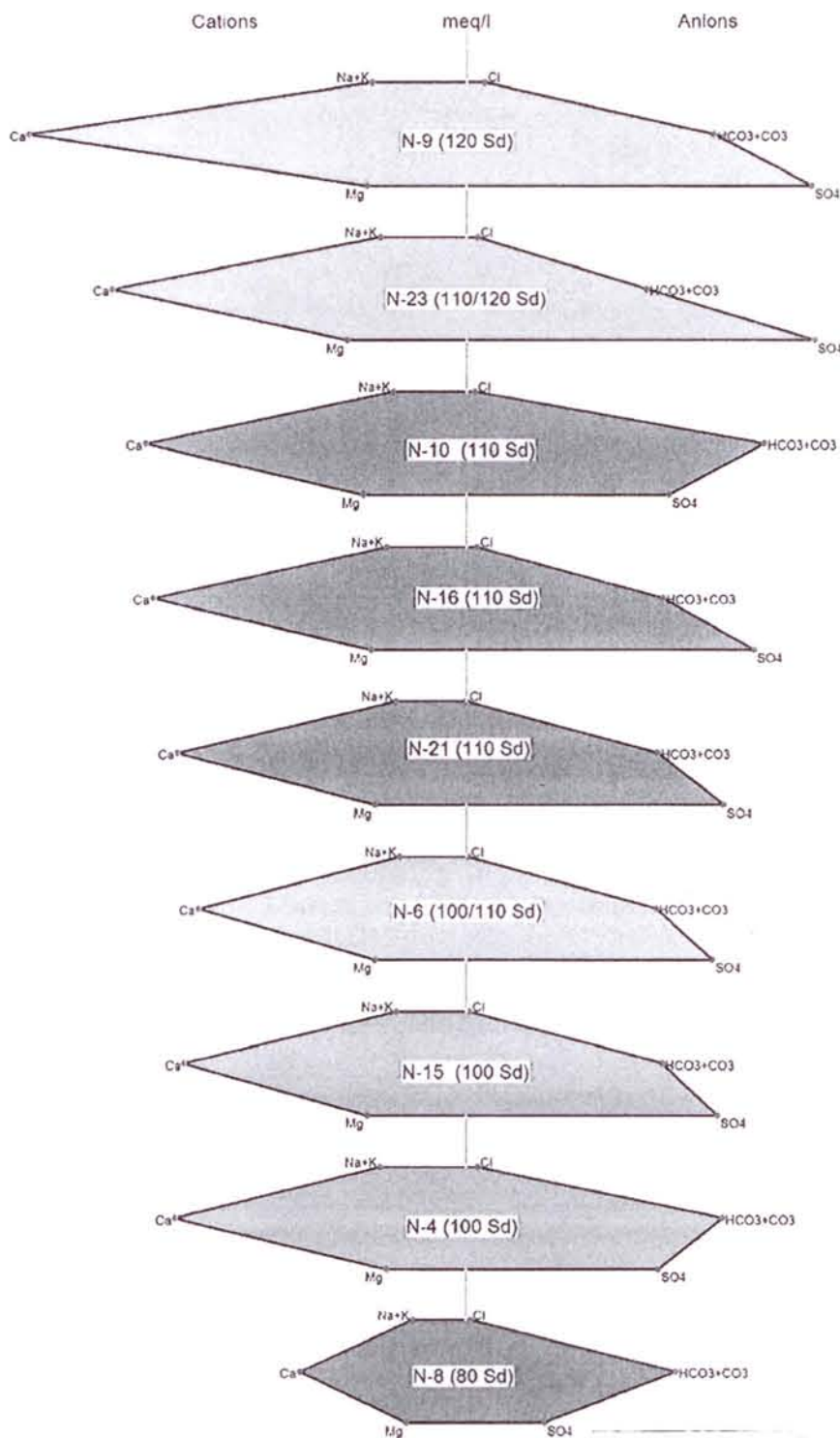
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URANIUM ONE

Figure 6. Stiff Diagrams
Uranium One Monitor Wells
Ludeman Uranium Project, Wyoming

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URANIUM ONE

Figure 7. Stiff Diagrams

Negley Water Wells

Ludeman Uranium Project, Wyoming

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Attachment 1 – Water Quality Sample Data

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-1				
		3/20/2009	6/24/2009	9/16/2009	12/19/2009	Average
	11/18/1979					
Bicarbonate as HCO ₃ , mg/L	262	247	241	248	254	248
Carbonate as CO ₃ , mg/L	<1	<1	<1	<5	<5	<3
Chloride, mg/L	2	<1	1	2	2	1
Conductivity, umhos/cm	700	835	819	800	816	818
Fluoride, mg/L	0.37	0.9	0.9	0.9	0.8	0.9
pH, s.u.	8.01	7.59	7.65	7.60	7.97	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	536	595	567	561	559	571
Sulfate, mg/L	230	251	237	237	239	241
Gross Alpha, pCi/L (dissolved)		29.9	33.9	29.3	40.9	33.5
Gross Beta, pCi/L (dissolved)		13.8	15.3	12.9	18.8	15.2
Lead 210, pCi/L (dissolved)		<6.9	<2.2	<0.8	<1.2	<3.3
Polonium 210, pCi/L (dissolved)		<0.4	<0.9	<0.6	<0.5	<0.7
Radium 226, pCi/L (dissolved)	6.8	0.36	0.37	0.83	0.62	0.55
Radium 228, pCi/L (dissolved)		2.0	2.2	1.9	3.7	2.5
Thorium 230, pCi/L (dissolved)		<0.2	<0.2	<0.09	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	<1	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	<1	<0.05	<0.05	<0.05	<0.1	<0.05
Aluminum, mg/L (dissolved)	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	<0.005	0.001	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	<0.1	0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	154	123	102	108	111	111
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.68	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	7	21	22	23	23	22
Manganese, mg/L (dissolved)	0.15	0.09	<0.01	0.07	0.07	0.06
Mercury, mg/L (dissolved)	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.5	8	9	9	9	9
Selenium, mg/L (dissolved)	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		16.2	15.8	18.8	15.8	16.7
Sodium, mg/L	27.5	28	24	24	26	26
Uranium, mg/L (dissolved)	<0.1	0.0108	0.0114	0.0118	0.0119	0.0115
Vanadium, mg/L (dissolved)	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	<0.05	<0.01	0.01	<0.01	0.01	<0.01
Iron, (total) mg/L		0.16	0.12	0.18	0.11	0.14
Manganese, (total) mg/L		0.10	0.09	0.09	0.09	0.09
Lead 210, suspended pCi/L		<7.4	<3.3	<4.3	<0.7	<5.1
Polonium 210 suspended, pCi/L		<0.6	<0.4	0.4	<0.4	<0.5
Radium 226 suspended, pCi/L		0.6	<0.05	<0.2	0.1	<0.3
Thorium 230 suspended, pCi/L		<0.3	0.08	<0.1	0.2	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	0.0042	<0.0003
Cations meq/L	9.72	9.32	8.21	8.59	8.83	8.74
Anions meq/L	9.14	9.28	8.89	9.00	9.14	9.08
Anion/Cation Balance	3.07	0.24	-3.98	-2.34	-1.75	-1.91
Calculated TDS	561	571	530	544	551	549
TDS Balance	96	104	107	103	101	104
Calculated Gross Alpha		7	9	10	10	8

	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-2				
Parameters		8/79 to 7/80	3/19/2009	6/22/2009	9/16/2009	12/21/2009
Bicarbonate as HCO3, mg/L	257	248	248	259	254	252
Carbonate as CO3, mg/L	0.4	<1	<1	<5	<5	<3
Chloride, mg/L	4.5	1	2	2	2	2
Conductivity, umhos/cm	947	852	831	820	832	834
Fluoride, mg/L	0.65	0.7	0.7	0.7	0.7	0.7
pH, s.u.	7.46	7.81	7.77	7.70	7.96	7.81
Solids, Total Dissolved TDS @ 180 C, mg/L	605	609	563	590	564	582
Sulfate, mg/L	256	256	247	245	240	247
Gross Alpha, pCi/L (dissolved)		52	51.7	54.8	54.2	53.2
Gross Beta, pCi/L (dissolved)		17.9	19.3	14.3	17.2	17.2
Lead 210, pCi/L (dissolved)		<9.9	<2.2	<0.8	<1.2	<4.3
Polonium 210, pCi/L (dissolved)		<0.9	<0.8	<0.8	<0.6	<0.9
Radium 226, pCi/L (dissolved)	3.7	0.35	0.36	<0.23	1.10	0.31
Radium 228, pCi/L (dissolved)		1.8	1.3	2.5	<1.5	1.9
Thorium 230, pCi/L (dissolved)	0.7	<0.1	<0.1	<0.2	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.4	0.10	0.09	0.1	0.1	0.10
Aluminum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.001	0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.15	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	118	124	108	111	110	113
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.15	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	25.1	21	22	23	24	23
Manganese, mg/L (dissolved)	0.07	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.9	8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.002	0.003	0.003	0.002	0.003
Silica, mg/L		16.8	17.1	20.0	15.8	17.4
Sodium, mg/L	33.9	30	30	29	31	30
Uranium, mg/L (dissolved)	0.022	0.0198	0.0200	0.0211	0.0214	0.0206
Vanadium, mg/L (dissolved)	0.29	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.05	0.01	0.02	0.01	0.03	0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	0.98	<0.03
Manganese, (total) mg/L		<0.01	<0.01	<0.01	0.29	<0.01
Lead 210, suspended pCi/L		<7.5	<3.3	<4.3	<0.7	<5.1
Polonium 210 suspended, pCi/L		<0.8	<0.6	<0.5	<0.4	<0.7
Radium 226 suspended, pCi/L		0.3	<0.05	<0.2	<0.1	<0.2
Thorium 230 suspended, pCi/L		<0.5	<0.1	<0.08	<0.07	<0.3
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	0.0012	<0.0003
Cations meq/L	9.73	9.46	8.74	8.93	9.05	9.05
Anions meq/L	9.72	9.40	9.21	9.35	9.16	9.28
Anion/Cation Balance	0.06	0.32	-2.61	-2.28	-0.61	-1.28
Calculated TDS	578	580	556	566	556	564
TDS Balance	105	105	101	104	101	103
Calculated Gross Alpha	26	13	15	14	14	14

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-3				
		11/15/2008	3/14/2009	6/24/2009	9/15/2009	Average
Bicarbonate as HCO ₃ , mg/L	NA	193	136	135	142	152
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		78	119	131	130	115
Conductivity, umhos/cm		1380	1650	1610	1600	1560
Fluoride, mg/L		0.3	0.2	0.2	0.3	0.3
pH, s.u.		7.72	7.52	7.68	7.80	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L		980	1260	1400	1310	1238
Sulfate, mg/L		456	608	626	622	578
Gross Alpha, pCi/L (dissolved)		87.6	78.6	224.0	109.0	124.8
Gross Beta, pCi/L (dissolved)		25.9	19.9	64.2	25.7	33.9
Lead 210, pCi/L (dissolved)		<4.0	8.3	<2.2	2.5	4.3
Polonium 210, pCi/L (dissolved)		<1.0	<0.5	<0.5	<0.8	<0.7
Radium 226, pCi/L (dissolved)		<0.4	0.47	0.49	0.86	0.56
Radium 228, pCi/L (dissolved)		<2.3	2.4	1.4	4.2	2.6
Thorium 230, pCi/L (dissolved)		<0.2	<0.2	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		3.73	3.16	3.05	3.2	3.29
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		0.001	0.002	0.001	0.001	0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		221	264	252	257	249
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		33	40	37	38	37
Manganese, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		11	14	13	13	13
Selenium, mg/L (dissolved)		0.097	0.120	0.111	0.113	0.110
Silica, mg/L		16.3	12.9	13.6	14.2	14.3
Sodium, mg/L		34	42	35	37	37
Uranium, mg/L (dissolved)		0.0450	0.0389	0.0362	0.0377	0.0395
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.01	0.01	0.01	<0.01	0.01
Iron, (total) mg/L		0.73	0.39	<0.03	0.03	0.30
Manganese, (total) mg/L		0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L		<8.4	<6.0	<4.8	<4.3	<5.9
Polonium 210 suspended, pCi/L		<1.0	1.1	<0.7	<0.4	<0.8
Radium 226 suspended, pCi/L		<0.4	<0.5	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.4	<0.1	<0.06	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L		15.56	18.72	17.54	17.96	17.44
Anions meq/L		12.66	14.90	15.25	18.95	14.53
Anion/Cation Balance		10.26	11.37	6.96	-2.68	9.13
Calculated TDS		868	1049	1044	1182	1003
TDS Balance		113	120	134	111	123
Calculated Gross Alpha		30	28	26	28	27

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
	NA	N-4				
		11/15/2008	3/14/2009	6/25/2009	9/16/2009	Average
Bicarbonate as HCO ₃ , mg/L		315	318	321	335	322
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		8	7	7	8	8
Conductivity, umhos/cm		881	880	855	860	869
Fluoride, mg/L		0.2	0.1	0.1	0.2	0.2
pH, s.u.		7.41	7.27	7.50	7.70	7.47
Solids, Total Dissolved TDS @ 180 C, mg/L		582	574	593	601	588
Sulfate, mg/L		186	210	183	183	191
Gross Alpha, pCi/L (dissolved)		91	133	38.7	130.0	98.3
Gross Beta, pCi/L (dissolved)		43.2	29.6	19.3	35.8	32.0
Lead 210, pCi/L (dissolved)		<4.0	4.8	<2.2	<0.8	<3.0
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.5	<0.7	<0.8
Radium 226, pCi/L (dissolved)		0.53	0.69	0.72	0.53	0.62
Radium 228, pCi/L (dissolved)		3.0	2.9	2.0	4.4	3.1
Thorium 230, pCi/L (dissolved)		<0.2	<0.2	<0.2	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		3.00	3.60	3.06	3.3	3.24
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		135	111	122	117	121
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		22	19	20	19	20
Manganese, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		10	10	10	10	10
Selenium, mg/L (dissolved)		0.031	0.028	0.024	0.027	0.028
Silica, mg/L		20.1	15.9	17.1	17.6	17.7
Sodium, mg/L		36	36	33	33	35
Uranium, mg/L (dissolved)		0.0725	0.0723	0.0741	0.0737	0.0732
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		1.3	3.85	0.48	0.07	1.43
Manganese, (total) mg/L		0.02	0.04	<0.01	<0.01	0.002
Lead 210, suspended pCi/L		<8.5	<6.2	<3.3	<4.3	<5.6
Polonium 210 suspended, pCi/L		1.2	1.0	<0.6	<0.5	0.9
Radium 226 suspended, pCi/L		<0.5	<0.4	0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L		0.2	0.4	<0.9	<0.09	0.4
Uranium suspended, mg/L		0.0003	0.0011	<0.0003	<0.0003	0.0005
Cations meq/L		10.40	8.95	9.46	9.12	9.49
Anions meq/L		9.04	9.59	9.07	9.53	9.25
Anion/Cation Balance		7.03	-3.41	2.07	-2.17	1.25
Calculated TDS		567	561	546	555	555
TDS Balance		103	102	109	108	106
Calculated Gross Alpha		49	51	52	51	50

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-5				
		11/15/2008	3/14/2009	6/25/2009	9/16/2009	Average
Bicarbonate as HCO ₃ , mg/L		337	344	345	355	345
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		5	6	5	5	5
Conductivity, umhos/cm		908	906	884	890	897
Fluoride, mg/L		0.2	0.1	0.1	0.2	0.2
pH, s.u.		7.55	7.36	7.52	7.70	7.53
Solids, Total Dissolved TDS @ 180 C, mg/L		593	583	609	612	599
Sulfate, mg/L		196	219	186	186	197
Gross Alpha, pCi/L (dissolved)		106	136	37.5	105.0	96.1
Gross Beta, pCi/L (dissolved)		36.6	25.8	8.9	40.8	28.0
Lead 210, pCi/L (dissolved)		<4.0	4.2	<2.2	<0.8	<2.8
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.7	<0.7	<0.8
Radium 226, pCi/L (dissolved)		<0.38	0.85	1.0	0.76	0.75
Radium 228, pCi/L (dissolved)		<2.3	1.9	2.2	3.7	2.5
Thorium 230, pCi/L (dissolved)		<0.2	<0.2	<0.2	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		3.13	3.80	3.58	3.7	3.55
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		0.002	0.006	0.001	0.001	0.003
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		131	124	122	122	125
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		23	22	21	21	22
Manganese, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		10	10	10	10	10
Selenium, mg/L (dissolved)		0.026	0.027	0.029	0.024	0.027
Silica, mg/L		17.2	14.7	16.8	16.0	16.2
Sodium, mg/L		29	32	30	29	30
Uranium, mg/L (dissolved)		0.0771	0.0806	0.0797	0.0838	0.0803
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.02	0.07	<0.01	0.01	0.03
Iron, (total) mg/L		33.7	13.9	2.11	0.71	12.61
Manganese, (total) mg/L		0.17	0.07	0.01	<0.01	0.07
Lead 210, suspended pCi/L		<8.3	<6.2	<3.4	<4.3	<5.6
Polonium 210 suspended, pCi/L		17.3	1.6	<0.7	0.8	5.1
Radium 226 suspended, pCi/L		4.5	1.6	0.4	0.6	1.8
Thorium 230 suspended, pCi/L		2.5	0.9	0.3	1.2	1.2
Uranium suspended, mg/L		0.0073	0.0039	0.0008	0.0049	0.0042
Cations meq/L		9.98	9.68	9.41	9.37	9.61
Anions meq/L		9.61	10.20	9.53	9.84	9.76
Anion/Cation Balance		1.92	-2.62	-0.63	-2.44	-0.76
Calculated TDS		575	594	558	567	572
TDS Balance		103	98	109	108	105
Calculated Gross Alpha		52	57	57	59	54

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-6				
		11/15/2008	3/14/2009	6/25/2009	9/15/2009	Average
	12/4/1979					
Bicarbonate as HCO ₃ , mg/L	251	233	239	237	243	238
Carbonate as CO ₃ , mg/L	<1	<1	<1	<1	<5	<2
Chloride, mg/L	2	<1	<1	1	2	1
Conductivity, umhos/cm	875	817	814	799	800	808
Fluoride, mg/L	0.59	0.9	0.8	0.9	0.9	0.9
pH, s.u.	7.95	7.74	7.49	7.68	7.90	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	618	541	546	565	568	555
Sulfate, mg/L	108	240	259	238	242	246
Gross Alpha, pCi/L (dissolved)		44.7	41.9	79.8	27.1	48.4
Gross Beta, pCi/L (dissolved)		24.4	15.4	21.4	13.3	18.6
Lead 210, pCi/L (dissolved)		<4.0	5.3	<2.2	<0.8	<3.1
Polonium 210, pCi/L (dissolved)		<1.0	<0.6	<0.7	<0.5	<0.7
Radium 226, pCi/L (dissolved)		0.54	0.63	0.51	1.0	0.67
Radium 228, pCi/L (dissolved)		<2.3	3.0	3.3	5.4	3.5
Thorium 230, pCi/L (dissolved)		<0.2	<0.3	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	<1	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	<1	<0.05	<0.05	<0.05	<0.05	<0.05
Aluminum, mg/L (dissolved)	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	<0.005	0.001	<0.001	<0.001	0.001	0.001
Barium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	<0.05	<0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	80	124	107	104	108	111
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.84	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	18	25	22	21	22	23
Manganese, mg/L (dissolved)	0.18	0.15	0.15	0.16	0.15	0.15
Mercury, mg/L (dissolved)	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	7	8	8	8	8	8
Selenium, mg/L (dissolved)	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		22.0	17.2	16.5	19.1	18.7
Sodium, mg/L	32	27	29	25	26	27
Uranium, mg/L (dissolved)	<0.1	0.0090	0.0100	0.0094	0.0099	0.0096
Vanadium, mg/L (dissolved)	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	<0.05	0.01	0.08	<0.01	<0.01	0.03
Iron, (total) mg/L		0.03	0.09	<0.03	0.03	0.05
Manganese, (total) mg/L		0.17	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L		<8.5	<6.1	<3.3	<4.3	<5.6
Polonium 210 suspended, pCi/L		<1.0	<0.6	<0.4	<0.4	<0.6
Radium 226 suspended, pCi/L		<0.4	<0.4	0.08	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.4	<0.09	<0.08	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	7.07	9.66	8.65	8.24	8.57	8.78
Anions meq/L	6.42	8.82	9.31	8.84	9.08	9.00
Anion/Cation Balance	4.82	4.56	-3.70	-3.52	-2.90	-1.24
Calculated TDS	373	563	562	531	549	550
TDS Balance	166	96	97	106	104	101
Calculated Gross Alpha		6	9	8	10	6

Parameters	1979-1980 WQ Analysis NA	2008-2009 Well Sampling Results				
		N-7				
		11/15/2008	3/14/2009	6/26/2009	9/16/2009	Average
Bicarbonate as HCO ₃ , mg/L		334	336	335	346	338
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		7	7	6	8	7
Conductivity, umhos/cm		1010	1000	978	980	992
Fluoride, mg/L		0.1	0.1	0.1	0.1	0.1
pH, s.u.		7.55	7.25	7.62	7.80	7.56
Solids, Total Dissolved TDS @ 180 C, mg/L		665	688	686	713	688
Sulfate, mg/L		257	261	249	246	253
Gross Alpha, pCi/L (dissolved)		166.0	160	174.0	191.0	172.8
Gross Beta, pCi/L (dissolved)		52	40.7	43.1	50.8	46.7
Lead 210, pCi/L (dissolved)		<8.0	12	<2.2	<0.8	<5.8
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.6	<0.8	<0.6
Radium 226, pCi/L (dissolved)		0.56	0.73	1.10	1.1	0.87
Radium 228, pCi/L (dissolved)		4.6	4.3	4.9	8.2	5.5
Thorium 230, pCi/L (dissolved)		<0.2	<0.3	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		3.71	3.92	3.8	3.9	3.83
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		0.001	<0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	<0.1	0.01	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		155	147	140	139	145
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		26	24	23	23	24
Manganese, mg/L (dissolved)		<0.01	0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		10	10	11	10	10
Selenium, mg/L (dissolved)		0.038	0.037	0.034	0.035	0.036
Silica, mg/L		18.1	15.1	17.1	17.6	17.0
Sodium, mg/L		35	33	34	33	34
Uranium, mg/L (dissolved)		0.0970	0.1010	0.0986	0.1020	0.0997
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.02	0.08	0.02	0.01	0.03
Iron, (total) mg/L		0.17	<0.03	<0.03	<0.03	<0.07
Manganese, (total) mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L		<8.4	<6.3	<3.3	<4.4	<5.6
Polonium 210 suspended, pCi/L		<1.0	<0.6	<0.6	<0.4	<0.7
Radium 226 suspended, pCi/L		<0.5	<0.5	<0.05	<0.2	<0.4
Thorium 230 suspended, pCi/L		<0.2	<0.3	<0.07	<0.1	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L		11.69	11.04	10.68	10.56	10.99
Anions meq/L		10.83	10.95	10.68	11.02	10.81
Anion/Cation Balance		3.84	0.43	-0.01	-2.15	0.82
Calculated TDS		668	658	642	650	652
TDS Balance		100	105	107	110	105
Calculated Gross Alpha		66	71	70	72	67

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-8				
		3/21/2009	6/25/2009	9/23/2009	12/19/2009	Average
NA						
Bicarbonate as HCO ₃ , mg/L		258	257	267	269	263
Carbonate as CO ₃ , mg/L		<1	<1	<5	<5	<3
Chloride, mg/L		2	3	3	3	3
Conductivity, umhos/cm		550	553	516	545	541
Fluoride, mg/L		0.6	0.5	0.5	0.5	0.5
pH, s.u.		7.62	7.80	7.84	7.97	7.81
Solids, Total Dissolved TDS @ 180 C, mg/L		353	330	310	303	324
Sulfate, mg/L		83	76	77	77	78
Gross Alpha, pCi/L (dissolved)		<2.1	6.8	<3.0	10.7	<4.0
Gross Beta, pCi/L (dissolved)		6.2	6.2	7.2	9.0	7.2
Lead 210, pCi/L (dissolved)		<8.6	<2.2	<3.7	<1.2	<4.9
Polonium 210, pCi/L (dissolved)		<0.6	<0.5	<0.5	<0.5	<0.6
Radium 226, pCi/L (dissolved)		0.45	0.51	0.81	0.81	0.65
Radium 228, pCi/L (dissolved)		<1.1	<1.1	1.5	2.6	<1.3
Thorium 230, pCi/L (dissolved)		<0.2	<0.2	<0.4	<0.2	<0.3
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		<0.05	<0.05	<0.05	<0.1	<0.05
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		76	65	68	65	69
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		14	15	15	15	15
Manganese, mg/L (dissolved)		0.03	0.03	0.03	0.03	0.03
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		7	7	7	7	7
Selenium, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		7.3	8.5	6.7	7.8	7.6
Sodium, mg/L		22	20	21	21	21
Uranium, mg/L (dissolved)		0.0006	0.0005	0.0004	0.0003	0.0005
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		0.20	0.23	0.31	0.28	0.26
Manganese, (total) mg/L		0.03	0.03	0.03	0.03	0.03
Lead 210, suspended pCi/L		<8.6	<3.3	<1.7	<0.8	<4.6
Polonium 210 suspended, pCi/L		<0.6	<0.5	<0.5	<0.4	<0.6
Radium 226 suspended, pCi/L		0.45	0.09	<0.2	0.2	0.25
Thorium 230 suspended, pCi/L		<0.2	<0.5	<0.06	<0.08	<0.26
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	0.0011	<0.0003
Cations meq/L		6.10	5.55	5.74	5.59	5.75
Anions meq/L		5.96	5.80	5.98	6.01	5.94
Anion/Cation Balance		1.19	-2.18	-2.04	-3.63	-1.63
Calculated TDS		338	320	328	327	328
TDS Balance		104	103	94	93	99
Calculated Gross Alpha		0	2	3	3	0

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-9				
		3/19/2009	6/18/2009	9/22/2009	12/23/2009	Average
Bicarbonate as HCO ₃ , mg/L		307	Well not working	316	311	311
Carbonate as CO ₃ , mg/L		<1		<5	<5	<3
Chloride, mg/L		13		12	13	13
Conductivity, umhos/cm		1170		1150	1090	1137
Fluoride, mg/L		0.1		0.1	0.2	0.1
pH, s.u.		7.73		7.70	7.90	7.78
Solids, Total Dissolved TDS @ 180 C, mg/L		862		845	813	840
Sulfate, mg/L		346		350	333	343
Gross Alpha, pCi/L (dissolved)		145		218	146.0	170
Gross Beta, pCi/L (dissolved)		34.9		41.0	29.0	35.0
Lead 210, pCi/L (dissolved)		<9.9		<3.7	<0.6	<6.8
Polonium 210, pCi/L (dissolved)		<0.5		<0.5	<0.4	<0.5
Radium 226, pCi/L (dissolved)		0.23		0.31	0.5	0.35
Radium 228, pCi/L (dissolved)		1.1		2.1	4.2	2.5
Thorium 230, pCi/L (dissolved)		<0.2		<0.6	<0.2	<0.4
Nitrogen, Ammonia as N, mg/L		<0.05		<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		7.09		6.3	5.7	6.4
Aluminum, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Barium, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		0.1		<0.1	<0.1	0.1
Cadmium, mg/L (dissolved)		<0.005		<0.005	<0.005	<0.005
Calcium, mg/L		199		183	164	182
Chromium, mg/L (dissolved)		<0.05		<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01		<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03		<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Magnesium, mg/L		24		26	24	25
Manganese, mg/L (dissolved)		<0.01		0.01	<0.01	0.01
Mercury, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05		<0.05	<0.05	<0.05
Potassium, mg/L		12		12	11	12
Selenium, mg/L (dissolved)		0.048		0.048	0.048	0.048
Silica, mg/L		16.0		14.3	17.6	16.0
Sodium, mg/L		41		37	37	38
Uranium, mg/L (dissolved)		0.0750		0.0880	0.0789	0.0806
Vanadium, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.14		0.07	0.09	0.10
Iron, (total) mg/L		0.90		0.87	1.27	1.01
Manganese, (total) mg/L		<0.01		0.01	<0.01	0.01
Lead 210, suspended pCi/L		<7.4		<1.7	<1.5	<4.6
Polonium 210 suspended, pCi/L		<0.9		<0.4	<0.3	<0.7
Radium 226 suspended, pCi/L		0.5		<0.2	0.2	0.4
Thorium 230 suspended, pCi/L		<0.4		<0.1	<0.08	<0.3
Uranium suspended, mg/L		<0.0003		0.0004	0.0007	0.0004
Cations meq/L		14.04		13.23		13.12
Anions meq/L		12.24		12.47		12.25
Anion/Cation Balance		6.85		2.96		3.44
Calculated TDS		792		780		771
TDS Balance		109		108		109
Calculated Gross Alpha		51		61		55

Parameters	1979-1980 WQ Analysis NA	2008-2009 Well Sampling Results				
		N-10				
		3/19/2009	6/18/2009	9/22/2009	12/23/2009	Average
Bicarbonate as HCO ₃ , mg/L		366	Well not working	374	383	374
Carbonate as CO ₃ , mg/L		<1		<5	<5	<3
Chloride, mg/L		6		6	6	6
Conductivity, umhos/cm		961		908	905	925
Fluoride, mg/L		0.5		0.5	0.4	0.5
pH, s.u.		7.77		7.78	7.90	7.82
Solids, Total Dissolved TDS @ 180 C, mg/L		670		648	632	650
Sulfate, mg/L		218		193	195	202
Gross Alpha, pCi/L (dissolved)		175		161	162.0	166
Gross Beta, pCi/L (dissolved)		40.9		37.5	31.6	36.7
Lead 210, pCi/L (dissolved)		<8.6		<3.7	<1.2	<6.2
Polonium 210, pCi/L (dissolved)		<0.4		<0.6	<0.6	<0.5
Radium 226, pCi/L (dissolved)		0.36		0.27	0.5	0.38
Radium 228, pCi/L (dissolved)		1.4		1.8	3.2	2.1
Thorium 230, pCi/L (dissolved)		<0.2		<0.3	<0.1	<0.3
Nitrogen, Ammonia as N, mg/L		<0.05		<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		3.04		2.9	2.7	2.9
Aluminum, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Barium, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		0.1		<0.1	0.1	0.1
Cadmium, mg/L (dissolved)		<0.005		<0.005	<0.005	<0.005
Calcium, mg/L		148		126	124	133
Chromium, mg/L (dissolved)		<0.05		<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		0.02		<0.01	<0.01	0.02
Iron, mg/L (dissolved)		<0.03		<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Magnesium, mg/L		25		26	26	26
Manganese, mg/L (dissolved)		<0.01		0.01	<0.01	0.01
Mercury, mg/L (dissolved)		<0.001		<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05		<0.05	<0.05	<0.05
Potassium, mg/L		8		9	8	8
Selenium, mg/L (dissolved)		0.014		0.014	0.015	0.014
Silica, mg/L		15.1		13.0	17.4	15.2
Sodium, mg/L		31		29	29	30
Uranium, mg/L (dissolved)		0.0913		0.1030	0.1020	0.0988
Vanadium, mg/L (dissolved)		<0.1		<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		0.1		0.16	0.17	0.14
Iron, (total) mg/L		0.37		0.41	6.44	0.39
Manganese, (total) mg/L		<0.01		0.01	0.02	0.01
Lead 210, suspended pCi/L		<7.5		<1.7	<1.5	<4.6
Polonium 210 suspended, pCi/L		<0.7		<0.3	<0.5	<0.5
Radium 226 suspended, pCi/L		0.3		<0.2	0.3	0.3
Thorium 230 suspended, pCi/L		<0.4		<0.08	<0.08	<0.3
Uranium suspended, mg/L		<0.0003		<0.0003	0.0003	<0.0003
Cations meq/L		11.04		9.96	9.83	10.28
Anions meq/L		10.54		10.15	10.34	10.34
Anion/Cation Balance		2.29		-0.96	-2.52	-0.34
Calculated TDS		628		583	591	601
TDS Balance		107		111	107	108
Calculated Gross Alpha		62		71	71	67

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results N-11				
		11/10/2008	3/16/2009	6/18/2009	9/22/2009	Average
Bicarbonate as HCO ₃ , mg/L	275	279	280	306	293	290
Carbonate as CO ₃ , mg/L	0.5	<1	<1	<1	<1	<1
Chloride, mg/L	6	41	35	20	43	35
Conductivity, umhos/cm	748	1060	1070	1030	1050	1053
Fluoride, mg/L	0.48	0.2	0.2	0.2	0.2	0.2
pH, s.u.	7.81	7.96	7.54	7.56	7.66	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	627	709	717	725	698	712
Sulfate, mg/L	300	207	208	238	186	210
Gross Alpha, pCi/L (dissolved)		113	118	156	99.1	122
Gross Beta, pCi/L (dissolved)		36.9	22.8	29.0	35.3	31.0
Lead 210, pCi/L (dissolved)		<4.7	<3.2	<2.8	<3.8	<3.7
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.9	<0.6	<0.8
Radium 226, pCi/L (dissolved)	0.95	0.73	0.27	1.60	0.88	0.87
Radium 228, pCi/L (dissolved)		4.4	<1.6	5.8	5.6	4.4
Thorium 230, pCi/L (dissolved)	0.35	<0.2	<0.2	0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	1.64	22	24.2	9.5	19.2	18.7
Aluminum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.001	<0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	113	166	153	135	158	153
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.04	<0.01	0.02	<0.01	<0.01	<0.02
Iron, mg/L (dissolved)	0.85	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	22.7	26	24	23	24	24
Manganese, mg/L (dissolved)	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	10.8	11	10	10	11	11
Selenium, mg/L (dissolved)	0.01	0.043	0.042	0.043	0.038	0.042
Silica, mg/L		19.0	17.2	17.9	13.4	16.9
Sodium, mg/L	33.3	26	25	28	25	26
Uranium, mg/L (dissolved)	0.012	0.0598	0.0547	0.0826	0.0605	0.0644
Vanadium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.28	0.02	0.02	0.02	0.02	0.02
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L		<9.9	<6.3	<4.8	<1.8	<5.7
Polonium 210 suspended, pCi/L		<1.0	<0.5	<0.5	<0.5	<0.7
Radium 226 suspended, pCi/L		<0.4	<0.5	<0.07	<0.2	<0.3
Thorium 230 suspended, pCi/L		0.3	<0.8	<0.1	<0.1	<0.4
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.27	11.88	10.99	10.14	11.27	11.07
Anions meq/L	11.06	8.89	8.92	9.97	9.89	9.12
Anion/Cation Balance	-8.80	14.41	10.39	0.82	6.52	9.68
Calculated TDS	631	595	577	605	607	585
TDS Balance	99	119	124	120	115	122
Calculated Gross Alpha	11	40	38	61	44	44

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
	NA	N-12				
		11/12/2008	3/17/2009	6/22/2009	9/25/2009	Average
Bicarbonate as HCO ₃ , mg/L		244	244	244	254	247
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		<1	<1	1	1	1
Conductivity, umhos/cm		860	857	845	841	851
Fluoride, mg/L		0.8	0.8	0.8	0.8	0.8
pH, s.u.		7.95	7.37	7.80	7.59	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L		592	610	610	589	600
Sulfate, mg/L		276	261	254	254	261
Gross Alpha, pCi/L (dissolved)		35.6	46.1	37.4	39.6	39.7
Gross Beta, pCi/L (dissolved)		15.1	12.7	12.3	15.8	14.0
Lead 210, pCi/L (dissolved)		<9.4	<2.7	<2.2	<2.0	<4.1
Polonium 210, pCi/L (dissolved)		<1.0	<0.6	<0.5	<0.6	<0.7
Radium 226, pCi/L (dissolved)		<0.46	0.28	0.21	0.35	0.32
Radium 228, pCi/L (dissolved)		<1.9	1.6	<1.1	1.7	1.6
Thorium 230, pCi/L (dissolved)		<0.2	<0.4	<0.1	<0.6	<0.4
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		0.28	0.39	0.27	0.2	0.29
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		132	111	109	116	117
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		28	25	23	24	25
Manganese, mg/L (dissolved)		0.02	0.02	0.02	0.02	0.02
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		9	9	9	8	9
Selenium, mg/L (dissolved)		<0.001	0.001	<0.001	<0.001	<0.001
Silica, mg/L		22.3	18.6	16.9	15.3	18.3
Sodium, mg/L		30	33	27	26	29
Uranium, mg/L (dissolved)		0.0128	0.0136	0.0129	0.0127	0.0130
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		<0.01	<0.01	0.01	<0.01	<0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		0.04	0.04	0.03	0.03	0.04
Lead 210, suspended pCi/L		<10	<6.2	<3.3	<1.8	<5.4
Polonium 210 suspended, pCi/L		<1.0	<0.7	<0.6	<0.4	<0.7
Radium 226 suspended, pCi/L		<0.4	<0.5	0.2	<0.2	<0.4
Thorium 230 suspended, pCi/L		<0.2	<0.4	<0.09	<0.07	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L		10.47	9.30	8.77	9.14	9.42
Anions meq/L		9.75	9.44	9.29	9.48	9.48
Anion/Cation Balance		3.55	-0.74	-2.88	-1.87	-0.34
Calculated TDS		619	580	561	571	583
TDS Balance		96	105	109	103	103
Calculated Gross Alpha		9	10	9	10	9

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results				
		N-13				
		11/21/2008	3/25/2009	6/19/2009	9/16/2009	Average
Bicarbonate as HCO ₃ , mg/L	241	229	241	234	240	236
Carbonate as CO ₃ , mg/L	0.25	<1	<1	<1	<5	<2
Chloride, mg/L	3.6	13	8	8	7	9
Conductivity, umhos/cm	866	824	842	821	810	824
Fluoride, mg/L	0.76	0.8	0.8	0.8	0.9	0.8
pH, s.u.	7.68	7.61	7.66	7.64	7.80	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	619	592	568	563	581	576
Sulfate, mg/L	269	243	234	229	233	235
Gross Alpha, pCi/L (dissolved)		44.0	39.6	58.8	44.1	46.6
Gross Beta, pCi/L (dissolved)		29.3	16.1	15.8	17.0	19.6
Lead 210, pCi/L (dissolved)		<4.4	<2.7	<2.8	<0.8	<2.7
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.8	<0.8	<0.9
Radium 226, pCi/L (dissolved)	1.7	0.7	1.4	1.3	0.67	1.0
Radium 228, pCi/L (dissolved)		4.1	4.2	3.8	4.7	4.2
Thorium 230, pCi/L (dissolved)	0.3	<0.2	<0.2	<0.1	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.12	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.42	0.7	0.4	0.4	0.4	0.5
Aluminum, mg/L (dissolved)	<0.1	<0.1	3.4	<0.1	<0.1	<1.0
Arsenic, mg/L (dissolved)	0.01	0.003	0.001	0.001	0.001	0.002
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.07	0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	120	114	106	110	105	109
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.04	<0.01	0.08	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.11	<0.03	0.36	<0.03	<0.03	<0.12
Lead, mg/L (dissolved)	0.04	<0.001	0.005	<0.001	<0.001	<0.002
Magnesium, mg/L	21.6	23	22	23	22	23
Manganese, mg/L (dissolved)	0.09	<0.01	0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.3	8	8	9	8	8
Selenium, mg/L (dissolved)	0.01	0.009	0.006	0.005	0.004	0.006
Silica, mg/L		19.3	18.4	19.4	19.0	19.0
Sodium, mg/L	31.5	28	29	28	26	28
Uranium, mg/L (dissolved)	0.015	0.0179	0.0149	0.0141	0.0133	0.0151
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.05	<0.01	0.26	<0.01	<0.01	<0.008
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		<0.01	<0.01	<0.01	0.01	<0.01
Lead 210, suspended pCi/L		<9.6	4.1	<4.8	<4.4	<5.8
Polonium 210 suspended, pCi/L		<0.3	<0.3	<0.5	<0.5	<0.4
Radium 226 suspended, pCi/L		<0.5	<0.08	<0.07	<0.2	<0.22
Thorium 230 suspended, pCi/L		<0.2	<0.3	<0.1	<0.06	<0.17
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.42	9.04	8.60	8.86	8.42	8.73
Anions meq/L	9.69	8.82	8.83	8.61	8.99	8.76
Anion/Cation Balance	-1.46	1.25	-1.30	1.48	-3.26	-0.17
Calculated TDS	577	550	538	535	540	539
TDS Balance	107	108	106	105	108	107
Calculated Gross Alpha	15	12	14	13	11	10

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-14				
		9/23/2009	12/19/2009			Average
	N A					
Bicarbonate as HCO ₃ , mg/L		250	253			252
Carbonate as CO ₃ , mg/L		<5	<5			<5
Chloride, mg/L		71	75			73
Conductivity, umhos/cm		722	753			738
Fluoride, mg/L		0.3	0.2			0.3
pH, s.u.		7.74	7.94			7.84
Solids, Total Dissolved TDS @ 180 C, mg/L		455	416			436
Sulfate, mg/L		59	60			60
Gross Alpha, pCi/L (dissolved)		66.5	84.3			75.4
Gross Beta, pCi/L (dissolved)		17.4	29.6			23.5
Lead 210, pCi/L (dissolved)		<3.7	<1.2			<2.5
Polonium 210, pCi/L (dissolved)		<0.6	<0.4			<0.5
Radium 226, pCi/L (dissolved)		0.90	1.2			1.1
Radium 228, pCi/L (dissolved)		2.1	<1.5			1.8
Thorium 230, pCi/L (dissolved)		<0.4	<0.1			<0.3
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05			<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		4.2	4.1			4.2
Aluminum, mg/L (dissolved)		<0.1	<0.1			<0.1
Arsenic, mg/L (dissolved)		<0.001	<0.001			<0.001
Barium, mg/L (dissolved)		<0.1	<0.1			<0.1
Boron, mg/L (dissolved)		<0.1	<0.1			<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005			<0.005
Calcium, mg/L		98	94			96
Chromium, mg/L (dissolved)		<0.05	<0.05			<0.05
Copper, mg/L (dissolved)		<0.01	<0.01			<0.01
Iron, mg/L (dissolved)		<0.03	<0.03			<0.03
Lead, mg/L (dissolved)		<0.001	<0.001			<0.001
Magnesium, mg/L		16	15			16
Manganese, mg/L (dissolved)		<0.01	<0.01			<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001			<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1			<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05			<0.05
Potassium, mg/L		9	9			9
Selenium, mg/L (dissolved)		0.007	0.007			0.007
Silica, mg/L		12.2	12.7			12.5
Sodium, mg/L		26	25			26
Uranium, mg/L (dissolved)		0.0368	0.0383			0.0376
Vanadium, mg/L (dissolved)		<0.1	<0.1			<0.1
Zinc, mg/L (dissolved)		<0.01	0.01			0.01
Iron, (total) mg/L		0.36	0.27			0.32
Manganese, (total) mg/L		<0.01	<0.01			<0.01
Lead 210, suspended pCi/L		<1.7	<0.7			<1.2
Polonium 210 suspended, pCi/L		<0.5	<0.4			<0.5
Radium 226 suspended, pCi/L		<0.2	0.2			0.2
Thorium 230 suspended, pCi/L		<0.1	<0.06			<0.08
Uranium suspended, mg/L		<0.0003	0.0013			0.0008
Cations meq/L		7.59				7.47
Anions meq/L		7.63				7.72
Anion/Cation Balance		-0.22				-1.60
Calculated TDS		345				344
TDS Balance		132				127
Calculated Gross Alpha		25				25

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results N-15				
		11/7/2008	3/18/2009	6/19/2009	9/23/2009	Average
Bicarbonate as HCO ₃ , mg/L	252	240	240	244	259	246
Carbonate as CO ₃ , mg/L	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	5.2	<1	<1	2	2	2
Conductivity, umhos/cm	790	839	840	824	809	828
Fluoride, mg/L	0.75	0.9	0.8	0.8	0.8	0.8
pH, s.u.	7.62	8.07	7.46	7.62	7.82	7.74
Solids, Total Dissolved TDS @ 180 C, mg/L	617	583	584	602	601	593
Sulfate, mg/L	244	266	252	240	242	250
Gross Alpha, pCi/L (dissolved)		51.5	33.9	43.2	38.0	41.7
Gross Beta, pCi/L (dissolved)		24.7	14.5	6.0	12.4	14.4
Lead 210, pCi/L (dissolved)		<4.7	<2.7	<2.8	<3.7	<3.5
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.8	<0.7	<0.8
Radium 226, pCi/L (dissolved)	1	<0.48	0.59	1.2	0.47	0.69
Radium 228, pCi/L (dissolved)		3.4	2.2	2.3	2.9	2.7
Thorium 230, pCi/L (dissolved)	4.1	<0.2	<0.3	<0.2	<0.3	<0.3
Nitrogen, Ammonia as N, mg/L	0.08	<0.1	<0.05	<0.05	<0.05	<0.07
Nitrogen, Nitrate+Nitrite as N, mg/L	0.41	0.16	0.15	<0.1	0.1	<0.13
Aluminum, mg/L (dissolved)	0.14	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.001	0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	111	134	104	115	114	117
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.19	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	23.6	28	23	25	23	25
Manganese, mg/L (dissolved)	0.2	0.13	0.12	0.13	0.13	0.13
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	8.7	9	8	9	9	9
Selenium, mg/L (dissolved)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		22.5	17.3	19.2	14.7	18.4
Sodium, mg/L	30.8	28	29	27	26	28
Uranium, mg/L (dissolved)	0.017	0.0146	0.0138	0.0154	0.0152	0.0148
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.05	<0.01	0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		0.15	0.13	0.13	0.13	0.14
Lead 210, suspended pCi/L		<9.9	<6.2	<4.8	<1.7	<5.7
Polonium 210 suspended, pCi/L		<1.0	<0.8	<0.6	<0.5	<0.8
Radium 226 suspended, pCi/L		<0.4	<0.4	<0.09	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.4	<0.1	<0.1	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.08	10.48	8.58	9.24	8.98	9.32
Anions meq/L	9.40	9.48	9.18	9.00	9.34	9.24
Anion/Cation Balance	-1.73	5.04	-3.39	1.31	-2.00	0.45
Calculated TDS	551	608	553	557	560	569
TDS Balance	112	96	106	108	107	104
Calculated Gross Alpha	15	10	11	14	12	10

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results				
		N-16				
		11/21/2008	3/31/2009	8/4/2009	9/23/2009	Average
Bicarbonate as HCO ₃ , mg/L	254	239	249	242	249	245
Carbonate as CO ₃ , mg/L	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	4.3	1	1	2	2	2
Conductivity, umhos/cm	814	801	824	814	797	809
Fluoride, mg/L	0.76	0.9	0.9	0.9	0.9	0.9
pH, s.u.	7.7	7.76	7.70	7.59	7.75	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	635	580	569	561	556	567
Sulfate, mg/L	254	248	251	239	243	245
Gross Alpha, pCi/L (dissolved)		39.8	40.7	30.8	37.8	37.3
Gross Beta, pCi/L (dissolved)		23.1	16.8	36.9	19.4	24.1
Lead 210, pCi/L (dissolved)		<4.4	<2.7	<2.2	<3.7	<3.3
Polonium 210, pCi/L (dissolved)		<1.0	<0.6	<0.9	<0.4	<0.8
Radium 226, pCi/L (dissolved)	0.7	<0.2	0.81	0.57	0.78	0.59
Radium 228, pCi/L (dissolved)		3.5	4.7	5	5.6	4.7
Thorium 230, pCi/L (dissolved)	1.2	0.02	<0.3	<0.1	<0.5	<0.3
Nitrogen, Ammonia as N, mg/L	0.07	<0.05	0.07	<0.05	<0.05	<0.06
Nitrogen, Nitrate+Nitrite as N, mg/L	0.36	0.1	0.1	0.08	<0.1	<0.1
Aluminum, mg/L (dissolved)	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	<0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.09	0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	121	112	111	105	113	110
Chromium, mg/L (dissolved)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	<0.01	<0.01	<0.01	0.01	<0.01
Iron, mg/L (dissolved)	0.09	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	22.5	23	23	22	22	23
Manganese, mg/L (dissolved)	0.16	0.15	0.17	0.14	0.16	0.16
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.6	8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		19.8	17.5	16.2	14.8	17.1
Sodium, mg/L	33	28	28	26	26	27
Uranium, mg/L (dissolved)	0.014	0.0115	0.0110	0.0105	0.0114	0.0111
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.39	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		0.16	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L		<9.6	<5.7	<3.2	<1.8	<5.1
Polonium 210 suspended, pCi/L		<0.2	<0.4	<0.3	<0.4	<0.4
Radium 226 suspended, pCi/L		<0.5	<0.4	<0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L		1.4	0.2	<0.1	<0.07	<0.5
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.61	8.94	8.89	8.42	8.82	8.77
Anions meq/L	9.62	9.12	9.35	9.01	9.20	9.16
Anion/Cation Balance	-0.03	-1.00	-2.51	-3.38	-2.12	-2.22
Calculated TDS	573	560	564	540	553	554
TDS Balance	111	104	101	104	100	102
Calculated Gross Alpha	12	8	10	9	10	9

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-17				
		8/79 to 7/80	11/10/2008	3/20/2009	6/19/2009	9/14/2009
Average						
Bicarbonate as HCO ₃ , mg/L	244	240	246	239	247	243
Carbonate as CO ₃ , mg/L	0.3	<1	<1	<1	<5	<2
Chloride, mg/L	3.2	1	1	4	3	2
Conductivity, umhos/cm	805	876	879	854	850	865
Fluoride, mg/L	0.74	0.9	0.8	0.8	0.9	0.9
pH, s.u.	7.69	8.03	7.58	7.54	8.00	7.79
Solids, Total Dissolved TDS @ 180 C, mg/L	648	600	639	595	612	612
Sulfate, mg/L	271	293	285	260	267	276
Gross Alpha, pCi/L (dissolved)		50.1	36.8	47.2	36.0	42.5
Gross Beta, pCi/L (dissolved)		16.4	12.6	14.3	13.9	14.3
Lead 210, pCi/L (dissolved)		<5.4	<8.6	<2.8	<0.8	<4.4
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.4	<0.6	<0.7
Radium 226, pCi/L (dissolved)	2.1	<0.48	0.49	1.0	0.65	0.66
Radium 228, pCi/L (dissolved)		<1.9	1.1	2.7	2.7	2.1
Thorium 230, pCi/L (dissolved)	1.6	<0.2	<0.2	<0.1	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.45	0.08	0.08	<0.1	<0.1	0.09
Aluminum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	126	129	135	118	117	125
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.09	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	22.2	26	22	24	23	24
Manganese, mg/L (dissolved)	0.16	0.12	0.12	0.12	0.12	0.12
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.3	9	8	9	9	9
Selenium, mg/L (dissolved)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		20.0	16.2	18.5	18.8	18.4
Sodium, mg/L	31.1	29	29	28	26	28
Uranium, mg/L (dissolved)	0.3	0.0123	0.0121	0.0129	0.0129	0.0126
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.67	0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		0.15	0.13	0.13	0.13	0.14
Lead 210, suspended pCi/L		<9.9	<7.5	<4.9	<4.3	<6.7
Polonium 210 suspended, pCi/L		<1.0	<0.5	<0.5	<0.7	<0.7
Radium 226 suspended, pCi/L		<0.4	0.3	<0.09	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.5	<0.09	<0.08	<0.3
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.75	10.11	10.05	9.35	9.13	9.66
Anions meq/L	9.78	10.07	10.00	9.45	9.70	9.80
Anion/Cation Balance	0.16	-0.18	-0.23	0.53	3.02	0.74
Calculated TDS	587	627	620	581	587	604
TDS Balance	110	96	103	102	104	101
Calculated Gross Alpha	209	8	10	12	11	10

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results				
		N-18				
		3/25/2009	6/17/2009	9/23/2009	12/23/2009	Average
Bicarbonate as HCO ₃ , mg/L	266	317	318	339	346	330
Carbonate as CO ₃ , mg/L	0.3	<1	<1	<5	<5	<3
Chloride, mg/L	5.7	117	126	123	119	121
Conductivity, umhos/cm	792	1960	1860	1860	1800	1870
Fluoride, mg/L	0.68	0.4	0.3	0.3	0.3	0.3
pH, s.u.	7.49	7.48	7.32	7.59	7.84	7.56
Solids, Total Dissolved TDS @ 180 C, mg/L	598	1460	1410	1380	1400	1413
Sulfate, mg/L	237	609	589	560	562	580
Gross Alpha, pCi/L (dissolved)		244	317	292	225	270
Gross Beta, pCi/L (dissolved)		39.5	56.8	57.3	56.6	52.6
Lead 210, pCi/L (dissolved)		<2.7	<2.8	<3.7	<1.2	<3.1
Polonium 210, pCi/L (dissolved)		<0.9	<0.7	<0.5	<0.6	<0.7
Radium 226, pCi/L (dissolved)	2.6	0.73	0.44	0.20	0.40	0.46
Radium 228, pCi/L (dissolved)		1.4	<1.3	<1.2	2.2	<1.3
Thorium 230, pCi/L (dissolved)	<0.2	<0.3	<0.2	<0.4	<0.1	<0.3
Nitrogen, Ammonia as N, mg/L	0.09	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.83	12	16	14.4	12.7	14
Aluminum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	123	287	272	270	119	237
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.03	0.03	0.03	<0.01	0.03
Iron, mg/L (dissolved)	0.19	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	19.4	52	47	46	44	47
Manganese, mg/L (dissolved)	0.1	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	8.8	8	8	7	7	8
Selenium, mg/L (dissolved)	0.01	0.125	0.125	0.112	0.144	0.121
Silica, mg/L		17.9	17.6	13.7	16.9	16.5
Sodium, mg/L	32.6	83	73	66	66	72
Uranium, mg/L (dissolved)	0.08	0.1700	0.1680	0.1960	0.2160	0.1875
Vanadium, mg/L (dissolved)	0.39	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.33	0.02	0.02	0.02	0.04	0.02
Iron, (total) mg/L		0.46	0.53	0.10	0.24	0.36
Manganese, (total) mg/L		0.01	0.03	<0.01	<0.01	0.02
Lead 210, suspended pCi/L		<4.2	<4.5	<1.7	<1.5	<3.5
Polonium 210 suspended, pCi/L		<0.5	<0.6	<0.5	<0.4	<0.6
Radium 226 suspended, pCi/L		<0.09	0.1	<0.2	<0.1	<0.2
Thorium 230 suspended, pCi/L		<0.2	<0.3	<0.05	<0.08	<0.2
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	0.0003	<0.0003
Cations meq/L	9.42	22.50	20.90	20.38		19.11
Anions meq/L	9.53	22.04	22.18	21.72		20.91
Anion/Cation Balance	0.59	-1.03	2.97	3.17		4.49
Calculated TDS	563	1385	1362	1319		1247
TDS Balance	106	105	104	105		113
Calculated Gross Alpha	62	115	115	133		128

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-19				
		11/13/2008	3/16/2009	6/17/2009	9/15/2009	Average
Bicarbonate as HCO ₃ , mg/L		248	250	251	257	252
Carbonate as CO ₃ , mg/L		<1	<1	<1	<5	<2
Chloride, mg/L		5	4	5	4	5
Conductivity, umhos/cm		737	739	736	720	733
Fluoride, mg/L		0.7	0.7	0.7	0.8	0.7
pH, s.u.		7.64	7.44	7.59	8.00	7.67
Solids, Total Dissolved TDS @ 180 C, mg/L		464	465	498	516	486
Sulfate, mg/L		181	187	186	184	185
Gross Alpha, pCi/L (dissolved)		69.7	58.1	43.6	54.3	56.4
Gross Beta, pCi/L (dissolved)		34.2	16.8	17.5	22.1	22.7
Lead 210, pCi/L (dissolved)		<4.7	5.3	<2.8	<0.8	<3.4
Polonium 210, pCi/L (dissolved)		<1.0	<0.5	0.7	<0.7	<0.8
Radium 226, pCi/L (dissolved)		<0.39	0.79	1.3	0.46	0.74
Radium 228, pCi/L (dissolved)		3.7	3.4	4.8	4.7	4.2
Thorium 230, pCi/L (dissolved)		<0.2	<0.5	<0.2	<0.2	<0.4
Nitrogen, Ammonia as N, mg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L		0.25	0.28	0.26	0.2	0.25
Aluminum, mg/L (dissolved)		<0.1	0.2	<0.1	<0.1	<0.2
Arsenic, mg/L (dissolved)		0.001	0.002	0.001	0.001	0.001
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		<0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		111	94	99	95	100
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	0.03	<0.01	<0.01	<0.02
Iron, mg/L (dissolved)		<0.03	0.04	<0.03	<0.03	<0.04
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		23	20	20	20	21
Manganese, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		8	8	8	8	8
Selenium, mg/L (dissolved)		0.007	0.007	0.007	0.008	0.007
Silica, mg/L		19.7	16.2	18.4	18.1	18.1
Sodium, mg/L		26	27	26	24	26
Uranium, mg/L (dissolved)		0.0330	0.0354	0.0337	0.0328	0.0337
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		<0.01	0.08	<0.01	<0.01	<0.03
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L		<8.6	<6.1	<4.5	<4.3	<5.9
Polonium 210 suspended, pCi/L		1.2	<1	<0.6	<0.4	<0.8
Radium 226 suspended, pCi/L		<0.4	<0.5	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.3	<0.3	<0.1	<0.3
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L		8.80	7.75	7.95	7.67	8.04
Anions meq/L		8.00	8.13	8.15	8.16	8.09
Anion/Cation Balance		4.81	-2.40	-1.22	-3.12	-0.32
Calculated TDS		499	482	489	482	487
TDS Balance		93	96	102	107	100
Calculated Gross Alpha		22	26	27	24	25

Parameters	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-20				
		8/79 to 7/80	3/17/2009			
Bicarbonate as HCO ₃ , mg/L	247	238				
Carbonate as CO ₃ , mg/L	0.4	<1				
Chloride, mg/L	4.3	<1				
Conductivity, umhos/cm	805	842				
Fluoride, mg/L	0.8	0.9				
pH, s.u.	7.58	7.45				
Solids, Total Dissolved TDS @ 180 C, mg/L	612	582				
Sulfate, mg/L	252	260				
Gross Alpha, pCi/L (dissolved)		27.8				
Gross Beta, pCi/L (dissolved)		14.4				
Lead 210, pCi/L (dissolved)		<2.7				
Polonium 210, pCi/L (dissolved)		<0.6				
Radium 226, pCi/L (dissolved)	1	0.52				
Radium 228, pCi/L (dissolved)		4.3				
Thorium 230, pCi/L (dissolved)	1.75	<0.4				
Nitrogen, Ammonia as N, mg/L	0.08	<0.05				
Nitrogen, Nitrate+Nitrite as N, mg/L	0.31	<0.05				
Aluminum, mg/L (dissolved)	0.09	<0.1				
Arsenic, mg/L (dissolved)	0.01	0.001				
Barium, mg/L (dissolved)	0.06	<0.1				
Boron, mg/L (dissolved)	0.12	<0.1				
Cadmium, mg/L (dissolved)	0.01	<0.005				
Calcium, mg/L	118	104				
Chromium, mg/L (dissolved)	<0.05	<0.05				
Copper, mg/L (dissolved)	0.04	<0.01				
Iron, mg/L (dissolved)	0.09	<0.03				
Lead, mg/L (dissolved)	0.04	<0.001				
Magnesium, mg/L	22.7	23				
Manganese, mg/L (dissolved)	0.2	0.11				
Mercury, mg/L (dissolved)	0.001	<0.001				
Molybdenum, mg/L (dissolved)	<0.1	<0.1				
Nickel, mg/L (dissolved)	<0.05	<0.05				
Potassium, mg/L	9.1	8				
Selenium, mg/L (dissolved)	0.01	<0.001				
Silica, mg/L		18.1				
Sodium, mg/L	32	29				
Uranium, mg/L (dissolved)	0.013	0.0102				
Vanadium, mg/L (dissolved)	0.19	<0.1				
Zinc, mg/L (dissolved)	0.06	<0.01				
Iron, (total) mg/L		<0.03				
Manganese, (total) mg/L		0.12				
Lead 210, suspended pCi/L		<6.3				
Polonium 210 suspended, pCi/L		<0.7				
Radium 226 suspended, pCi/L		<0.2				
Thorium 230 suspended, pCi/L		<0.4				
Uranium suspended, mg/L		<0.0003				
Cations meq/L	9.42	8.58				
Anions meq/L	9.46	9.32				
Anion/Cation Balance	0.18	4.11				
Calculated TDS	563	561				
TDS Balance	109	104				
Calculated Gross Alpha	12	7				

	1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
		N-21				
Parameters	8/79 to 7/80	11/10/2008	3/20/2009	6/17/2009	9/23/2009	Average
Bicarbonate as HCO3, mg/L	258	236	232	238	255	240
Carbonate as CO3, mg/L	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	4.3	<1	<1	1	1	<1
Conductivity, umhos/cm	790	837	828	824	808	824
Fluoride, mg/L	0.8	0.9	0.9	0.9	0.8	0.9
pH, s.u.	7.41	7.83	7.48	7.62	7.76	7.67
Solids, Total Dissolved TDS @ 180 C, mg/L	638	576	612	601	609	600
Sulfate, mg/L	257	268	260	250	246	256
Gross Alpha, pCi/L (dissolved)		26.1	30.1	77.4	32.0	41.4
Gross Beta, pCi/L (dissolved)		15.3	14.1	24.0	15.8	17.3
Lead 210, pCi/L (dissolved)		<4.7	<8.6	<2.8	<4.0	<5.1
Polonium 210, pCi/L (dissolved)		<0.2	<0.6	<0.5	<0.6	<0.5
Radium 226, pCi/L (dissolved)	0.87	<0.49	0.57	1.1	0.90	<0.77
Radium 228, pCi/L (dissolved)		<1.9	1.9	3.9	3.9	2.9
Thorium 230, pCi/L (dissolved)	0.27	<0.2	<0.2	<0.2	<0.3	<0.2
Nitrogen, Ammonia as N, mg/L	0.08	<0.1	<0.05	<0.05	<0.05	<0.07
Nitrogen, Nitrate+Nitrite as N, mg/L	0.27	<0.05	<0.05	<0.05	<0.1	<0.07
Aluminum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	<0.001	<0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.11	<0.1	0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	117	129	123	112	114	120
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.11	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	24.5	26	21	23	23	23
Manganese, mg/L (dissolved)	0.22	0.20	0.24	0.13	0.12	0.17
Mercury, mg/L (dissolved)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.9	9	8	9	8	9
Selenium, mg/L (dissolved)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		22.5	15.9	19.6	14.6	18.2
Sodium, mg/L	32.6	29	28	27	26	28
Uranium, mg/L (dissolved)	0.014	0.0097	0.0098	0.0104	0.0111	0.0103
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.08	0.01	<0.01	0.02	0.01	0.01
Iron, (total) mg/L		0.19	12.1	<0.03	<0.03	3.10
Manganese, (total) mg/L		0.23	0.30	0.12	0.12	0.19
Lead 210, suspended pCi/L		<9.7	<7.4	<4.6	<1.7	<5.9
Polonium 210 suspended, pCi/L		<1.0	<0.7	<0.6	<0.4	<0.5
Radium 226 suspended, pCi/L		<0.4	<0.3	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L		<0.2	<0.4	<1.1	0.7	<0.6
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	0.0024	<0.0009
Cations meq/L	9.57	10.11	9.32	8.92	8.95	9.33
Anions meq/L	9.74	9.45	9.22	9.11	9.33	9.27
Anion/Cation Balance	-0.87	3.35	0.55	-1.05	-2.09	0.29
Calculated TDS	575	602	572	560	560	573
TDS Balance	111	96	107	107	109	105
Calculated Gross Alpha	12	7	8	10	10	7

Parameters	1979-1980 WQ Analysis 8/79 to 7/80	2008-2009 Well Sampling Results				
		N-22				
		11/21/2008	3/31/2009	8/4/2009	9/23/2009	Average
Bicarbonate as HCO ₃ , mg/L	247	239	249	242	249	245
Carbonate as CO ₃ , mg/L	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	4.3	1	1	2	2	2
Conductivity, umhos/cm	805	801	824	814	797	809
Fluoride, mg/L	0.8	0.9	0.9	0.9	0.9	0.9
pH, s.u.	7.58	7.76	7.70	7.59	7.75	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	612	580	569	561	556	567
Sulfate, mg/L	252	248	251	239	243	245
Gross Alpha, pCi/L (dissolved)		39.8	40.7	30.8	37.8	37.3
Gross Beta, pCi/L (dissolved)		23.1	16.8	36.9	19.4	24.1
Lead 210, pCi/L (dissolved)		<4.4	<2.7	<2.2	<3.7	<3.3
Polonium 210, pCi/L (dissolved)		<1.0	<0.6	<0.9	<0.4	<0.8
Radium 226, pCi/L (dissolved)	1	<0.2	0.81	0.57	0.78	0.59
Radium 228, pCi/L (dissolved)		3.5	4.7	5	5.6	4.7
Thorium 230, pCi/L (dissolved)	1.75	0.02	<0.3	<0.1	<0.5	<0.3
Nitrogen, Ammonia as N, mg/L	0.08	<0.05	0.07	<0.05	<0.05	<0.06
Nitrogen, Nitrate+Nitrite as N, mg/L	0.31	0.1	0.1	0.08	<0.1	<0.1
Aluminum, mg/L (dissolved)	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	<0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.12	0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	118	112	111	105	113	110
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.04	<0.01	<0.01	<0.01	0.01	<0.01
Iron, mg/L (dissolved)	0.09	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	22.7	23	23	22	22	23
Manganese, mg/L (dissolved)	0.2	0.15	0.17	0.14	0.16	0.16
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9.1	8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L		19.8	17.5	16.2	14.8	17.1
Sodium, mg/L	32	28	28	26	26	27
Uranium, mg/L (dissolved)	0.013	0.0115	0.0110	0.0105	0.0114	0.0111
Vanadium, mg/L (dissolved)	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L		<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L		0.16	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L		<9.6	<5.7	<3.2	<1.8	<5.1
Polonium 210 suspended, pCi/L		<0.2	<0.4	<0.3	<0.4	<0.4
Radium 226 suspended, pCi/L		<0.5	<0.4	<0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L		1.4	0.2	<0.1	<0.07	<0.5
Uranium suspended, mg/L		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cations meq/L	9.42	8.94	8.89	8.42	8.82	8.77
Anions meq/L	9.46	9.12	9.35	9.01	9.20	9.16
Anion/Cation Balance	-0.18	-1.00	-2.51	-3.38	-2.12	-2.22
Calculated TDS	563	560	564	540	553	554
TDS Balance	109	104	101	104	100	102
Calculated Gross Alpha	12	8	10	9	10	9

		2008-2009 Well Sampling Results				
		N-23				
Parameters		11/7/2008	3/17/2009	6/18/2009	9/22/2009	Average
Bicarbonate as HCO ₃ , mg/L		226	216	222	241	226
Carbonate as CO ₃ , mg/L		<1.0	<1.0	<1.0	<5.0	<2.0
Chloride, mg/L		5	12	11	5	8
Conductivity, umhos/cm		932	1150	1130	925	1034
Fluoride, mg/L		0.9	0.8	0.8	0.8	0.8
pH, s.u.		8.00	7.06	7.28	7.63	7.49
Solids, Total Dissolved TDS @ 180 C, mg/L		675	1000	890	704	817
Sulfate, mg/L		325	398	370	289	346
Gross Alpha, pCi/L (dissolved)		29.4	47.9	41.4	42.5	40.3
Gross Beta, pCi/L (dissolved)		17.5	14.2	17	16.8	16.4
Lead 210, pCi/L (dissolved)		<4.7	<2.7	<2.8	<3.7	<3.5
Polonium 210, pCi/L (dissolved)		<1.0	<0.7	<0.8	<0.7	<0.6
Radium 226, pCi/L (dissolved)		0.62	1.1	1.9	0.37	1.00
Radium 228, pCi/L (dissolved)		1.9	2.3	2.3	3.3	2.5
Thorium 230, pCi/L (dissolved)		<0.2	<0.4	<0.2	<0.3	<0.3
Nitrogen, Ammonia as N, mg/L		<0.1	<0.05	0.17	<0.05	<0.09
Nitrogen, Nitrate+Nitrite as N, mg/L		5.39	14.3	12.1	4.6	9.10
Aluminum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)		0.002	0.002	0.002	0.002	0.002
Barium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)		0.1	0.1	0.2	<0.1	<0.2
Cadmium, mg/L (dissolved)		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L		140	155	163	131	147
Chromium, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)		<0.03	0.06	0.05	<0.03	<0.05
Lead, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L		30	31	34	26	30
Manganese, mg/L (dissolved)		0.014	0.15	0.18	0.15	0.12
Mercury, mg/L (dissolved)		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L		9	10	11	9	10
Selenium, mg/L (dissolved)		0.014	0.032	0.039	0.012	0.024
Silica, mg/L		22.2	18.8	23.1	15.7	20.0
Sodium, mg/L		34	36	40	30	35
Uranium, mg/L (dissolved)		0.0110	0.0108	0.0116	0.0129	0.0116
Vanadium, mg/L (dissolved)		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)		<0.01	0.01	0.03	<0.01	<0.02
Iron, (total) mg/L		0.03	0.06	0.11	<0.03	<0.06
Manganese, (total) mg/L		0.15	0.16	0.17	0.15	0.16
Lead 210, suspended pCi/L		<9.9	<6.1	<4.9	<1.9	<5.7
Polonium 210 suspended, pCi/L		<1.0	<0.6	<0.5	<0.5	<0.7
Radium 226 suspended, pCi/L		<0.4	<0.5	<0.07	<0.2	<0.29
Thorium 230 suspended, pCi/L		<0.2	<0.4	0.2	<0.09	<0.23
Uranium suspended, mg/L		<0.0003	<0.0003	0.0007	<0.0003	<0.0004
Cations meq/L		11.21	12.15	13.00	10.25	11.66
Anions meq/L		11.00	13.19	12.52	10.44	11.79
Anion/Cation Balance		0.93	-4.09	1.89	-0.91	-0.57
Calculated TDS		702	832	816	646	749
TDS Balance		96	120	109	109	109
Calculated Gross Alpha		9	11	14	10	11

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: LaPlant #1, N-1											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							11/18/1979	3/20/2009	6/24/2009	9/16/2009	Average
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240	262	247	241	248	245	
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	<1	<1	<1	<5	<3	
Chloride, mg/L	6.3	6	14.6	5	5	2	<1	1	2	1	
Conductivity, umhos/cm	416	587	781	804	866	700	835	819	800	818	
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.37	0.9	0.9	0.9	0.9	
pH, s.u.	7.85	8	7.9	7.54	7.45	8.01	7.59	7.65	7.60	7.61	
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	536	595	587	561	574	
Sulfate, mg/L	68.8	143	238	246	350	230	251	237	237	242	
Gross Alpha, pCi/L (dissolved)							29.9	33.9	29.3	31.0	
Gross Beta, pCi/L (dissolved)							13.8	15.3	12.9	14.0	
Lead 210, pCi/L (dissolved)							<6.9	<2.2	<0.8	<3.3	
Polonium 210, pCi/L (dissolved)							<0.4	<0.9	<0.6	<0.7	
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	6.8	0.36	0.37	0.83	0.52	
Radium 228, pCi/L (dissolved)							2.0	2.2	1.9	2.0	
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.2	<0.09	<0.2	
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	<1	<0.05	<0.05	<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	<1	<0.05	<0.05	<0.05	<0.05	
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.4	<0.1	<0.1	<0.1	<0.1	
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	<0.005	0.001	<0.001	<0.001	<0.001	
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	<0.1	0.1	<0.1	<0.1	<0.1	
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	<0.05	<0.005	<0.005	<0.005	<0.005	
Calcium, mg/L	41.9	79.1	98	123	142	154	123	102	108	111	
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	<0.05	<0.01	<0.01	<0.01	<0.01	
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.68	<0.03	<0.03	<0.03	<0.03	
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	<0.05	<0.001	<0.001	<0.001	<0.001	
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	7	21	22	23	22	
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.15	0.09	<0.01	0.07	0.06	
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.5	8	9	9	9	
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	<0.005	<0.001	<0.001	<0.001	<0.001	
Silica, mg/L							16.2	15.8	18.8	16.9	
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	27.5	28	24	24	25	
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	<0.1	0.0108	0.0114	0.0118	0.0113	
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	<0.5	<0.1	<0.1	<0.1	<0.1	
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	<0.05	<0.01	0.01	<0.01	<0.01	
Iron, (total) mg/L							0.16	0.12	0.18	0.15	
Manganese, (total) mg/L							0.10	0.09	0.09	0.09	
Lead 210, suspended pCi/L							<7.4	<3.3	<4.3	<5.1	
Polonium 210 suspended, pCi/L							<0.6	<0.4	0.4	<0.5	
Radium 226 suspended, pCi/L							0.6	<0.05	<0.2	<0.3	
Thorium 230 suspended, pCi/L							<0.3	0.08	<0.1	<0.2	
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.72	9.32	8.21	8.59	8.71	
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.14	9.28	8.89	9.00	9.06	
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	3.07	0.24	-3.98	-2.34	-1.97	
Calculated TDS	302	402	521	570	692	561	571	530	544	548	
TDS Balance	99	110	107	109	101	96	104	107	103	105	
Calculated Gross Alpha	82	594	747	77	80		7	9	10	8	

Year Permitted 4/22/1974
 State Engineers Office Permit No. U.W. 26463
 T.D. Feet 131' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Negley #3, N-2											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table IL6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							3/79 to 7/80	3/19/2009	6/22/2009	9/16/2009	Average
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240	257		248	248	259	252
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.4		<1	<1	<5	<3
Chloride, mg/L	6.3	6	14.6	5	5	4.5		1	2	2	2
Conductivity, umhos/cm	416	587	781	804	866	947		852	831	820	834
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.65		0.7	0.7	0.7	0.7
pH, s.u.	7.85	8	7.9	7.54	7.45	7.46		7.81	7.77	7.70	7.76
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	605		609	563	590	587
Sulfate, mg/L	68.8	143	238	246	350	256		256	247	245	249
Gross Alpha, pCi/L (dissolved)								52	51.7	54.8	52.8
Gross Beta, pCi/L (dissolved)								17.9	19.3	14.3	17.2
Lead 210, pCi/L (dissolved)								<9.9	<2.2	<0.8	<4.3
Polonium 210, pCi/L (dissolved)								<0.9	<0.8	<0.8	<0.9
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	3.7		0.35	0.36	<0.23	0.31
Radium 228, pCi/L (dissolved)								1.8	1.3	2.5	1.9
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	0.7		<0.1	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.1		<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.4		0.10	0.09	0.1	0.10
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1		<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01		0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1		<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.15		<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01		<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	118		124	108	111	114
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.05		<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.15		<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04		<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	25.1		21	22	23	22
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.07		<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.9		8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01		0.002	0.003	0.003	0.003
Silica, mg/L								16.8	17.1	20.0	18.0
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	33.9		30	30	29	30
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.022		0.0198	0.0200	0.0211	0.0203
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.29		<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.05		0.01	0.02	0.01	0.01
Iron, (total) mg/L								<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L								<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L								<7.5	<3.3	<4.3	<5.1
Polonium 210 suspended, pCi/L								<0.8	<0.6	<0.5	<0.7
Radium 226 suspended, pCi/L								0.3	<0.05	<0.2	<0.2
Thorium 230 suspended, pCi/L								<0.5	<0.1	<0.08	<0.3
Uranium suspended, mg/L								<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.73		9.46	8.74	8.93	9.04
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.72		9.40	9.21	9.35	9.32
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	0.06		0.32	-2.61	-2.28	-1.50
Calculated TDS	302	402	521	570	692	578		580	556	566	567
TDS Balance	99	110	107	109	101	105		105	101	104	104
Calculated Gross Alpha	82	594	747	77	80	26		13	15	14	14

Year Permitted 5/16/1974
 State Engineers Office Permit No. U.W. 26629
 T.D. Feet 120' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-3											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.5.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		NA	11/15/2008	3/14/2009	6/24/2009	9/15/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240		193	136	135	142	152
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		78	119	131	130	115
Conductivity, umhos/cm	416	587	781	804	866		1380	1650	1610	1600	1560
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.3	0.2	0.2	0.3	0.3
pH, s.u.	7.85	8	7.9	7.54	7.45		7.72	7.52	7.68	7.80	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		980	1260	1400	1310	1238
Sulfate, mg/L	68.8	143	238	246	350		456	608	626	622	578
Gross Alpha, pCi/L (dissolved)							87.6	78.6	224.0	109.0	124.8
Gross Beta, pCi/L (dissolved)							25.9	19.9	64.2	25.7	33.9
Lead 210, pCi/L (dissolved)							<4.0	8.3	<2.2	2.5	4.3
Polonium 210, pCi/L (dissolved)							<1.0	<0.5	<0.5	<0.8	<0.7
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		<0.4	0.47	0.49	0.86	0.56
Radium 228, pCi/L (dissolved)							<2.3	2.4	1.4	4.2	2.6
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.2	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		3.73	3.16	3.05	3.2	3.29
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		0.001	0.002	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		221	264	252	257	249
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		33	40	37	38	37
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		11	14	13	13	13
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.097	0.120	0.111	0.113	0.110
Silica, mg/L							16.3	12.9	13.6	14.2	14.3
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		34	42	35	37	37
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0450	0.0389	0.0362	0.0377	0.0395
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.01	0.01	0.01	<0.01	0.01
Iron, (total) mg/L							0.73	0.39	<0.03	0.03	0.30
Manganese, (total) mg/L							0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L							<8.4	<6.0	<4.8	<4.3	<5.9
Polonium 210 suspended, pCi/L							<1.0	1.1	<0.7	<0.4	<0.8
Radium 226 suspended, pCi/L							<0.4	<0.5	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.4	<0.1	<0.06	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		15.56	18.72	17.54	17.96	17.44
Anions meq/L	5.64	6.96	8.46	9.58	11.41		12.66	14.90	15.25	18.95	14.53
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		10.26	11.37	6.96	-2.68	9.13
Calculated TDS	302	402	521	570	692		868	1049	1044	1182	1003
TDS Balance	99	110	107	109	101		113	120	134	111	123
Calculated Gross Alpha	82	594	747	77	80		30	28	26	28	27

Year Permitted 4/1/1979
 State Engineer's Office Permit No. U.W. 42818
 T.D. Feet 120' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-4											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		NA	11/15/2008	3/14/2009	6/25/2009	9/16/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240		315	318	321	335	322
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		8	7	7	8	8
Conductivity, umhos/cm	416	587	781	804	866		881	880	855	860	869
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.2	0.1	0.1	0.2	0.2
pH, s.u.	7.85	8	7.9	7.54	7.45		7.41	7.27	7.50	7.70	7.47
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		582	574	593	601	588
Sulfate, mg/L	68.8	143	238	246	350		186	210	183	183	191
Gross Alpha, pCi/L (dissolved)							91	133	38.7	130.0	98.3
Gross Beta, pCi/L (dissolved)							43.2	29.6	19.3	35.8	32.0
Lead 210, pCi/L (dissolved)							<4.0	4.8	<2.2	<0.8	<3.0
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.5	<0.7	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.53	0.69	0.72	0.53	0.62
Radium 228, pCi/L (dissolved)							3.0	2.9	2.0	4.4	3.1
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.2	<0.2	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		3.00	3.60	3.06	3.3	3.24
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		<0.001	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		135	111	122	117	121
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		22	19	20	19	20
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		10	10	10	10	10
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.031	0.028	0.024	0.027	0.028
Silica, mg/L							20.1	15.9	17.1	17.6	17.7
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		38	36	33	33	35
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.08		0.0725	0.0723	0.0741	0.0737	0.0732
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L							1.3	3.85	0.48	0.07	1.43
Manganese, (total) mg/L							0.02	0.04	<0.01	<0.01	0.002
Lead 210, suspended pCi/L							<8.5	<6.2	<3.3	<4.3	<5.6
Polonium 210 suspended, pCi/L							1.2	1.0	<0.6	<0.5	0.9
Radium 226 suspended, pCi/L							<0.5	<0.4	0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L							0.2	0.4	<0.9	<0.09	0.4
Uranium suspended, mg/L							0.0003	0.0011	<0.0003	<0.0003	0.0005
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		10.40	8.95	9.46	9.12	9.49
Anions meq/L	5.64	6.96	8.46	9.58	11.41		9.04	9.59	9.07	9.53	9.25
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		7.03	-3.41	2.07	-2.17	1.25
Calculated TDS	302	402	521	570	692		567	561	546	555	555
TDS Balance	99	110	107	109	101		103	102	109	108	106
Calculated Gross Alpha	82	594	747	77	80		49	51	52	51	50

Year Permitted 4/12/1979
 State Engineers Office Permit No. U.W. 40688
 T.D. Feet 200' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-5											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.											
Parameters	Basal Aquifer	M Aquifer	N Aquifer	O2 Aquifer	O1 Aquifer	NA	11/15/2008	3/14/2009	6/25/2009	9/16/2009	Average
	U-1 70 Sand	U-1 80 Sand	U-1 90 Sand	U-1 100 Sand	U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240		337	344	345	355	345
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		5	6	5	5	5
Conductivity, umhos/cm	416	587	781	804	866		908	906	884	890	897
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.2	0.1	0.1	0.2	0.2
pH, s.u.	7.85	8	7.9	7.54	7.45		7.55	7.36	7.52	7.70	7.53
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		593	583	609	612	599
Sulfate, mg/L	68.8	143	238	246	350		196	219	186	186	197
Gross Alpha, pCi/L (dissolved)							106	136	37.5	105.0	96.1
Gross Beta, pCi/L (dissolved)							36.6	25.8	8.9	40.8	28.0
Lead 210, pCi/L (dissolved)							<4.0	4.2	<2.2	<0.8	<2.8
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.7	<0.7	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		<0.38	0.85	1.0	0.76	0.75
Radium 228, pCi/L (dissolved)							<2.3	1.9	2.2	3.7	2.5
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.2	<0.2	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		3.13	3.80	3.58	3.7	3.55
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		0.002	0.006	0.001	0.001	0.003
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		131	124	122	122	125
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		23	22	21	21	22
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		10	10	10	10	10
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.026	0.027	0.029	0.024	0.027
Silica, mg/L							17.2	14.7	16.8	16.0	16.2
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		29	32	30	29	30
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0771	0.0806	0.0797	0.0838	0.0803
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.02	0.07	<0.01	0.01	0.03
Iron, (total) mg/L							33.7	13.9	2.11	0.71	12.61
Manganese, (total) mg/L							0.17	0.07	0.01	<0.01	0.07
Lead 210, suspended pCi/L							<8.3	<6.2	<3.4	<4.3	<5.6
Polonium 210 suspended, pCi/L							17.3	1.6	<0.7	0.8	5.1
Radium 226 suspended, pCi/L							4.5	1.6	0.4	0.6	1.8
Thorium 230 suspended, pCi/L							2.5	0.9	0.3	1.2	1.2
Uranium suspended, mg/L							0.0073	0.0039	0.0008	0.0049	0.0042
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		9.98	9.68	9.41	9.37	9.61
Anions meq/L	5.64	6.96	8.46	9.58	11.41		9.61	10.20	9.53	9.84	9.76
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		1.92	-2.62	-0.63	-2.44	-0.76
Calculated TDS	302	402	521	570	692		575	594	558	567	572
TDS Balance	99	110	107	109	101		103	98	109	108	105
Calculated Gross Alpha	82	594	747	77	80		52	57	57	59	54

Year Permitted 12/12/1978
 State Engineers Office Permit No. U.W. 40689
 T.D. Feet 125' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Teton MW KT2, N-6											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		12/4/1979	11/15/2008	3/14/2009	6/25/2009	9/15/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240	251	233	239	237	243	238
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	<1	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	2	<1	<1	1	2	1
Conductivity, umhos/cm	416	587	781	804	868	875	817	814	799	800	808
Fluonde, mg/L	0.48	0.59	0.52	0.63	0.52	0.59	0.9	0.8	0.9	0.9	0.9
pH, s.u.	7.85	8	7.9	7.54	7.45	7.95	7.74	7.49	7.68	7.90	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	618	541	546	565	568	555
Sulfate, mg/L	68.8	143	238	246	350	108	240	259	238	242	245
Gross Alpha, pCi/L (dissolved)							44.7	41.9	79.8	27.1	48.4
Gross Beta, pCi/L (dissolved)							24.4	15.4	21.4	13.3	18.6
Lead 210, pCi/L (dissolved)							<4.0	5.3	<2.2	<0.8	<3.1
Polonium 210, pCi/L (dissolved)							<1.0	<0.6	<0.7	<0.5	<0.7
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.54	0.63	0.51	1.0	0.67
Radium 228, pCi/L (dissolved)							<2.3	3.0	3.3	5.4	3.5
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.3	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	<1	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	<1	<0.05	<0.05	<0.05	<0.05	<0.05
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	<0.005	0.001	<0.001	<0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	<0.05	<0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	80	124	107	104	108	111
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.84	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	18	25	22	21	22	23
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.18	0.15	0.15	0.16	0.15	0.15
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	7	8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L							22.0	17.2	16.5	19.1	18.7
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	32	27	29	25	26	27
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	<0.1	0.0090	0.0100	0.0094	0.0099	0.0096
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	<0.05	0.01	0.08	<0.01	<0.01	0.03
Iron, (total) mg/L							0.03	0.09	<0.03	0.03	0.05
Manganese, (total) mg/L							0.17	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L							<8.5	<6.1	<3.3	<4.3	<5.6
Polonium 210 suspended, pCi/L							<1.0	<0.6	<0.4	<0.4	<0.6
Radium 226 suspended, pCi/L							<0.4	<0.4	0.08	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.4	<0.09	<0.08	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	7.07	9.66	8.65	8.24	8.57	8.78
Anions meq/L	5.64	6.96	8.46	9.58	11.41	6.42	8.82	9.31	8.84	9.08	9.00
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	4.82	4.56	-3.70	-3.52	-2.90	-1.24
Calculated TDS	302	402	521	570	692	373	563	562	531	549	550
TDS Balance	99	110	107	109	101	166	96	97	106	104	101
Calculated Gross Alpha	82	594	747	77	80		6	9	8	10	6

Year Permitted 11/16/1979
 State Engineers Office Permit No. U.W. 50985
 T.D. Feet 196' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Negley #5, N-7											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer	M Aquifer	N Aquifer	O2 Aquifer	O1 Aquifer		11/15/2008	3/14/2009	6/26/2009	9/16/2009	Average
	U-1 70 Sand	U-1 80 Sand	U-1 90 Sand	U-1 100 Sand	U-1 110 Sand	NA					
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240		334	336	335	346	338
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		7	7	6	8	7
Conductivity, umhos/cm	416	587	781	804	866		1010	1000	978	980	992
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.1	0.1	0.1	0.1	0.1
pH, s.u.	7.85	8	7.9	7.54	7.45		7.55	7.25	7.62	7.80	7.56
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		665	688	686	713	688
Sulfate, mg/L	68.8	143	238	246	350		257	261	249	246	253
Gross Alpha, pCi/L (dissolved)							166.0	160	174.0	191.0	172.8
Gross Beta, pCi/L (dissolved)							52	40.7	43.1	50.8	46.7
Lead 210, pCi/L (dissolved)							<8.0	12	<2.2	<0.8	<5.8
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.6	<0.8	<0.6
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.56	0.73	1.10	1.1	0.87
Radium 228, pCi/L (dissolved)							4.6	4.3	4.9	8.2	5.5
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.3	<0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		3.71	3.92	3.8	3.9	3.83
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		0.001	<0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	<0.1	0.01	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		155	147	140	139	145
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		26	24	23	23	24
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01	0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		10	10	11	10	10
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.038	0.037	0.034	0.035	0.038
Silica, mg/L							18.1	15.1	17.1	17.6	17.0
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		35	33	34	33	34
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0970	0.1010	0.0986	0.1020	0.0997
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.02	0.08	0.02	0.01	0.03
Iron, (total) mg/L							0.17	<0.03	<0.03	<0.03	<0.07
Manganese, (total) mg/L							<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L							<8.4	<6.3	<3.3	<4.4	<5.6
Polonium 210 suspended, pCi/L							<1.0	<0.6	<0.6	<0.4	<0.7
Radium 226 suspended, pCi/L							<0.5	<0.5	<0.05	<0.2	<0.4
Thorium 230 suspended, pCi/L							<0.2	<0.3	<0.07	<0.1	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		11.69	11.04	10.68	10.56	10.99
Anions meq/L	5.84	6.96	8.46	9.58	11.41		10.83	10.95	10.68	11.02	10.81
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		3.84	0.43	-0.01	-2.15	0.82
Calculated TDS	302	402	521	570	692		668	658	642	650	652
TDS Balance	99	110	107	109	101		100	105	107	110	105
Calculated Gross Alpha	82	594	747	77	80		66	71	70	72	67

Year Permitted 12/6/1974
 State Engineers Office Permit No. U.W. 26631
 T.D. Feet 120' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-8											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-5.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		NA	3/21/2009	6/25/2009	9/23/2009	Average
Bicarbonate as HCO3, mg/L	231	230	188	261	240		258	257	267	261	
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<5	<3	
Chloride, mg/L	6.3	6	14.6	5	5		2	3	3	3	
Conductivity, umhos/cm	416	587	781	804	866		550	553	516	540	
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.6	0.5	0.5	0.5	
pH, s.u.	7.85	8	7.9	7.54	7.45		7.62	7.80	7.84	7.75	
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		353	330	310	331	
Sulfate, mg/L	68.8	143	238	246	350		83	76	77	79	
Gross Alpha, pCi/L (dissolved)							<2.1	6.8	<3.0	<4.0	
Gross Beta, pCi/L (dissolved)							6.2	6.2	7.2	6.5	
Lead 210, pCi/L (dissolved)							<8.6	<2.2	<3.7	<4.9	
Polonium 210, pCi/L (dissolved)							<0.6	<0.5	<0.5	<0.6	
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.45	0.51	0.81	0.59	
Radium 228, pCi/L (dissolved)							<1.1	<1.1	1.5	<1.3	
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.2	<0.4	<0.3	
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		<0.05	<0.05	<0.05	<0.05	
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		<0.001	<0.001	<0.001	<0.001	
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		0.1	<0.1	<0.1	<0.1	
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	
Calcium, mg/L	41.9	79.1	98	123	142		76	65	68	70	
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		14	15	15	15	
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		0.03	0.03	0.03	0.03	
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	
Potassium, mg/L	9	8.8	17.9	9.2	10.7		7	7	7	7	
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		<0.001	<0.001	<0.001	<0.001	
Silica, mg/L							7.3	8.5	6.7	7.5	
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		22	20	21	21	
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0006	0.0005	0.0004	0.0005	
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		<0.01	<0.01	<0.01	<0.01	
Iron, (total) mg/L							0.20	0.23	0.31	0.25	
Manganese, (total) mg/L							0.03	0.03	0.03	0.03	
Lead 210, suspended pCi/L							<8.6	<3.3	<1.7	<4.6	
Polonium 210 suspended, pCi/L							<0.6	<0.5	<0.5	<0.6	
Radium 226 suspended, pCi/L							0.45	0.09	<0.2	0.25	
Thorium 230 suspended, pCi/L							<0.2	<0.5	<0.06	<0.26	
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		6.10	5.55	5.74	5.80	
Anions meq/L	5.64	6.96	8.46	9.58	11.41		5.96	5.80	5.98	5.91	
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		1.19	-2.18	-2.04	-0.97	
Calculated TDS	302	402	521	570	692		338	320	328	329	
TDS Balance	99	110	107	109	101		104	103	94	101	
Calculated Gross Alpha	82	594	747	77	80		0	2	3	0	

Year Permitted 11/19/2007
 State Engineers Office Permit No. U.W. 173339
 T.D. Feet 380' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Negley #1, N-9										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis		2008-2009 Well Sampling Results		
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	NA	3/19/2009	6/18/2009	9/22/2009	Average
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240		307		316	312
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1		<1		<5	<3
Chloride, mg/L	6.3	6	14.6	5	5		13		12	13
Conductivity, umhos/cm	416	587	781	804	866		1170		1150	1160
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.1		0.1	0.1
pH, s.u.	7.85	8	7.9	7.54	7.45		7.73		7.70	7.72
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		862		845	854
Sulfate, mg/L	68.8	143	238	246	350		346		350	348
Gross Alpha, pCi/L (dissolved)							145		218	182
Gross Beta, pCi/L (dissolved)							34.9		41.0	38.0
Lead 210, pCi/L (dissolved)							<9.9		<3.7	<6.8
Polonium 210, pCi/L (dissolved)							<0.5		<0.5	<0.5
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.23		0.31	0.27
Radium 228, pCi/L (dissolved)							1.1		2.1	1.6
Thoron 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2		<0.6	<0.4
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05		<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		7.09		6.3	6.7
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1		<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		<0.001		<0.001	<0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1		<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		0.1		<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005		<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		199		183	191
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05		<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01		<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03		<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001		<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		24		26	25
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01		0.01	0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001		<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1		<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05		<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		12		12	12
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.048		0.048	0.048
Silica, mg/L							16.0		14.3	15.2
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		41		37	39
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0750		0.0880	0.0815
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1		<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.14		0.07	0.11
Iron, (total) mg/L							0.90		0.87	0.89
Manganese, (total) mg/L							<0.01		0.01	0.01
Lead 210, suspended pCi/L							<7.4		<1.7	<4.6
Polonium 210 suspended, pCi/L							<0.9		<0.4	<0.7
Radium 226 suspended, pCi/L							0.5		<0.2	0.4
Thorium 230 suspended, pCi/L							<0.4		<0.1	<0.3
Uranium suspended, mg/L							<0.0003		0.0004	0.0004
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08		14.04		13.23	13.64
Anions meq/L	5.64	6.96	8.48	9.58	11.41		12.24		12.47	12.36
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		6.85		2.96	4.92
Calculated TDS	302	402	521	570	692		792		780	786
TDS Balance	99	110	107	109	101		109		108	109
Calculated Gross Alpha	82	594	747	77	80		51		61	55

Year Permitted
State Engineer's Office Permit No. U.W.
T.D. Feet

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: AC #1, N-10										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results			
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	NA	3/19/2009	6/18/2009	9/22/2009	Average
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240		366		374	370
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1		<1		<5	<3
Chloride, mg/L	6.3	6	14.6	5	5		6		6	6
Conductivity, umhos/cm	416	587	781	804	866		961		908	935
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.5		0.5	0.5
pH, s.u.	7.85	8	7.9	7.54	7.45		7.77		7.78	7.78
Solids, Total Dissolved TDS @ 180 C, mg/L	296	443	558	621	701		670		648	659
Sulfate, mg/L	68.8	143	238	246	350		218		193	206
Gross Alpha, pCi/L (dissolved)							175		161	168
Gross Beta, pCi/L (dissolved)							40.9		37.5	39.2
Lead 210, pCi/L (dissolved)							<8.6		<3.7	<8.2
Polonium 210, pCi/L (dissolved)							<0.4		<0.6	<0.5
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.36		0.27	0.32
Radium 228, pCi/L (dissolved)							1.4		1.8	1.6
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2		<0.3	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05		<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		3.04		2.9	3.0
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1		<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		<0.001		<0.001	<0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1		<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		0.1		<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005		<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		148		128	137
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05		<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		0.02		<0.01	0.02
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03		<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001		<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		25		26	26
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01		0.01	0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001		<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1		<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05		<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		8		9	9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.014		0.014	0.014
Silica, mg/L							15.1		13.0	14.1
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		31		29	30
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0913		0.1030	0.0972
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1		<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		0.1		0.16	0.14
Iron, (total) mg/L							0.37		0.41	0.39
Manganese, (total) mg/L							<0.01		0.01	0.01
Lead 210, suspended pCi/L							<7.5		<1.7	<4.6
Polonium 210 suspended, pCi/L							<0.7		<0.3	<0.5
Radium 226 suspended, pCi/L							0.3		<0.2	0.3
Thorium 230 suspended, pCi/L							<0.4		<0.08	<0.3
Uranium suspended, mg/L							<0.0003		<0.0003	<0.0003
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08		11.04		9.96	10.50
Anions meq/L	5.64	6.96	8.46	9.58	11.41		10.54		10.15	10.35
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		2.29		-0.96	0.72
Calculated TDS	302	402	521	570	692		628		583	606
TDS Balance	99	110	107	109	101		107		111	109
Calculated Gross Alpha	82	594	747	77	80		62		71	66

Year Permitted 9/18/1973
State Engineers Office Permit No. U.W. 24572
T.D. Feet 150' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-11											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							8/79 to 7/80	11/10/2008	3/16/2009	6/18/2009	9/22/2009
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240	275	279	280	306	293	290
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.5	<1	<1	<1	<1	<1
Chloride, mg/L	6.3	6	14.6	5	5	6	41	35	20	43	35
Conductivity, umhos/cm	416	587	781	804	866	748	1060	1070	1030	1050	1053
Fluonde, mg/L	0.48	0.59	0.52	0.63	0.52	0.48	0.2	0.2	0.2	0.2	0.2
pH, s.u.	7.85	8	7.9	7.54	7.45	7.81	7.96	7.54	7.56	7.66	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	627	709	717	725	698	712
Sulfate, mg/L	68.8	143	238	246	350	300	207	208	238	186	210
Gross Alpha, pCi/L (dissolved)							113	118	156	99.1	122
Gross Beta, pCi/L (dissolved)							36.9	22.8	29.0	35.3	31.0
Lead 210, pCi/L (dissolved)							<4.7	<3.2	<2.8	<3.8	<3.7
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.9	<0.6	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	0.95	0.73	0.27	1.60	0.88	0.87
Radium 228, pCi/L (dissolved)							4.4	<1.6	5.8	5.6	4.4
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	0.35	<0.2	<0.2	0.1	<0.2	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	1.64	22	24.2	9.5	19.2	18.7
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	0.001	<0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	113	166	153	135	158	153
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.04	<0.01	0.02	<0.01	<0.01	<0.02
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.85	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	22.7	26	24	23	24	24
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	10.8	11	10	10	11	11
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	0.043	0.042	0.043	0.038	0.042
Silica, mg/L							19.0	17.2	17.9	13.4	16.9
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	33.3	26	25	28	25	26
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.012	0.0598	0.0547	0.0826	0.0605	0.0644
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.08	0.06	0.03	0.09	0.06	0.28	0.02	0.02	0.02	0.02	0.02
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L							<9.9	<6.3	<4.8	<1.8	<5.7
Polonium 210 suspended, pCi/L							<1.0	<0.5	<0.5	<0.5	<0.7
Radium 226 suspended, pCi/L							<0.4	<0.5	<0.07	<0.2	<0.3
Thorium 230 suspended, pCi/L							0.3	<0.8	<0.1	<0.1	<0.4
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.27	11.88	10.99	10.14	11.27	11.07
Anions meq/L	5.64	6.96	8.46	9.58	11.41	11.06	8.89	8.92	9.97	9.89	9.12
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-8.80	14.41	10.39	0.82	6.52	9.68
Calculated TDS	302	402	521	570	692	631	595	577	605	607	585
TDS Balance	99	110	107	109	101	99	119	124	120	115	122
Calculated Gross Alpha	62	594	747	77	80	11	40	38	61	44	44

Year Permitted
State Engineers Office Permit No. U.W.
T.D. Feet

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Huxtable #1, N-12											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		NA	11/12/2008	3/17/2009	6/22/2009	9/25/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240		244	244	244	254	247
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		<1	<1	1	1	1
Conductivity, umhos/cm	416	587	781	804	866		860	857	845	841	851
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.8	0.8	0.8	0.8	0.8
pH, s.u.	7.85	8	7.9	7.54	7.45		7.95	7.37	7.80	7.59	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		592	610	610	589	600
Sulfate, mg/L	68.8	143	238	246	350		276	261	254	254	261
Gross Alpha, pCi/L (dissolved)							35.6	46.1	37.4	39.6	39.7
Gross Beta, pCi/L (dissolved)							15.1	12.7	12.3	15.8	14.0
Lead 210, pCi/L (dissolved)							<9.4	<2.7	<2.2	<2.0	<4.1
Polonium 210, pCi/L (dissolved)							<1.0	<0.6	<0.5	<0.6	<0.7
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		<0.46	0.28	0.21	0.35	0.32
Radium 228, pCi/L (dissolved)							<1.9	1.6	<1.1	1.7	1.6
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.4	<0.1	<0.6	<0.4
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		0.28	0.39	0.27	0.2	0.29
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		132	111	109	116	117
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		28	25	23	24	25
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		0.02	0.02	0.02	0.02	0.02
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		9	9	9	8	9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		<0.001	0.001	<0.001	<0.001	<0.001
Silica, mg/L							22.3	18.6	16.9	15.3	18.3
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		30	33	27	26	29
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0128	0.0136	0.0129	0.0127	0.0130
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		<0.01	<0.01	0.01	<0.01	<0.01
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							0.04	0.04	0.03	0.03	0.04
Lead 210, suspended pCi/L							<10	<6.2	<3.3	<1.8	<5.4
Polonium 210 suspended, pCi/L							<1.0	<0.7	<0.6	<0.4	<0.7
Radium 226 suspended, pCi/L							<0.4	<0.5	0.2	<0.2	<0.4
Thorium 230 suspended, pCi/L							<0.2	<0.4	<0.09	<0.07	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		10.47	9.30	8.77	9.14	9.42
Anions meq/L	5.64	6.96	8.46	9.58	11.41		9.75	9.44	9.29	9.48	9.48
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		3.55	-0.74	-2.88	-1.87	-0.34
Calculated TDS	302	402	521	570	692		619	580	561	571	583
TDS Balance	99	110	107	109	101		96	105	109	103	103
Calculated Gross Alpha	82	594	747	77	80		9	10	9	10	9

Year Permitted 6/14/1983
 State Engineers Office Permit No. U.W. 64309
 T.D. Feet 160' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Deveraux #1, N-13											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							8/79 to 7/80	11/21/2008	3/25/2009	6/19/2009	9/16/2009
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240	241	229	241	234	240	236
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.25	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	3.6	13	8	8	7	9
Conductivity, umhos/cm	416	587	781	804	866	866	824	842	821	810	824
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.76	0.8	0.8	0.8	0.9	0.8
pH, s.u.	7.85	8	7.9	7.54	7.45	7.68	7.61	7.66	7.64	7.80	7.68
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	619	592	568	563	581	576
Sulfate, mg/L	68.8	143	238	246	350	269	243	234	229	233	235
Gross Alpha, pCi/L (dissolved)							44.0	39.6	58.8	44.1	46.6
Gross Beta, pCi/L (dissolved)							29.3	16.1	15.8	17.0	19.6
Lead 210, pCi/L (dissolved)							<4.4	<2.7	<2.8	<0.8	<2.7
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.8	<0.8	<0.9
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	1.7	0.7	1.4	1.3	0.67	1.0
Radium 228, pCi/L (dissolved)							4.1	4.2	3.8	4.7	4.2
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	0.3	<0.2	<0.2	<0.1	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.12	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.42	0.7	0.4	0.4	0.4	0.5
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	3.4	<0.1	<0.1	<1.0
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	0.003	0.001	0.001	0.001	0.002
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.07	0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	120	114	106	110	105	109
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.04	<0.01	0.08	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.11	<0.03	0.36	<0.03	<0.03	<0.12
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04	<0.001	0.005	<0.001	<0.001	<0.002
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	21.6	23	22	23	22	23
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.09	<0.01	0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.3	8	8	9	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	0.009	0.006	0.005	0.004	0.006
Silica, mg/L							19.3	18.4	19.4	19.0	19.0
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	31.5	28	29	28	26	28
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.015	0.0179	0.0149	0.0141	0.0133	0.0151
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.05	<0.01	0.26	<0.01	<0.01	<0.008
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							<0.01	<0.01	<0.01	0.01	<0.01
Lead 210, suspended pCi/L							<9.6	4.1	<4.8	<4.4	<5.8
Polonium 210 suspended, pCi/L							<0.3	<0.3	<0.5	<0.5	<0.4
Radium 226 suspended, pCi/L							<0.5	<0.08	<0.07	<0.2	<0.22
Thorium 230 suspended, pCi/L							<0.2	<0.3	<0.1	<0.06	<0.17
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.42	9.04	8.60	8.86	8.42	8.73
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.69	8.82	8.83	8.61	8.99	8.76
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-1.46	1.25	-1.30	1.48	-3.28	-0.17
Calculated TDS	302	402	521	570	692	577	550	538	535	540	539
TDS Balance	99	110	107	109	101	107	108	106	105	108	107
Calculated Gross Alpha	82	594	747	77	80	15	12	14	13	11	10

Year Permitted 7/2/1975 Cancelled?
 State Engineers Office Permit No. U.W. 30262 or 30263
 T.D. Feet 200' SEO

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: ELRU #1, N-14										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis		2008-2009 Well Sampling Results		
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	N A	9/23/2009			Average
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240		250			250
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1		<5			<5
Chloride, mg/L	6.3	6	14.6	5	5		71			71
Conductivity, umhos/cm	416	587	781	804	866		722			722
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.3			0.3
pH, s.u.	7.85	8	7.9	7.54	7.45		7.74			7.74
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		455			455
Sulfate, mg/L	68.8	143	238	246	350		59			59
Gross Alpha, pCi/L (dissolved)							66.5			66.5
Gross Beta, pCi/L (dissolved)							17.4			17.4
Lead 210, pCi/L (dissolved)							<3.7			<3.7
Polonium 210, pCi/L (dissolved)							<0.6			<0.6
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		0.90			0.90
Radium 228, pCi/L (dissolved)							2.1			2.1
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.4			<0.4
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05			<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		4.2			4.2
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1			<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		<0.001			<0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1			<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1			<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005			<0.005
Calcium, mg/L	41.9	79.1	98	123	142		98			98
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05			<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01			<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03			<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001			<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		16			16
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01			<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001			<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1			<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05			<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		9			9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.007			0.007
Silica, mg/L							12.2			12.2
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		26			26
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0368			0.0368
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1			<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		<0.01			<0.01
Iron, (total) mg/L							0.36			0.36
Manganese, (total) mg/L							<0.01			<0.01
Lead 210, suspended pCi/L							<1.7			<1.7
Polonium 210 suspended, pCi/L							<0.5			<0.5
Radium 226 suspended, pCi/L							<0.2			<0.2
Thorium 230 suspended, pCi/L							<0.1			<0.1
Uranium suspended, mg/L							<0.0003			<0.0003
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08		7.59			7.59
Anions meq/L	5.64	6.96	8.46	9.58	11.41		7.63			7.63
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		-0.22			-0.22
Calculated TDS	302	402	521	570	692		345			345
TDS Balance	99	110	107	109	101		132			132
Calculated Gross Alpha	82	594	747	77	80		25			25

Year Permitted 5/2/1979
 State Engineers Office Permit No. U.W. 46720
 T.D. Feet 180' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Hickerson #1, N-15											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							8/78 to 7/80	11/7/2008	3/18/2009	6/19/2009	9/23/2009
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand						
Bicarbonate as HCO3, mg/L	231	230	186	261	240	252	240	240	244	259	246
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	5.2	<1	<1	2	2	2
Conductivity, umhos/cm	416	587	781	804	866	790	839	840	824	809	828
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.75	0.9	0.8	0.8	0.8	0.8
pH, s.u.	7.85	8	7.9	7.54	7.45	7.62	8.07	7.46	7.62	7.82	7.74
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	617	583	584	602	601	593
Sulfate, mg/L	68.8	143	238	246	350	244	266	252	240	242	250
Gross Alpha, pCi/L (dissolved)							51.5	33.9	43.2	38.0	41.7
Gross Beta, pCi/L (dissolved)							24.7	14.5	6.0	12.4	14.4
Lead 210, pCi/L (dissolved)							<4.7	<2.7	<2.8	<3.7	<3.5
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.8	<0.7	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	1	<0.48	0.59	1.2	0.47	0.69
Radium 228, pCi/L (dissolved)							3.4	2.2	2.3	2.9	2.7
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	4.1	<0.2	<0.3	<0.2	<0.3	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08	<0.1	<0.05	<0.05	<0.05	<0.07
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.41	0.16	0.15	<0.1	0.1	<0.13
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.14	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	0.001	0.001	0.001	<0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	111	134	104	115	114	117
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.19	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	23.6	28	23	25	23	25
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.2	0.13	0.12	0.13	0.13	0.13
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	8.7	9	8	9	9	9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L							22.5	17.3	19.2	14.7	18.4
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	30.8	28	29	27	26	28
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.017	0.0146	0.0138	0.0154	0.0152	0.0148
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.05	<0.01	0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							0.15	0.13	0.13	0.13	0.14
Lead 210, suspended pCi/L							<9.9	<6.2	<4.8	<1.7	<5.7
Polonium 210 suspended, pCi/L							<1.0	<0.8	<0.6	<0.5	<0.8
Radium 226 suspended, pCi/L							<0.4	<0.4	<0.09	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.4	<0.1	<0.1	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.08	10.48	8.58	9.24	8.98	9.32
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.40	9.48	9.18	9.00	9.34	9.24
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-1.73	5.04	-3.39	1.31	-2.00	0.45
Calculated TDS	302	402	521	570	692	551	608	553	557	560	569
TDS Balance	99	110	107	109	101	112	96	106	108	107	104
Calculated Gross Alpha	82	594	747	77	80	15	10	11	14	12	10

Year Permitted 4/19/1976
State Engineers Office Permit No. U.W. 32804
T.D. Feet 195' SEO-CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Highway Corner #2, N-16											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		8/79 to 7/80	11/21/2008	3/31/2009	6/4/2009	9/23/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240	254	239	249	242	249	245
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	4.3	1	1	2	2	2
Conductivity, umhos/cm	416	587	781	804	866	814	801	824	814	797	809
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.76	0.9	0.9	0.9	0.9	0.9
pH, s.u.	7.85	8	7.9	7.54	7.45	7.7	7.76	7.70	7.59	7.75	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	635	580	569	561	556	567
Sulfate, mg/L	68.8	143	238	246	350	254	248	251	239	243	245
Gross Alpha, pCi/L (dissolved)							39.8	40.7	30.8	37.8	37.3
Gross Beta, pCi/L (dissolved)							23.1	16.8	38.9	19.4	24.1
Lead 210, pCi/L (dissolved)							<4.4	<2.7	<2.2	<3.7	<3.3
Polonium 210, pCi/L (dissolved)							<1.0	<0.6	<0.9	<0.4	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	0.7	<0.2	0.81	0.57	0.78	0.59
Radium 228, pCi/L (dissolved)							3.5	4.7	5	5.6	4.7
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	1.2	0.02	<0.3	<0.1	<0.5	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.07	<0.05	0.07	<0.05	<0.05	<0.06
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.36	0.1	0.1	0.08	<0.1	<0.1
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	<0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.09	0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	121	112	111	105	113	110
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.05	<0.01	<0.01	<0.01	0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.09	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	22.5	23	23	22	22	23
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.16	0.15	0.17	0.14	0.16	0.16
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.6	8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L							19.8	17.5	16.2	14.8	17.1
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	33	28	28	26	26	27
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.014	0.0115	0.0110	0.0105	0.0114	0.0111
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.39	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							0.16	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L							<9.6	<5.7	<3.2	<1.8	<5.1
Polonium 210 suspended, pCi/L							<0.2	<0.4	<0.3	<0.4	<0.4
Radium 226 suspended, pCi/L							<0.5	<0.4	<0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L							1.4	0.2	<0.1	<0.07	<0.5
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.61	8.94	8.89	8.42	8.82	8.77
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.62	9.12	9.35	9.01	9.20	9.16
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-0.03	-1.00	-2.51	-3.38	-2.12	-2.22
Calculated TDS	302	402	521	570	692	573	560	564	540	553	554
TDS Balance	99	110	107	109	101	111	104	101	104	100	102
Calculated Gross Alpha	82	594	747	77	80	12	8	10	9	10	9

Year Permitted
State Engineers Office Permit No. U.W.
T.D. Feet

6/20/1975
30265
160' SEO CR 175' PPR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Highway Corner #1, N-17											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		8/79 to 7/80	11/10/2008	3/20/2009	6/19/2009	9/14/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240	244	240	246	239	247	243
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.3	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	3.2	1	1	4	3	2
Conductivity, umhos/cm	416	587	781	804	866	805	876	879	854	850	865
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.74	0.9	0.8	0.8	0.9	0.9
pH, s.u.	7.85	8	7.9	7.54	7.45	7.69	8.03	7.58	7.54	8.00	7.79
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	648	600	639	595	612	612
Sulfate, mg/L	68.8	143	238	246	350	271	293	285	260	267	276
Gross Alpha, pCi/L (dissolved)							50.1	36.8	47.2	36.0	42.5
Gross Beta, pCi/L (dissolved)							16.4	12.6	14.3	13.9	14.3
Lead 210, pCi/L (dissolved)							<5.4	<8.6	<2.8	<0.8	<4.4
Polonium 210, pCi/L (dissolved)							<1.0	<0.7	<0.4	<0.6	<0.7
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	2.1	<0.48	0.49	1.0	0.65	0.66
Radium 228, pCi/L (dissolved)							<1.9	1.1	2.7	2.7	2.1
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	1.6	<0.2	<0.2	<0.1	<0.1	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.45	0.08	0.08	<0.1	<0.1	0.09
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	126	129	135	118	117	125
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.09	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	22.2	26	22	24	23	24
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.16	0.12	0.12	0.12	0.12	0.12
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.3	9	8	9	9	9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L							20.0	16.2	18.5	18.8	18.4
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	31.1	29	29	28	26	28
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.3	0.0123	0.0121	0.0129	0.0129	0.0126
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.67	0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							0.15	0.13	0.13	0.13	0.14
Lead 210, suspended pCi/L							<9.9	<7.5	<4.9	<4.3	<6.7
Polonium 210 suspended, pCi/L							<1.0	<0.5	<0.5	<0.7	<0.7
Radium 226 suspended, pCi/L							<0.4	0.3	<0.09	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.5	<0.09	<0.08	<0.3
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.75	10.11	10.05	9.35	9.13	9.66
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.78	10.07	10.00	9.45	9.70	9.80
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	0.16	-0.18	-0.23	0.53	3.02	0.74
Calculated TDS	302	402	521	570	692	587	627	620	581	587	604
TDS Balance	99	110	107	108	101	110	96	103	102	104	101
Calculated Gross Alpha	82	594	747	77	80	209	8	10	12	11	10

Year Permitted 6/20/1975
 State Engineers Office Permit No. U.W. 30264
 T.D. Feet 180' SEO CR 210' PPR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Negley #2, N-18										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results			
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	8/79 to 7/80	3/25/2009	6/17/2009	9/23/2009	Average
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240	266	317	318	339	325
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1	0.3	<1	<1	<5	<3
Chloride, mg/L	6.3	6	14.6	5	5	5.7	117	126	123	122
Conductivity, umhos/cm	416	587	781	804	866	792	1960	1860	1860	1893
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.68	0.4	0.3	0.3	0.3
pH, s.u.	7.85	8	7.9	7.54	7.45	7.49	7.48	7.32	7.59	7.46
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	598	1480	1410	1380	1417
Sulfate, mg/L	68.8	143	238	246	350	237	609	589	560	586
Gross Alpha, pCi/L (dissolved)							244	317	292	284
Gross Beta, pCi/L (dissolved)							39.5	56.8	57.3	51.2
Lead 210, pCi/L (dissolved)							<2.7	<2.8	<3.7	<3.1
Polonium 210, pCi/L (dissolved)							<0.9	<0.7	<0.5	<0.7
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	2.6	0.73	0.44	0.20	0.46
Radium 228, pCi/L (dissolved)							1.4	<1.3	<1.2	<1.3
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	<0.2	<0.3	<0.2	<0.4	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.09	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.83	12	16	14.4	14
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.008	0.005	0.01	0.01	0.01	<0.001	<0.001	<0.001	<0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.1	<0.1	<0.1	<0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	123	287	272	270	276
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.05	0.03	0.03	0.03	0.03
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.19	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.05	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	19.4	52	47	46	48
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.1	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	8.8	8	8	7	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	0.125	0.125	0.112	0.121
Silica, mg/L							17.9	17.6	13.7	16.4
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	32.6	83	73	66	74
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.08	0.1700	0.1680	0.1960	0.1780
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.39	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.33	0.02	0.02	0.02	0.02
Iron, (total) mg/L							0.46	0.53	0.10	0.36
Manganese, (total) mg/L							0.01	0.03	<0.01	0.02
Lead 210, suspended pCi/L							<4.2	<4.5	<1.7	<3.5
Polonium 210 suspended, pCi/L							<0.5	<0.6	<0.5	<0.6
Radium 226 suspended, pCi/L							<0.09	0.1	<0.2	<0.2
Thorium 230 suspended, pCi/L							<0.2	<0.3	<0.05	<0.2
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.42	22.50	20.90	20.38	21.26
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.53	22.04	22.18	21.72	20.97
Anion/Cation Balance	1.45	-1.03	-2.44	-0.46	1.45	0.59	-1.03	2.97	3.17	-0.69
Calculated TDS	302	402	521	570	692	563	1385	1362	1319	1293
TDS Balance	99	110	107	109	101	106	105	104	105	110
Calculated Gross Alpha	82	594	747	77	80	62	115	115	133	122

Year Permitted 5/28/1971
 State Engineers Office Permit No. U.W. 9485
 T.D. Feet 130' SEO CR 200' PPR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Negley #4, N-19											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		NA	11/13/2008	3/16/2009	6/17/2009	9/15/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240		248	250	251	257	252
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5		5	4	5	4	5
Conductivity, umhos/cm	416	587	781	804	866		737	739	736	720	733
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52		0.7	0.7	0.7	0.8	0.7
pH, s.u.	7.85	8	7.9	7.54	7.45		7.64	7.44	7.59	8.00	7.67
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701		464	485	498	516	486
Sulfate, mg/L	68.8	143	238	246	350		181	187	186	184	185
Gross Alpha, pCi/L (dissolved)							69.7	58.1	43.6	54.3	56.4
Gross Beta, pCi/L (dissolved)							34.2	16.8	17.5	22.1	22.7
Lead 210, pCi/L (dissolved)							<4.7	5.3	<2.8	<0.8	<3.4
Polonium 210, pCi/L (dissolved)							<1.0	<0.5	0.7	<0.7	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4		<0.39	0.79	1.3	0.46	0.74
Radium 228, pCi/L (dissolved)							3.7	3.4	4.8	4.7	4.2
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8		<0.2	<0.5	<0.2	<0.2	<0.4
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54		0.25	0.28	0.26	0.2	0.25
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18		<0.1	0.2	<0.1	<0.1	<0.2
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01		0.001	0.002	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16		<0.1	<0.1	<0.1	0.1	<0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142		111	94	99	95	100
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09		<0.01	0.03	<0.01	<0.01	<0.02
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27		<0.03	0.04	<0.03	<0.03	<0.04
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7		23	20	20	20	21
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08		<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7		8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01		0.007	0.007	0.007	0.008	0.007
Silica, mg/L							19.7	16.2	18.4	18.1	18.1
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4		28	27	26	24	26
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09		0.0330	0.0354	0.0337	0.0328	0.0337
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06		<0.01	0.08	<0.01	<0.01	<0.03
Iron, (total) mg/L							<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L							<0.01	<0.01	<0.01	<0.01	<0.01
Lead 210, suspended pCi/L							<8.6	<6.1	<4.5	<4.3	<5.9
Polonium 210 suspended, pCi/L							1.2	<1	<0.6	<0.4	<0.8
Radium 226 suspended, pCi/L							<0.4	<0.5	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.3	<0.3	<0.1	<0.3
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08		8.80	7.75	7.95	7.67	8.04
Anions meq/L	5.64	6.96	8.46	9.58	11.41		8.00	8.13	8.15	8.16	8.09
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45		4.81	-2.40	-1.22	-3.12	-0.32
Calculated TDS	302	402	521	570	692		499	482	489	482	487
TDS Balance	99	110	107	109	101		93	96	102	107	100
Calculated Gross Alpha	82	594	747	77	80		22	26	27	24	25

Year Permitted
State Engineers Office Permit No. U.W.
T.D. Feet

9/9/1968
26630
135'

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: KT-1, N-20										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis		2008-2009 Well Sampling Results		
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	8/79 to 7/80	3/17/2009			
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240	247	238			
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1	0.4	<1			
Chloride, mg/L	6.3	6	14.6	5	5	4.3	<1			
Conductivity, umhos/cm	416	567	781	804	866	805	842			
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.8	0.9			
pH, s.u.	7.85	8	7.9	7.54	7.45	7.58	7.45			
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	612	582			
Sulfate, mg/L	68.8	143	238	246	350	252	260			
Gross Alpha, pCi/L (dissolved)							27.8			
Gross Beta, pCi/L (dissolved)							14.4			
Lead 210, pCi/L (dissolved)							<2.7			
Polonium 210, pCi/L (dissolved)							<0.6			
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	1	0.52			
Radium 228, pCi/L (dissolved)							4.3			
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	1.75	<0.4			
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08	<0.05			
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.31	<0.05			
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.09	<0.1			
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	0.001			
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06	<0.1			
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.12	<0.1			
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005			
Calcium, mg/L	41.9	79.1	98	123	142	118	104			
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05			
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.04	<0.01			
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.09	<0.03			
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04	<0.001			
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	22.7	23			
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.2	0.11			
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001			
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1			
Nickel, mg/L (dissolved)	<0.05	0.04	0.03	<0.05	0.05	<0.05	<0.05			
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.1	8			
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	<0.001			
Silica, mg/L							18.1			
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	32	29			
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.013	0.0102			
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1			
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.06	<0.01			
Iron, (total) mg/L							<0.03			
Manganese, (total) mg/L							0.12			
Lead 210, suspended pCi/L							<6.3			
Polonium 210 suspended, pCi/L							<0.7			
Radium 226 suspended, pCi/L							<0.2			
Thorium 230 suspended, pCi/L							<0.4			
Uranium suspended, mg/L							<0.0003			
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.42	8.58			
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.46	9.32			
Anion/Cation Balance	1.45	-1.03	-2.44	-0.46	1.45	0.18	4.11			
Calculated TDS	302	402	521	570	692	563	561			
TDS Balance	99	110	107	109	101	109	104			
Calculated Gross Alpha	82	594	747	77	80	12	7			

Year Permitted 4/22/1974
 State Engineers Office Permit No. U.W. 26415
 T.D. Feet 180' SEO CR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Lucky 5 #01, N-21											
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N) and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.						1979-1980 WQ Analysis	2008-2009 Well Sampling Results				
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand		8/79 to 7/80	11/10/2008	3/20/2009	6/17/2009	9/23/2009
Bicarbonate as HCO3, mg/L	231	230	186	261	240	258	236	232	238	255	240
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.4	<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	4.3	<1	<1	1	1	<1
Conductivity, umhos/cm	416	587	781	804	866	790	837	828	824	808	824
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.8	0.9	0.9	0.9	0.8	0.9
pH, s.u.	7.85	8	7.9	7.54	7.45	7.41	7.83	7.48	7.62	7.76	7.67
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	638	576	612	601	609	600
Sulfate, mg/L	68.8	143	238	246	350	257	268	260	250	246	256
Gross Alpha, pCi/L (dissolved)							26.1	30.1	77.4	32.0	41.4
Gross Beta, pCi/L (dissolved)							15.3	14.1	24.0	15.8	17.3
Lead 210, pCi/L (dissolved)							<4.7	<8.6	<2.8	<4.0	<5.1
Polonium 210, pCi/L (dissolved)							<0.2	<0.6	<0.5	<0.6	<0.5
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	0.87	<0.49	0.57	1.1	0.90	<0.77
Radium 228, pCi/L (dissolved)							<1.9	1.9	3.9	3.9	2.9
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	0.27	<0.2	<0.2	<0.2	<0.3	<0.2
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08	<0.1	<0.05	<0.05	<0.05	<0.07
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.27	<0.05	<0.05	<0.05	<0.1	<0.07
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01	<0.001	<0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.11	<0.1	0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	117	129	123	112	114	120
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.11	<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	24.5	26	21	23	23	23
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.22	0.20	0.24	0.13	0.12	0.17
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.9	9	8	9	8	9
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L							22.5	15.9	19.6	14.6	18.2
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	32.6	29	28	27	26	28
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.014	0.0097	0.0098	0.0104	0.0111	0.0103
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.08	0.01	<0.01	0.02	0.01	0.01
Iron, (total) mg/L							0.19	12.1	<0.03	<0.03	3.10
Manganese, (total) mg/L							0.23	0.30	0.12	0.12	0.19
Lead 210, suspended pCi/L							<9.7	<7.4	<4.6	<1.7	<5.9
Polonium 210 suspended, pCi/L							<1.0	<0.7	<0.6	<0.4	<0.5
Radium 226 suspended, pCi/L							<0.4	<0.3	<0.1	<0.2	<0.3
Thorium 230 suspended, pCi/L							<0.2	<0.4	<1.1	0.7	<0.6
Uranium suspended, mg/L							<0.0003	<0.0003	<0.0003	0.0024	<0.0009
QUALITY ASSURANCE DATA											
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.57	10.11	9.32	8.92	8.95	9.33
Anions meq/L	5.84	6.96	8.46	9.58	11.41	9.74	9.45	9.22	9.11	9.33	9.27
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-0.87	3.35	0.55	-1.05	-2.09	0.29
Calculated TDS	302	402	521	570	692	575	602	572	560	560	573
TDS Balance	99	110	107	109	101	111	96	107	107	109	105
Calculated Gross Alpha	82	594	747	77	80	12	7	8	10	10	7

Year Permitted 4/22/1974
State Engineers Office Permit No. U.W. 26463
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Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: Lucky 5 #2, N-22												
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App. Table II.6.04 (M,N)						1979-1980 WQ Analysis	2008-2009 Well Sampling Results					
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.							8/79 to 7/80	11/21/2008	3/31/2009	8/4/2009	9/23/2009	Average
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand							
Bicarbonate as HCO3, mg/L	231	230	186	261	240	247		239	249	242	249	245
Carbonate as CO3, mg/L	6.5	0.9	1.1	0.1	0.1	0.4		<1	<1	<1	<5	<2
Chloride, mg/L	6.3	6	14.6	5	5	4.3		1	1	2	2	2
Conductivity, umhos/cm	416	587	781	804	866	805		801	824	814	797	809
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.8		0.9	0.9	0.9	0.9	0.9
pH, s.u.	7.85	8	7.9	7.54	7.45	7.58		7.76	7.70	7.59	7.75	7.70
Solids, Total Dissolved TDS @ 180 C, mg/L	268	443	558	621	701	612		580	569	561	556	567
Sulfate, mg/L	68.8	143	238	246	350	252		248	251	239	243	245
Gross Alpha, pCi/L (dissolved)								39.8	40.7	30.8	37.8	37.3
Gross Beta, pCi/L (dissolved)								23.1	16.8	36.9	19.4	24.1
Lead 210, pCi/L (dissolved)								<4.4	<2.7	<2.2	<3.7	<3.3
Polonium 210, pCi/L (dissolved)								<1.0	<0.6	<0.9	<0.4	<0.8
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	1		<0.2	0.81	0.57	0.78	0.59
Radium 228, pCi/L (dissolved)								3.5	4.7	5	5.6	4.7
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	1.75		0.02	<0.3	<0.1	<0.5	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	0.08		<0.05	0.07	<0.05	<0.05	<0.06
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	0.31		0.1	0.1	0.08	<0.1	<0.1
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	0.09		<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.01		<0.001	0.001	0.001	0.001	0.001
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	0.06		<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.12		0.1	<0.1	0.1	<0.1	0.1
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	0.01		<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	118		112	111	105	113	110
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	0.04		<0.01	<0.01	<0.01	0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	0.09		<0.03	<0.03	<0.03	<0.03	<0.03
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	0.04		<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	22.7		23	23	22	22	23
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.2		0.15	0.17	0.14	0.16	0.16
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	0.04	0.03	<0.05	0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9.1		8	8	8	8	8
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.01		0.001	<0.001	<0.001	<0.001	<0.001
Silica, mg/L								19.8	17.5	16.2	14.8	17.1
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	32		28	28	26	26	27
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.013		0.0115	0.0110	0.0105	0.0114	0.0111
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	0.19		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	0.06		<0.01	<0.01	<0.01	<0.01	<0.01
Iron, (total) mg/L								<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, (total) mg/L								0.16	0.16	0.15	0.16	0.16
Lead 210, suspended pCi/L								<9.6	<5.7	<3.2	<1.8	<5.1
Polonium 210 suspended, pCi/L								<0.2	<0.4	<0.3	<0.4	<0.4
Radium 226 suspended, pCi/L								<0.5	<0.4	<0.06	<0.2	<0.3
Thorium 230 suspended, pCi/L								1.4	0.2	<0.1	<0.07	<0.5
Uranium suspended, mg/L								<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
QUALITY ASSURANCE DATA												
Cations meq/L	5.48	7.11	8.89	9.67	11.08	9.42		8.94	8.89	8.42	8.82	8.77
Anions meq/L	5.64	6.96	8.46	9.58	11.41	9.46		9.12	9.35	9.01	9.20	9.16
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	-0.18		-1.00	-2.51	-3.38	-2.12	-2.22
Calculated TDS	302	402	521	570	692	563		560	564	540	553	554
TDS Balance	99	110	107	109	101	109		104	101	104	100	102
Calculated Gross Alpha	82	594	747	77	80	12		8	10	9	10	9

Year Permitted
State Engineers Office Permit No. U.W.
T.D. Feet

4/14/1978
42928
180' SEO 210' PPR

Historical and Current Water Quality Data from Negley Subdivision and the Ludeman Project Area: N-23										
1978-1981 Mean Baseline Water Quality : Leuenberger Site : R&D License App.Table II.6.04 (M,N)						2008-2009 Well Sampling Results				
and Tables D-6.3.01 (O2) D6.3.02 (O1) D6.3.07 Basal from SUA 1403 NRC License App.										
Parameters	Basal Aquifer U-1 70 Sand	M Aquifer U-1 80 Sand	N Aquifer U-1 90 Sand	O2 Aquifer U-1 100 Sand	O1 Aquifer U-1 110 Sand	11/7/2008	3/17/2009	6/18/2009	9/22/2009	Average
Bicarbonate as HCO ₃ , mg/L	231	230	186	261	240	226	216	222	241	226
Carbonate as CO ₃ , mg/L	6.5	0.9	1.1	0.1	0.1	<1.0	<1.0	<1.0	<5.0	<2.0
Chloride, mg/L	6.3	6	14.6	5	5	5	12	11	5	8
Conductivity, umhos/cm	416	587	781	804	866	932	1150	1130	925	1034
Fluoride, mg/L	0.48	0.59	0.52	0.63	0.52	0.9	0.8	0.8	0.8	0.8
pH, s.u.	7.85	8	7.9	7.54	7.45	8.00	7.06	7.28	7.63	7.49
Solids, Total Dissolved TDS @ 180 C, mg/L	298	443	558	621	701	675	1000	890	704	817
Sulfate, mg/L	68.8	143	238	246	350	325	398	370	289	346
Gross Alpha, pCi/L (dissolved)						29.4	47.9	41.4	42.5	40.3
Gross Beta, pCi/L (dissolved)						17.5	14.2	17	16.8	16.4
Lead 210, pCi/L (dissolved)						<4.7	<2.7	<2.8	<3.7	<3.5
Polonium 210, pCi/L (dissolved)						<1.0	<0.7	<0.8	<0.7	<0.6
Radium 226, pCi/L (dissolved)	7.1	185	164	3.2	6.4	0.62	1.1	1.9	0.37	1.00
Radium 228, pCi/L (dissolved)						1.9	2.3	2.3	3.3	2.5
Thorium 230, pCi/L (dissolved)	1.6	4.8		1	2.8	<0.2	<0.4	<0.2	<0.3	<0.3
Nitrogen, Ammonia as N, mg/L	0.19	0.29	0.25	0.54	0.34	<0.1	<0.05	0.17	<0.05	<0.09
Nitrogen, Nitrate+Nitrite as N, mg/L	0.38	0.21	0.11	0.49	0.54	5.39	14.3	12.1	4.6	9.10
Aluminum, mg/L (dissolved)	0.18	0.24	0.18	0.15	0.18	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic, mg/L (dissolved)	0.01	0.006	0.005	0.01	0.01	0.002	0.002	0.002	0.002	0.002
Barium, mg/L (dissolved)	0.11	0.25	0.13	0.1	0.09	<0.1	<0.1	<0.1	<0.1	<0.1
Boron, mg/L (dissolved)	0.25	<0.1	<0.1	0.15	0.16	0.1	0.1	0.2	<0.1	<0.2
Cadmium, mg/L (dissolved)	0.01	0.009	0.007	0.02	0.02	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium, mg/L	41.9	79.1	98	123	142	140	155	163	131	147
Chromium, mg/L (dissolved)	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper, mg/L (dissolved)	0.05	0.04	0.02	0.05	0.09	<0.01	<0.01	<0.01	<0.01	<0.01
Iron, mg/L (dissolved)	0.67	0.61	0.29	0.3	0.27	<0.03	0.06	0.05	<0.03	<0.05
Lead, mg/L (dissolved)	0.05	0.023	0.014	0.05	0.04	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium, mg/L	15.1	19.4	23.5	22	24.7	30	31	34	26	30
Manganese, mg/L (dissolved)	0.08	0.07	0.07	0.19	0.08	0.014	0.15	0.18	0.15	0.12
Mercury, mg/L (dissolved)	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum, mg/L (dissolved)	<0.1	0.12	0.18	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel, mg/L (dissolved)	<0.05	0.04	0.03	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, mg/L	9	8.8	17.9	9.2	10.7	9	10	11	9	10
Selenium, mg/L (dissolved)	0.01	0.007	0.006	0.01	0.01	0.014	0.032	0.039	0.012	0.024
Silica, mg/L						22.2	18.8	23.1	15.7	20.0
Sodium, mg/L	43.3	29.7	35.7	32.5	37.4	34	36	40	30	35
Uranium, mg/L (dissolved)	0.09	0.058	0.376	0.1	0.09	0.0110	0.0108	0.0116	0.0129	0.0116
Vanadium, mg/L (dissolved)	0.14	0.34	0.21	0.27	0.18	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc, mg/L (dissolved)	0.06	0.06	0.03	0.09	0.06	<0.01	0.01	0.03	<0.01	<0.02
Iron, (total) mg/L						0.03	0.06	0.11	<0.03	<0.06
Manganese, (total) mg/L						0.15	0.16	0.17	0.15	0.16
Lead 210, suspended pCi/L						<9.9	<6.1	<4.9	<1.9	<5.7
Polonium 210 suspended, pCi/L						<1.0	<0.6	<0.5	<0.5	<0.7
Radium 226 suspended, pCi/L						<0.4	<0.5	<0.07	<0.2	<0.29
Thorium 230 suspended, pCi/L						<0.2	<0.4	0.2	<0.09	<0.23
Uranium suspended, mg/L						<0.0003	<0.0003	0.0007	<0.0003	<0.0004
QUALITY ASSURANCE DATA										
Cations meq/L	5.48	7.11	8.89	9.67	11.08	11.21	12.15	13.00	10.25	11.66
Anions meq/L	5.64	6.96	8.46	9.58	11.41	11.00	13.19	12.52	10.44	11.79
Anion/Cation Balance	-1.45	1.03	2.44	0.46	-1.45	0.93	-4.09	1.89	-0.91	-0.57
Calculated TDS	302	402	521	570	692	702	832	816	646	749
TDS Balance	99	110	107	109	101	96	120	109	109	109
Calculated Gross Alpha	82	594	747	77	80	9	11	14	10	11

Year Permitted 2004
 State Engineers Office Permit No. U.W. 161492
 T.D. Feet 400' SEO 165' PPR