HYDROGEOCHEMICAL AND STREAM SEDIMENT RECONNAISSANCE BASIC DATA REPORT FOR WINNEMUCCA NTMS QUADRANGLE, NEVADA

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May, 1978

Work performed under the auspices of the U.S. Department of
Energy by the UCLLL under contract number W-7405-ENG-48.

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UCRL-52469

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OVERLAYS (Rear Pocket)

The overlays in the rear pocket are:

- Overlay 1A. Site Locations, Water Samples
- Overlay 1B. Total Uranium Concentrations, Water Samples
- Overlay 2A. Site Locations, Sediment Samples
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ABSTRACT

This report presents the results of the geochemical reconnaissance sampling in the Winnemucca $1^{\circ} \times 2^{\circ}$ quadrangle of the National Topographic Map Series (NTMS). We collected wet and dry sediment samples throughout the 18,770-km² arid to semi-arid area and water samples at available streams, springs and wells. We present neutron activation analyses of uranium and trace elements and other measurements made in the field and laboratory in tabular hardcopy and microfiche format. The report includes 5 full-size overlays for use with the Winnemucca NTMS 1:250,000 quadrangle. Water sampling sites, water-sample uranium and thorium concentrations, sediment sampling sites, and sediment-sample total uranium and thorium concentrations are shown on the separate overlays. We present general geological and structural descriptions of the area, and describe the 12 known uranium occurrences.

The results indicate that the uranium geochemistry of the area is diverse. High concentrations (greater than 5 ppm) of uranium in sediments are associated mainly with rhyolitic ash falls and flows and silicic intrusives. In defining areas of interest the ratio of relatively insoluble thorium to uranium was considered. The anomalies as defined are then the sediment samples containing low Th/U and high uranium concentrations. These areas consist mainly of fluvial-lacustrine units. Most known uranium occurrences were also identified by this technique. The main Humboldt River shows an irregular increase in uranium concentration downstream which may be related to agricultural modification of the stream flow. U/Cl ratios were used to evaluate the effects of evaporative concentration. Of interest are spring and tributary waters containing high U/Cl and high uranium values. These waters mainly drain acid intrusives, silicic volcanic rocks and related sediments. One such area is the Shoshone and Cortez Mountains.

INTRODUCTION

The National Uranium Resource Evaluation (NURE) Program was established to evaluate domestic uranium resources in the continental U. S. and identify areas favorable for uranium exploration. The Grand Junction Office (GJO) of the Department of Energy (DOE) is responsible for administering and coordinating NURE program efforts. Lawrence Livermore Laboratory (LLL) is conducting a hydrogeochemical and stream-sediment reconnaissance (HSSR) of 1.8 million km² in 10 western states. Other DOE laboratories are responsible for similar reconnaissance in the rest of the continental U. S. including Alaska (Fig. 1). The individual laboratories acquire a proper set of field samples in their areas, process and analyze the materials, and compile the data in report form. The resulting HSSR reports are made available to the public by DOE-GJO through simultaneous release at several locations. The Lawrence Livermore Laboratory releases its data as basic data reports with an interpretative discussion concerning its significance. The data are reviewed and presented in tabular form with map overlays.

Lawrence Livermore Laboratory subdivides the 10 western states into commonly recognized geologic provinces that are further subdivided into sample acquisition or project areas. Each is sampled in an appropriately timed reconnaissance phase with professional geological contract teams monitored by

Fig. 1. Areas of responsibility for the NURE Hydrogeochemical Reconnaissance program.

the LLL field quality-assurance group. Before starting a major field reconnaissance coverage, LLL conducts one or more "pilot" or orientation studies in the geological province, providing a rational sediment and water sampling program sensitive to variable geological and climatic conditions that exist in the area.¹ In this way the sediment and water samples reflect, as nearly as possible, the metallogenic nature of the region with particular emphasis on uranium mineralization. A description of sample collection and processing methods is available.²

The samples were analyzed for uranium by delayed neutron counting. Instrumental neutron activation analysis was used to measure trace and major element content of sediment samples. The samples were irradiated at the Livermore Pool Type Reactor (LPTR). The neutron activation analysis and delayed neutron counting are performed using an automated transport and detection system described by Smith.³ Data reduction for neutron activation analytical results utilizes the GAMANAL code described by Gunnick and Niday⁴ to interpret the gamma spectra. The NURAB code described by Heft and Martin⁵ and McMillan and Carver⁶ produces the elemental concentration values.

An automated optical emission spectrometer equipped with an argon plasma source provided trace and major element analyses of water samples. A modified spectrophotometric analyzer was used to obtain measurement of chloride and sulphate concentrations of water samples.

GEOLOGY OF THE WINNEMUCCA NTMS SHEET

The Winnemucca NTMS 1° x 2° sheet covers an area of approximately 18,770-km² (7,250 square miles) in north-central Nevada that is within the Basin and Range physiographic province (Fig. 2). Parts of Humboldt, Lander, Pershing, Eureka, and Elko counties lie within the quadrangle. These areas have been geologically mapped and the results published as Nevada Bureau of Mines county reports by Willden,⁷ Stewart et al.,⁸ Johnston,⁹ Roberts et al.,¹⁰ and Granger et al.¹¹

The region consists of northward-trending, block-faulted ranges separated by alluvial valleys and is part of the larger Humboldt River drainage basin. The Humboldt River flows from east to west through much of the area at right angles to the north-south trend of the topography.

Fig. 2. Location of Winnemucca NTMS Quadrangle.

The area is a geologically and structurally complex transition zone between miogeosynclinal eastern-assemblage rocks and eugeosynclinal western-assemblage rocks. The exposed units are Early Cambrian to Holocene sedimentary, igneous, and metamorphic rocks. The Paleozoic section is thick and structurally and lithologically complex. The Early Cambrian to Devonian strata consist of contrasting facies juxtaposed along thrust faults in the eastern part of the sheet. The units include:

- (1) Rocks of the carbonate (miogeosynclinal) and transitional assemblages consisting of carbonate rock and minor amounts of shale and quartzite.
- (2) Rocks of the siliceous and volcanic (eugeosynclinal) assemblage consisting mainly of chert and clastic sedimentary rock, volcanic flows, and pyroclastic rocks.

Most of the Winnemucca quadrangle area sheet lies within the Antler Orogenic Belt described by Roberts et al.¹⁰ in a region that underwent folding, faulting, and thrusting in Late Devonian and Early Mississippian. This orogeny culminated in a complex thrust sequence that placed the clastic and volcanic assemblage over the carbonate sequence. Numerous precious and base metal ore deposits are confined to the crushed rock along the thrust plate or the carbonate rocks within the lower plate of the thrust.

From Late Mississippian to Permian, the area was eroded to produce coarse clastics that were deposited to the east and west of the belt. The eroded area itself was covered with detritus. (The Battle Formation is a typical example of this detritus.)

West of the belt, the lithologic assemblage consists of interbedded marine volcanic and pyroclastic rock, limestone, chert, and clastic rocks. The Havallah Formation is one of the major units. These siliceous and volcanic rocks were tectonically transported eastward in the map area along the Golconda Thrust during the Sonoma Orogeny of Permian - Triassic time. Numerous uranium ore bodies are also located within this thrust belt.

Early Triassic deposits are diverse; most were derived from local uplifts within the orogenic region. Middle and Upper Triassic deposits are more uniform, consisting mostly of nearshore carbonates.

The Paleozoic and Triassic strata are intruded by numerous Jurassic and Cretaceous plutonic rocks. These igneous rocks range from granite to diorite.

The oldest Tertiary rocks are quartz monzonite to quartz diorite intrusives overlain by andesite and dacite flows. Rhyolite to quartz-latitude ash-flow tuffs cover large parts of the area and are concentrated around the Fish Creek Mountains caldera. Associated with these units are rhyolite flows, intrusive rocks, and related sediments. Basaltic/andesite overlies the silicic volcanic rocks. The youngest volcanic rocks consist of younger rhyolite and basalt flows and widespread Pliocene tuffaceous sedimentary rocks that cover larger parts of several valleys and portions of some mountain ranges.

The youngest deposits are Quaternary alluvial-fan and stream gravels, lake deposits, and windblown sand. These materials make up approximately 40% of the area; they are mainly confined to the basins between the range fronts.

Within the area are significant ore deposits of copper, gold, silver, tungsten, antimony, iron, gypsum, barite, diatomite and less important

deposits of mercury, lead, and zeolites. Although there are numerous mining districts, there are only scattered occurrences of low-grade uranium.

Twelve radioactive occurrences and numerous recent uranium claims are shown on Fig. 3. This map is based on reports by Garside¹³ and Larson and Beal.¹⁴ The uranium is found in a wide variety of environments, but most of it occurs within igneous rocks or related sediments. Most occurrences contain only uranium; two deposits contain uranium and other metals.

Anomalous radioactivity is associated with features in waterlaid tuff overlain by Tertiary rhyolite at Dacies Creek (T28N, R41E). At Lee Canyon (T30N, R52E), the Kei No. 2 claims contain uranium in siltstone, water-laid tuff, and Tertiary lake sediments. Similar occurrences exist at the Black Hills claims and Deerhead claims in T32N, R52E.

To the south, the Asphaltite prospect (T29N, R52E) contains uranium in strings and lenses of asphaltic pyrobitumen in northerly trending faults. The veins cut Paleozoic clastics and contain associated vanadium.

Mid-Paleozoic carbonates contain autunite (?) near the foot of Cortez Canyon (T27N, R47E) in Crescent Valley. Both sides of the valley contain major gold mines in the Roberts Mountain thrust.

Anomalous radioactivity occurs at the C.L. Point claim group in the Kennedy District (T23N, R37E). The high radiometric readings were taken at the contact between granite and shale at the head of Say Canyon.

A now-inactive, dry oil well (T32N, R45E) encountered radioactive "black sands" at depths between 17.8 m to 27.1 m. This probably represents a Reese or Humboldt River paleo-placer uranium deposit.

At the Copper King Mines (T34N, R51E) in the Maggie Creek District, secondary copper minerals are reportedly radioactive along a northwest-trending fault in an equivalent of the Vinini Formation.

The Old Jaw Bone Claim (T26N, R40E) is a minor uranium occurrence of unknown mineralogy. However, the anomalous radioactivity is probably associated with Fish Creek volcanic rocks.

Many hot springs exist within the area. Some contain anomalous mercury, and others are being investigated for geothermal potential. Only the Golconda Hot Springs (T36N, R40E) has radioactive waters and sulfur deposits.

Claims recently staked for uranium are the Granger claims (T36N, R40E) and the Bowles and Etchart claims (T27N, R42E).

LEGEND

	Pre-Tertiary Rocks		Tertiary - Quaternary Rocks
	sedimentary volcanic & metamorphic (low rank) rocks	plutonic & metamorphic (high rank) rocks	sedimentary rocks
Uranium with base, precious & ferrous metals	○		
Uranium with other mineralization minor or absent	◊		
Anomalous radioactivity	▲	▲	▲

○ Minor prospect or occurrence

▲ Spring or ground water deposit

● Other uranium and/or radioactive occurrences or prospects reported

■ Placer deposit

Fig. 3. Uranium occurrence map. (Refs. 13, 14)

HYDROLOGY

The area is drained by the Little and main Humboldt Rivers, the Reese River, Maggie Creek, Pine Creek, Rock Creek, and numerous ephemeral streams. The Reese River flows north toward Battle Mountain where it merges with the main Humboldt River. The Humboldt River flows west toward its termination in the Humboldt Sink outside of the project boundary. The area not drained by this system consists of numerous basins with no external outlet.

The arid to semiarid climate of the valleys is characterized by low precipitation and humidity and extreme variations in temperature. Large differences in precipitation occur between the valleys and ranges. The average annual precipitation varies from approximately 15.24 cm in the bottomlands to more than 63.5 cm in the higher mountains. Much of the precipitation occurs as snowfall during winter months and localized showers in summer. Unusually high thunderstorm activity occurred during the sampling period in summer 1976. However, the stream flow of the Humboldt River for summer 1976 was about one half of the average supply¹⁵ (see Fig. 4), a result of low winter precipitation and light snowpack combined with above-average reservoir usage.

Fig. 4. Water survey data for 1976. (Ref. 15)

Most wells are located in or near population centers. Observation of wells in these areas showed a general water-level decline in 1976. In undeveloped areas, water levels exhibited no significant trends. Well sampling was biased toward the undeveloped areas.

Published water data for springs are limited. However, some of the springs that were sampled appeared to have a less-than-normal flow rate that year.

SAMPLE SITE SELECTION AND COLLECTION

Proper selection of the sample site is the most important technical aspect of sample acquisition. The sites must be related to the geology and the mobility of uranium in a given environment. In addition, because the uranium is measured in parts per million, seemingly insignificant sources of contamination could mask the natural background. Therefore, sites were selected to represent the acquisition areas and minimize contamination by environmental pollution (farms, bridges, mines, etc.) and windblown and lake-bed deposits.

Water availability has caused population and agricultural concentrations along the Humboldt and Reese Rivers. Thus, the Humboldt Basin valleys contain the most contaminants. In addition, these lowlands were once pluvial lake sites whose surface deposits are now being dispersed by prevailing winds. Because of this, emphasis was placed on stream sampling along the range fronts. For relatively small drainages, a single sample site was selected at the canyon mouth. In larger drainages, samples were taken up the canyons and along tributaries to obtain representative coverage. Sampling on the fan aprons and valley lowlands was biased toward ground-water samples; dry-stream samples were taken only along the most prominent, active-stream channels.

To compensate for windblown contamination, sediments were sieved to eliminate the finer materials. The material retained for analysis was the portion between 1000 μm and 500 μm .

QUALITY ASSURANCE

Field Sampling

Our field quality-assurance program provides a reasonably high level of confidence in the quality of the samples returned to LLL for analysis.

Contract specifications on sample collection impose strict requirements for methods and procedures. The specifications attempt to provide uniformity in the sampling process and, thus minimize errors. To encourage a high level of professionalism, sampling personnel are required to place a yellow, biodegradable tag at the site and photograph the exact sample location. In addition, sampling personnel must ensure that the samples are not contaminated and represent the area being sampled and that the site locations are indicated accurately on the field map. The contract personnel must select suitable alternative sites should the primary site prove to be inadequate or inaccessible. Therefore, all persons collecting samples must be graduate geologists or have a minimum of two years formal education in geology plus one year field experience.

Lawrence Livermore Laboratory observers occasionally accompanied the contract sampling crews and LLL geologists resampled approximately 5% of the project sites. (Sites selected for resampling were biased toward sites which were relocated by the contractor.) More than 95% of the resampled sites were accurately located on available maps or photos. The remaining sites were plotted within 182 m of the correct location.

The replicate samples are reported in the tables by quality control x-reference numbers. Comparison of the sediment replicate results with the original samples shows an average variance of 12% for the uranium values. This 12% also takes into account the natural variability of the sample. Therefore, the reported values are within the same magnitude of uncertainty as the analytical variance.

Comparison of the water replicate samples with the original samples shows a variance of 1%. This is well within the analytical uncertainty of the system. The water replicate samples are discussed further in the section on geochemistry.

Laboratory Analyses

Interlaboratory comparison samples for uranium are distributed by DOE to the NURE laboratories. Analyses of these samples are collected and will be reported by D'Silva, et al.¹⁶ It was not possible to analyze these samples concurrently with the reported data, but the same calibration factors and data processing system was used. The results should, therefore, be indicative of the accuracy and precision of the Winnemucca Reconnaissance

Table 1. Delayed neutron assay for uranium analyses of DOE interlaboratory comparison samples.

	Water		Sediment		
	A2,	B2,	R1,	S1,	T1,
	ppb	ppb	ppm	ppm	ppm
Number of analyses	7	7	9	9	9
Recommended value ^a	0.98	9.98	5.33	11.2	96.2
Mean value ^b	1.12	10.4	5.32	10.7	92.9
Standard deviation ^c of a measurement, %	6	3	5	4	2
Bias, ±%	+14	+4	+0.2	+4.7	+3.6

^a Recommended values are averages of analyses by three independent laboratories.

^b Mean of LLL measurements.

^c Standard deviation of a measurement =

$$\left[\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n} \right]^{1/2}$$

data. The comparison sample data are summarized by C. Smith of the Nuclear Chemistry Division (Table 1).

GEOCHEMISTRY

A logarithmic histogram and a cumulative-probability curve for uranium concentrations are provided for both water and sediment samples. An additional logarithmic histogram and cumulative probability curve is provided for thorium concentration in sediment samples. (They are included in Appendix A.) These statistical plots were generated to comply with DOE specifications. Representing and interpreting large data sets where individual samples must be compared with different threshold values is a problem in a large-scale drainage survey of a range of rock types. Gouett et al.¹⁷ have shown that logarithmic transformations of large geochemical survey data, such as the Winnemucca quadrangle, cause enhancement of the background populations and suppression of the anomalous population in the overall statistical distribution. Therefore, population recognition and sorting is vital to the statistical interpretation. As a result, this report is intended to be a preliminary evaluation and not a detailed discussion of the data.

Sediment Samples

The basic problem in reviewing the data for such a large-scale survey is to sort the sediment uranium concentrations into anomalous and background values. Often in such surveys, high value samples (i.e. greater than two standard deviations from the mean) are generally considered anomalous. Yet not all high values may warrant attention, and some lesser values may reflect areas of interest. This is especially true in the Winnemucca quadrangle area because the mean and standard deviation of uranium concentrations (Fig. A-2 in Appendix A) are not calculated for a single homogenous population of samples but from a distribution that is composed of a highly varied and mixed population. However, time did not permit hand sorting the data into discrete populations. In addition, multivariant statistical programs are not yet developed to adequately handle NURE data. Therefore, this study was arbitrarily restricted to samples with >5 ppm uranium in an attempt to define a useful sample of the population.

Logarithmic transformations were performed on elemental concentrations of all sediment samples having uranium concentrations greater than 5 ppm. No significant linear correlations were found between the uranium concentration and that of other elements. This suggests that uranium mineralogy in the Winnemucca sheet is quite diverse. It also hints at the varied distribution of uranium within the area as a consequence of the mixed populations. Samples with more than 5 ppm uranium were plotted in relation to rock type (Fig. 5). This amounted to 132 points out of a population of 1032 (13%). The majority of these samples are concentrated in or near outcrops of rhyolitic ash falls and flows and silicic intrusives. Uranium values between 5 ppm and 10 ppm are not unusual for these rock types (Ref. 18) and values encountered here may be background for these samples.

Uranium tends to be oxidized to the comparatively soluble uranyl ion, permitting easy mobilization in surficial processes. Uranium is lost slowly from rhyolitic rocks over a long period of time while their thorium content shows no significant changes. Zielinski¹⁹ has shown that the rate of loss varies with parent-rock composition, but concentration of the mobilized uranium may then constitute an area that warrants interest. Therefore, in defining an anomaly for this subset of the population the ratio of relatively insoluble thorium to soluble uranium was considered.

Fig. 5. Distribution of samples with uranium concentrations of more than 5 ppm.

The variation of uranium to thorium content was computed as the Th/U concentration ratio for samples with a uranium content more than 5 ppm. Samples having the lowest Th/U (arbitrarily chosen as <2) were plotted. (See Fig. 6.) This sampling of 32 sites shows approximately 90% correlation with fluvial and lacustrine beds. First-component and correlation analysis show little association of uranium with other elements although this would be expected because sedimentary rocks generally show a high element variability.

LEGEND

- Sample location
- ▨ Miocene lacustrine and fluvial deposits

Fig. 6. Distribution of samples with uranium concentrations of more than 5 ppm and Th/U less than 2.0.

The low Th/U values were deleted from the sample set with more than 5 ppm uranium, and correlation coefficients were computed for the remaining 100 samples. These results show a correlation of uranium with thorium, potassium, rubidium, and cerium. The comparatively high Th/U ratio in these samples suggests that the uranium is associated with the insoluble thorium, either in primary resistate phases such as zircon, sphene, and apatite, or as secondary Fe-Ti-mn oxide phases. Zielinski¹⁹ has shown these accessory mineral phases of rhyolitic volcanic rocks to be uranium concentrators. The presence of these resistate minerals also explains uranium's association with cerium. Thorium in addition to being concentrated in resistates is also adsorbed in clays which may explain the potassium and rubidium correlation. Correlation

of rubidium, potassium and cerium with uranium is also suggestive of an alkali-rich igneous assemblage.

Because these elemental relations agree well with the known geochemistry of rhyolites and silicic intrusives, the associated nonsoluble uranium values might be taken as background. The anomalies on the Winnemucca sheet would then be samples containing low Th/U and high uranium concentrations.

The most common environment for the concentration of this leached uranium is the Miocene fluvial-lacustrine beds derived mostly from silicic ash flow and falls. The multielement data shows an association of some samples with potassium and aluminum, suggesting clay-uranium complexes, and some with bromine, suggesting either an organic or shale association with uranium.

Samples not associated with the Miocene beds are either younger lake beds or alluvium having similar environments of deposition. The only exceptions are some samples below precious and base metal occurrences known to contain uranium and a few samples below Vinini siliceous volcanic rock and their equivalents. The areas delineated by these samples contain all but three of the known uranium occurrences shown in Fig. 3. Two of the three remaining areas have uranium sample concentrations of less than 5 ppm and were thus not part of the sample set. The third area was not sampled in close proximity to the known uranium occurrence.

Defining anomalous uranium of less than 5 ppm for the remaining population was difficult because of high variable-element concentrations in a mixed assemblage of eugeosynclinal, miogeosynclinal, and transition rocks. However, some correlations are worth noting. Samples in a predominantly miogeosynclinal carbonate terrain contain little uranium but variable sodium and high calcium. This is consistent with a deep-water carbonate environment. The eugeosynclinal assemblage displays medial uranium values associated with rare earths. The elevated rare-earth values would be expected for an island arc, chert, shale assemblage. Uranium values in this environment are difficult to interpret, not only because of the variance of rock types but also because of the complex mode of origin.

Conclusions:

- Uranium geochemistry of the Winnemucca quadrangle is diverse.
- High concentrations (more than 5 ppm) of uranium are associated mainly with rhyolitic ash falls and flows and silicic intrusives.

- The characteristic abundance of uranium in these rock types is higher than the mean value of uranium computed for all the Winnemucca data. Hence, high concentrations of uranium are normal for this subset of the population.
- Low Th/U values delineate anomalous areas of possible interest. These areas are mainly fluvial-lacustrine units.
- Interpretation of concentrations of less than 5 ppm uranium for the remaining population is difficult because of the diverse rock types and modes of origin.
- Sorting of the population and multivariate coefficient analysis should be applied for complete interpretation of the data.
- Interpretation of element variations associated with uranium requires the additional consideration of the influence of physiographic and geographic factors upon the distribution.

These conclusions are generalizations for the Winnemucca quadrangle and may not be valid for a different survey area.

Water Samples

The variations of temperature and precipitation mentioned earlier may produce wide seasonal differences in surface-water runoff that result in temporal variations in uranium concentrations. These fluctuations are verified by the 1977 Weather Bureau data for the main river system (Fig. 4). Benson and Leach²⁰ have shown that fluctuations in seasonal weather conditions, irrigation water usage, and ground-water flow impose an increase or decrease in uranium concentrations and changes in the mass of dissolved solids carried by surface waters.

To minimize the temporal factor, the system was sampled over a short period during summer 1976. Resampling of some sites by LLL shows variations in the uranium content to be within detection limits (Table 2). Because the river discharge data shows that a low-flow period occurred during this time, the uranium concentrations are probably at the maximum values for that year. For this reason, further sampling during a wetter period might result in uranium values lower than observed in summer 1976.

Meager or non-existent ground-water discharge to the Humboldt River during the sampling period is thought to explain why the river does not

Table 2. Water Analysis; Main Humboldt River.

Sample No.	Temp	pH	Spec. cond.	Alk. tot.	U ppb	Date
7441	19.5	8.3	896	240	6.0	8/25/76
7547 ^a	7.0	8.5	845	220	5.9	10/19/76
7442	25.0	8.5	650	20	5.1	8/25/76
7546 ^a	10.0	8.5	508	160	4.8	10/08/76
7443	18.0	—	868	220	4.0	8/25/73
7545 ^a	6.0	8.1	950	220	4.6	10/18/76

^aDuplicate of previous sample taken at same location.

reflect the uranium content of the rock through which it flows. The uranium-rich areas on the east end of the sheet were not detected in the data.

In several areas, uranium-concentration values on the main Humboldt River are irregular. These areas, such as Iron Point, appear to be positively related to irrigation. Benson and Leach²⁰ have shown that significant modification of the stream flow and chemistry occurs because of agricultural practices. These changes in hydrochemistry may mask any anomalous uranium-bearing waters entering the system. The uranium concentration may be a result of evaporation and evapotranspiration of irrigation water.

Benson and Leach²⁰ have also shown that comparison of uranium concentrations with chloride concentrations can be used to evaluate possible concentrations or dilution effects. This method assumes that mobility is the same everywhere. Although uranium increases sharply across the agricultural areas (usually more than 5 ppb), U/Cl ratios (generally less than 2) show only a weak and irregular trend of increase with transport distance; irregularities in this trend are probably related to river diversion points for irrigation systems. Thus, the uranium concentration data for the main Humboldt River has limited usefulness.

In the head-water tributaries of the Humboldt River system, the concentration of uranium is typically less than 2 ppb, and often below 1 ppb. Higher concentrations (generally more than 5 ppb) occur in regions where acidic waters react with surficially exposed quartz monzonite-granodiorites and acid volcanic rock, thus releasing uranium. The area of highest uranium concentration occurs around the edge of the Fish Creek Mountain volcanic rocks. This region was defined earlier as having high uranium values in the

sediments associated with the volcanic rocks. Waters from this area have relatively low U/Cl ratios. Of more interest are the regions containing the high U/Cl (more than 4) and high uranium values. One such area includes the Shoshone and Cortez Mountains in which the water sites are related to acidic igneous rocks. One sample containing 36.7 ppb uranium and U/Cl equal to 4.5 is below a known mineralized area.

Also of interest are some springs and streams in the northern part of the area with uranium concentrations more than 5 ppm and high U/Cl ratios; these drain the Miocene lacustrine and fluvial beds mentioned earlier.

Defining other regions of interest in the project area by spring and tributary water sampling is somewhat limited by the irregular spatial distribution of the sites.

A low-density factor was used in the selection of well sites for sampling. Of those wells selected for visitation, many were either dry or not pumping. Hence, only limited well data is available. However, one location did show 10 ppb uranium. This uranium concentration was probably from fluids interstitial to Tertiary sediments containing anomalous uranium.

Conclusions:

- The main basinal stream (i.e., the Humboldt River) shows an irregular increase in uranium concentration downstream.
- The river does not reflect the uranium content of the rocks through which it flows, and the data did not indicate the uranium occurrence on the east edge of the quadrangle.
- Significant increases in uranium may be related to agricultural modification of the stream flow. Therefore, the Humboldt River water data has limited usefulness.
- U/Cl ratios can be used to evaluate the effects of evaporative concentration.
- Spring and tributary water has detected high amounts of uranium leaching from acid intrusives and silicic volcanic rocks and related sediments.
- Defining areas of interest by spring and tributary sampling is limited by the irregular spacial distribution of sites.

ACKNOWLEDGMENTS

The data herein are the cumulative result of effort by many individuals too numerous to mention without whose support this report would not have been possible. Geochemist D. Leach designed the Humboldt River Basin sampling program of which the Winnemucca sheet is a part. The author fielded the sampling program and was assisted by P. Bowen and other technicians from the M.E. Department. Processing and analysis of the sediment, rock, and water samples were performed under the direction of C. Smith; W. Hutchin coordinated sampling processing, R. Van Konyenburg performed neutron activation analysis, E. Peck and A. Langhorst conducted emission spectrometry, and R. Lim was responsible for special chemistries. G. McMillan developed and supervised data processing and data base management functions were performed by B. Gumm. Special thanks go to S. Grotch, B. Holder, R. Carpenter, and J. Attebery for the data tables, histograms, overlays, and report coordination. Their persistent dedication to their work enabled the author to meet a tight deadline. Geologist L. Garside and research associate D. Trexler of the Nevada Bureau of Mines provided help and information on uranium and geology in Nevada. R. Stone critically reviewed the manuscript. Ground water site selection, sample acquisition, field measurements, and hydrology information were provided by the Desert Research Institute. Sincere appreciation is also expressed to the land owners, Forest Service, and Bureau of Land Management personnel who granted access to the lands under their control so that the survey could be completed.

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APPENDIX A
DATA ORGANIZATION AND DEFINITIONS

DATA PRESENTATION

Organization

The numerical results of this reconnaissance survey are presented in 3 hardcopy tables (Appendix B), in microfiche tables (back cover pocket), and in 5 vellum overlays (back cover pocket). In addition, frequency histograms and cumulative frequency plots of the logarithmic of the uranium and thorium concentrations plotted on the overlays are included in the back of Appendix A.

Hardcopy Tables

Selected results of this investigation are presented in the 3 tables in Appendix B. Additional data on the trace elements content for each of the samples is reported in the microfiche tables. The titles and data reported in each of the three tables is given below.

Sediment analysis, dry and stream sites given in Table B-1.

LLL sample number

DOE sample number

Sample date

Sample source and condition

Sieve fraction size, upper limit

Sieve fraction size, lower limit

Possible contamination

Quality control cross reference number

Uranium concentration, ppm

Thorium concentration, ppm

Water analyses; river, stream and lake sites given in Table B-2.

LLL sample number

DOE sample number

Sample date

Sample source and condition

Water Temperature, °C

pH meter

Specific conductance, µmho/cm

Total alkalinity

Phenolphthalein alkalinity

Possible contamination

Uranium concentration, ppb

Quality control cross reference site number

Water analyses; springs and wells given in Table B-3.

LLL sample number

DOE sample number

Sample date

Sample source and condition

Water temperature, °C

Well depth-type-casing

pH meter

Specific conductance, µmho/cm

Total alkalinity

Phenolphthalein alkalinity

Possible contamination

Uranium concentration, ppb

Quality control cross-reference number

Microfiche Tables

The additional element data gathered for each sample are presented in tables on microfiche film. These tables contain data from neutron activation analyses, special chemistry, and emission spectra analyses. The table titles are exactly as in the hardcopy tables, and the columnar entries of the hardcopy tables are repeated as the first part of each microfiche table. This is followed by the element values arranged in alphabetical order according to the element's proper name. Because of the amount of data, the tables are subdivided into several parts presented on separate pages.

Overlays

Full-size vellum overlays for use with National Topographic Map Series (NTMS) 1:250,000 scale $1^{\circ} \times 2^{\circ}$ quadrangle are located in the rear pocket of this report. These may be used with the commercially available NTMS map for visual display of the sampling site locations and uranium concentration relative to local geographic features. The NTMS map name and number is given on the overlay. To limit the number of overlays that must be generated for each map, the information presented has been divided into two major classes - waters and sediments. The site number uranium concentration and thorium concentration of each sample are plotted on separate sheets for each class. Different sample site types (stream vs spring or well water, or wet vs dry sediment) are distinguished by using different symbols in association with the site number. The site type symbol is plotted over the geographic location with the site number plotted beside it. The corresponding concentration range value is indicated in a separate overlay by a symbol whose shape and size varies with the range value. The symbol set employed here is a slightly modified version of that employed by the Geological Survey of Canada in their hydrogeochemical surveys. Two sets of ranges are employed because the average uranium trace element concentration is nearly a factor of 10^3 larger in sediments than in natural waters. The range assignments are shown below.

Water Samples

Fig. A-1. Uranium concentrations in water samples.

Sediment Samples

Fig. A-2. Uranium concentration in sediment samples.

The overlays in the rear pocket are:

- Overlay 1A. Site Locations, Water Samples
- Overlay 1B. Total Uranium Concentrations, Water Samples
- Overlay 2A. Site Locations, Sediment Samples
- Overlay 2B. Total Uranium Concentrations, Sediment Samples
- Overlay 2C. Total Thorium Concentrations, Sediment Samples

Histograms and Cumulative Frequency Plots

Histograms and cumulative frequency plots of the uranium values shown in overlays 1B and 2B are given in Fig. A-3 (water samples) and Fig. A-4 (sediment samples). The histogram and cumulative frequency plot of the thorium values shown in overlay 2C are given in Figure A-5. These are presented as the logarithm of the element concentrations.

Fig. A-3. Histogram (a) and cumulative frequency distribution (b) of water samples plotted on overlay 1B.

Fig. A-4. Histogram (a) and cumulative frequency distribution (b) of sediment samples plotted on overlay 2B.

Fig. A-5. Histogram (a) and cumulative frequency distribution (b) of sediment samples plotted on overlay 2C.

DATA DEFINITIONS

This section presents a brief explanation of the columnar entries for the hardcopy and microfiche data tables.

Blanks in the data tables indicate not reported, generally below detection limits. In the case of neutron activation the detection limit is a function of sample composition. Undetected values are therefore not necessarily less than the smallest real values reported.

DOE Sample Number

Each analyzed field sample is assigned an DOE sample number consisting of 28 characters (five characters) (dashes) are used to delineate the number subdivision). The subdivision assignments are as follows:

<u>Position</u>		<u>Description</u>
1-2	ST,	State, The two-digit Federal Information Processing Standard (FIPS) designated for the state corresponding to the sample site location (AZ=04, CA=06, ID=16, NV=32, OR=41, UT=49, WA=53).
4-10	LAT,	Latitude of site in decimal degrees.
12-19	LONG,	Longitude of site in decimal degrees.
21	L,	Originating laboratory (1=LLL).
23-24	TY,	DOE Sample Type. A two-digit code describing the sample source, medium, and overall geochemical treatment (field and laboratory) prior to analysis. See DOE Sample Type Numbers below for specific assignments.
26-28	RPL,	Replication Code. A three-digit code to distinguish between samples of the same type taken from the same site.

TY, DOE Sample Type Numbers

<u>Number</u>	<u>Description</u>
01	<u>Spring water</u> sample <u>untreated</u> .
02	<u>River</u> or <u>stream water</u> sample <u>untreated</u> .
03	<u>Well water</u> sample <u>untreated</u> .

- 04 Lake or reservoir water sample untreated.
- 06 Spring water sample filtered through a 0.45 μm membrane filter and acidified to a pH of ≤ 1 with high purity nitric acid (HNO_3).
- 07 River or stream water sample filtered through a 0.45 μm membrane filter and acidified to a pH of ≤ 1 with high purity nitric acid (HNO_3).
- 08 Well water sample filtered through a 0.45 μm membrane filter and acidified to a pH of ≤ 1 with high purity nitric acid (HNO_3).
- 09 Lake or reservoir water sample filtered through a 0.45 μm membrane filter and acidified to a pH of ≤ 1 with high purity nitric acid (HNO_3).
- 21 Spring water sample filtered through a 0.45 μm membrane filter.
- 22 River or stream water sample filtered through a 0.45 μm membrane filter.
- 23 Well water sample filtered through a 0.45 μm membrane filter.
- 24 Lake or reservoir water sample filtered through a 0.45 μm membrane filter.
- 70 Wet sediment sample dried at 110°C and sieved to the reported particle size range.
- 71 Lake or reservoir sediment sample dried at 110°C and sieved to the reported particle size range.
- 72 Dry sediment sample dried at 110°C and sieved to the reported particle size range.
- 73 Playa sediment sample taken by hand auger over the reported depth, dried at 100°C , and crushed to a fine powder.
- 74 Rock sample crushed and sieved to less than 250 μm .

TEMP

Temperature. Measurement of water temperature *in situ* by mercury thermometer to nearest 0.1°C .

PH

Acidity in pH units, reported to nearest 0.1 pH unit at ambient water temperature.

SP COND

Specific conductance. Measurement *in situ* with a commercial conductivity meter. Reported as conductance in micromhos per cm ($\mu\text{mho/cm}$) normalized to 25°C.

PHENO-ALK

Phenolphthalein alkalinity. Measurement by titration with standard sulphuric acid to a phenolphthalein indicator endpoint (pH = 8.3). Reported as an equivalent amount of CaCO_3 in mg/l, minimum detection 20 mg/l.

TOT-ALK

Total alkalinity. Measurement by titration with standard sulphuric acid to a bromcresol green-methyl red indicator endpoint (pH = 4.8). Reported as an equivalent amount of CaCO_3 in mg/l, minimum detection 20 mg/l.

Possible Contamination

The major possible contaminant types are indicated according to the following code: 1. none, 2. mining, 3. agricultural, 4. industrial, 5. sewage, 6. power generation, 7. urban, 8. recreation, 9. other.

URANIUM

The trace element concentration of uranium in the sample is given in parts-per-billion (PPB) by weight for waters and in parts-per-million (PPM) by weight for sediments and rocks. The error column (ERR) gives a numerical estimate (expressed in trace element concentration units) of the uncertainties associated with quantization of the gamma-ray spectrum.

APPENDIX B
NUMERICAL RESULTS OF RECONNAISSANCE SURVEY

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS; DRY AND STREAM SITES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L T Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS CONT	O. C. X-REF	URAN(UMCONC) PPM	THORIUM(NAAL) PPM		
-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----		
5074	32-40	5134	-116.1218	-1-72-100	03/07/76	STREAM	DRY	1000	0500	1	3.66	0.0275	7.02	0.85
5075	32-40	5261	-116.1335	-1-72-100	08/07/76	STREAM	DRY	1000	0500	1	4.58	0.0307	15.12	1.32
5076	32-40	5706	-116.0620	-1-70-100	08/07/76	STREAM	WET	1000	0500	1	2.92	0.0246	8.71	0.71
5077	32-40	5393	-116.0967	-1-72-100	08/07/76	STREAM	DRY	1000	0500	1	2.87	0.0244	6.52	1.01
5078	32-40	5404	-116.1238	-1-70-100	08/07/76	STREAM	WET	1000	0500	5	4.06	0.0289	7.60	0.93
5079	32-40	5567	-116.1412	-1-70-100		STREAM	WET	1000	0500	1	3.67	0.0275	10.96	0.89
5080	32-40	5784	-116.1481	-1-72-100	08/07/76	STREAM	DRY	1000	0500	1	3.24	0.0259	12.13	0.77
5081	32-40	5946	-116.1361	-1-70-100	08/07/76	STREAM	WET	1000	0500	9	7.26	0.0384	7.26	0.88
5082	32-40	5976	-116.1763	-1-70-100	08/07/76	STREAM	WET	1000	0500	9	6.65	0.0276	12.10	1.21
5144	32-40	9737	-116.0100	-1-70-100	08/12/76	STREAM	WET	1000	0500	1	6.02	0.0350	13.08	0.76
5145	32-40	9476	-116.0092	-1-70-100	08/12/76	STREAM	WET	1000	0500	1	4.99	0.0320	15.37	1.22
5146	32-40	8953	-116.0028	-1-72-100	08/12/76	STREAM	DRY	1000	0500	1	5.15	0.0324	13.56	1.56
5149	32-40	8530	-116.0058	-1-70-100	08/12/76	STREAM	WET	1000	0500	9	4.25	0.0296	13.22	0.95
5149	32-40	8530	-116.0058	-1-70-101		STREAM	WET	1000	0500	1	4.42	0.0301	14.67	1.49
5150	32-40	8144	-116.0301	-1-70-100	08/12/76	STREAM	WET	1000	0500	1	5.27	0.0328	10.67	0.74
5151	32-40	8146	-116.0479	-1-72-100	08/12/76	STREAM	DRY	1000	0500	1	4.30	0.0297	14.63	0.90
5152	32-40	7833	-116.0709	-1-72-100	08/12/76	STREAM	DRY	1000	0500	5	4.16	0.0292	12.79	0.93
5153	32-40	8339	-116.0886	-1-72-100	08/12/76	STREAM	DRY	1000	0500	1	4.05	0.0289	14.29	1.09
5154	32-40	8366	-116.0974	-1-72-100	08/12/76	STREAM	DRY	1000	0500	1	4.44	0.0302	15.35	1.21
5155	32-40	7186	-116.0919	-1-70-100	08/13/76	STREAM	WET	1000	0500	9	3.78	0.0249	8.53	0.86
5156	32-40	7283	-116.0784	-1-72-100	08/13/76	STREAM	DRY	1000	0500	1	3.83	0.0281	13.67	1.20
5157	32-40	7650	-116.0521	-1-72-100	08/13/76	STREAM	DRY	1000	0500	1	3.86	0.0282	5.24	0.68
5158	32-40	7595	-116.0309	-1-72-100	08/13/76	STREAM	DRY	1000	0500	1	2.97	0.0246	7.93	0.62
5159	32-40	7298	-116.0373	-1-72-100	08/13/76	STREAM	DRY	1000	0500	1	4.10	0.0290	7.48	0.58
5159	32-40	7298	-116.0373	-1-72-101		STREAM	DRY	1000	0500	1	3.32	0.0262	7.58	0.54
5160	32-40	7389	-116.0101	-1-70-100	08/13/76	STREAM	WET	1000	0500	9	4.57	0.0306	16.44	1.38
5396	32-40	6481	-116.1312	-1-70-100	08/27/76	STREAM	WET	1000	0500	9	3.27	0.0260	9.42	0.84
5397	32-40	6908	-116.1171	-1-70-100	08/27/76	STREAM	WET	1000	0500	1	7.62	0.0393	4.56	0.94
5398	32-40	6564	-116.0951	-1-70-100	08/27/76	STREAM	WET	1000	0500	9	8.37	0.0412	5.11	0.76
5399	32-40	4977	-116.0620	-1-70-100	08/27/76	STREAM	WET	1000	0500	9	3.85	0.0282	11.69	1.14
5399	32-40	4877	-116.0620	-1-70-101		STREAM	WET	1000	0500	1	3.46	0.0268	13.44	1.47
5423	32-40	6349	-116.0032	-1-72-100	08/29/76	STREAM	DRY	1000	0500	5	2.92	0.0247	8.14	1.14
5424	32-40	6674	-116.0074	-1-72-100	08/29/76	STREAM	DRY	1000	0500	9	4.13	0.0291	12.13	1.14
5425	32-40	7703	-116.1374	-1-70-100	08/29/76	STREAM	WET	1000	0500	9	3.19	0.0257	8.17	0.78
5426	32-40	7891	-116.1300	-1-72-100	08/29/76	STREAM	DRY	1000	0500	1	3.85	0.0282	12.41	1.14
5427	32-40	7983	-116.1536	-1-72-100	08/29/76	STREAM	DRY	1000	0500	1	3.48	0.0264	6.29	0.64
5428	32-40	7672	-116.2192	-1-70-100	08/29/76	STREAM	WET	1000	0500	1	4.73	0.0277	4.37	0.64
5429	32-40	7986	-116.1999	-1-72-100	08/29/76	STREAM	DRY	1000	0500	5	5.06	0.0302	4.37	0.77
5429	32-40	7986	-116.1999	-1-72-101		STREAM	DRY	1000	0500	1	4.97	0.0304	12.13	1.14
5430	32-40	8276	-116.2268	-1-72-100	08/29/76	STREAM	DRY	1000	0500	5	4.13	0.0291	11.69	1.14
5431	32-40	8429	-116.2230	-1-70-100	08/29/76	STREAM	WET	1000	0500	9	4.94	0.0309	8.24	0.94
5432	32-40	8249	-116.2221	-1-70-100	08/30/76	STREAM	WET	1000	0500	9	3.26	0.0267	7.97	1.14
5433	32-40	8781	-116.2262	-1-72-100	08/30/76	STREAM	DRY	1000	0500	1	4.25	0.0295	6.56	0.67
5434	32-40	9266	-116.2375	-1-72-100	08/30/76	STREAM	DRY	1000	0500	1	4.08	0.0290	8.11	1.14
5435	32-40	9412	-116.2239	-1-70-100	08/30/76	STREAM	WET	1000	0500	9	4.56	0.0309	8.86	0.94
5440	32-40	8430	-116.2278	-1-72-100	08/30/76	STREAM	DRY	1000	0500	1	4.25	0.0295	11.69	1.14
5441	32-40	8947	-116.2382	-1-70-100	08/30/76	STREAM	WET	1000	0500	9	4.10	0.0290	4.37	0.64
5442	32-40	8188	-116.2518	-1-70-100	08/30/76	STREAM	WET	1000	0500	9	4.88	0.0293	8.24	0.94
5443	32-40	8938	-115.1750	-1-70-100	08/30/76	STREAM	WET	1000	0500	1	3.28	0.0267	7.97	1.14

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

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SITE	DOSE	NUMBER	DATE	SAMPLE	PARTICLE	SIZE	POS	Q	URANIUM	THORIUM				
NUMBER	LAT.	LONG.	L	TY	RPL	MO-DA	YR	SR	CONC	PPM	PPM	ERR	ERR	
5444	32-40.8990	-116.1334	-170	100	08/30/76	STREAM	WET	1000	0500	1	4.07	0.0289	14.77	1.19
5445	32-40.8831	-116.1656	-170	100	08/30/76	STREAM	WET	1000	0500	9	4.58	0.0306	11.27	1.10
5446	32-40.9174	-116.1794	-172	100	08/30/76	STREAM	DRY	1000	0500	1	4.48	0.0268	15.41	0.75
5447	32-40.9520	-116.1920	-170	100	09/04/76	STREAM	DRY	1000	0500	9	3.81	0.0280	6.54	0.75
5448	32-40.9660	-116.1693	-172	100	08/30/76	STREAM	DRY	1000	0500	1	3.75	0.0278	8.61	1.07
5449	32-40.9587	-116.1635	-170	100	08/30/76	STREAM	WET	1000	0500	9	2.98	0.0249	7.54	1.07
5449	32-40.9587	-116.1635	-170	101		STREAM	WET	1000	0500	9	2.99	0.0249	6.98	0.84
5450	32-40.9552	-116.1706	-170	100	08/30/76	STREAM	WET	1000	0500	1	2.95	0.0248	3.98	0.84
5451	32-40.7558	-116.1810	-172	100	09/04/76	STREAM	DRY	1000	0500	1	5.25	0.0305	15.41	0.75
5453	32-40.7558	-116.1810	-172	100	09/04/76	STREAM	DRY	1000	0500	9	4.34	0.0269	8.88	0.84
5454	32-40.7646	-116.1465	-172	100	09/04/76	STREAM	DRY	1000	0500	1	5.24	0.0327	6.93	0.84
5455	32-40.7529	-116.3840	-172	100	09/04/76	STREAM	DRY	1000	0500	1	6.05	0.0351	9.96	0.84
5456	32-40.7906	-116.3540	-170	100	09/04/76	STREAM	WET	1000	0500	9	4.67	0.0309	8.45	0.84
5457	32-40.7895	-116.3232	-170	100	09/04/76	STREAM	WET	1000	0500	1	4.51	0.0306	7.47	1.19
5458	32-40.7923	-116.3277	-172	100	09/04/76	STREAM	DRY	1000	0500	1	5.91	0.0347	18.75	0.75
5459	32-40.8192	-116.3206	-172	100	09/04/76	STREAM	DRY	1000	0500	5	3.33	0.0268	15.41	0.75
5459	32-40.8192	-116.3206	-172	101		STREAM	DRY	1000	0500	5	4.35	0.0293	8.47	1.19
5460	32-40.8551	-116.2917	-172	100	09/04/76	STREAM	DRY	1000	0500	1	3.18	0.0257	10.17	1.19
5461	32-40.8586	-116.2703	-172	100	09/04/76	STREAM	DRY	1000	0500	1	3.57	0.0272	10.75	1.19
5462	32-40.8591	-116.3664	-172	100	09/04/76	STREAM	DRY	1000	0500	1	3.86	0.0282	12.40	1.19
5463	32-40.8075	-116.4485	-172	100	09/04/76	STREAM	DRY	1000	0500	5	4.29	0.0297	12.41	1.19
5464	32-40.8516	-116.4464	-172	100	09/04/76	STREAM	DRY	1000	0500	9	4.65	0.0227	6.04	0.75
5465	32-40.8821	-116.4469	-172	100	03/04/76	STREAM	DRY	1000	0500	9	5.11	0.0323	20.14	0.75
5466	32-40.9097	-116.3980	-172	100	09/04/76	STREAM	DRY	1000	0500	1	5.45	0.0334	14.74	1.19
5467	32-40.9017	-116.4076	-170	100	09/04/76	STREAM	WET	1000	0500	1	4.88	0.0316	10.40	1.19
5468	32-40.9126	-116.4265	-172	100	09/04/76	STREAM	DRY	1000	0500	1	3.69	0.0276	7.94	1.19
5469	32-40.8925	-116.2308	-172	100	09/04/76	STREAM	DRY	1000	0500	1	7.10			
5470	32-40.8925	-116.2308	-172	101		STREAM	DRY	1000	0500	1	5.93	0.0347		
5471	32-40.8719	-116.2289	-172	100	09/04/76	STREAM	DRY	1000	0500	9	4.02	0.0288	7.61	0.84
5472	32-40.9831	-116.3082	-170	100	09/04/76	STREAM	WET	1000	0500	9	4.80	0.0314		
5473	32-40.9887	-116.3402	-170	100	09/04/76	STREAM	WET	1000	0500	9	4.28	0.0296	7.59	1.19
5474	32-40.9952	-116.3805	-172	100	09/04/76	STREAM	DRY	1000	0500	1	4.77	0.0313	6.38	2.01
5475	32-40.9827	-116.4033	-170	100	09/04/76	STREAM	WET	1000	0500	9	2.62	0.0234	8.37	0.75
5476	32-40.9873	-116.4058	-172	100	09/04/76	STREAM	DRY	1000	0500	1	3.03	0.0251	4.91	0.84
5477	32-40.9873	-116.4058	-172	100	09/04/76	STREAM	WET	1000	0500	9	5.94	0.0230	4.91	0.84
5478	32-40.7540	-116.1269	-172	100	09/04/76	STREAM	DRY	1000	0500	1	4.85	0.0315		
5479	32-40.8886	-116.4979	-172	100	09/05/76	STREAM	DRY	1000	0500	1	2.89	0.0245	4.65	0.75
5479	32-40.8886	-116.4979	-172	101		STREAM	DRY	1000	0500	1	2.68	0.0237	4.95	0.84
5480	32-40.9425	-116.4678	-172	100	09/05/76	STREAM	DRY	1000	0500	1	4.59	0.0307	17.93	1.19
5481	32-40.9815	-116.4483	-172	100	09/05/76	STREAM	DRY	1000	0500	1	4.99	0.0320	16.91	1.19
5482	32-40.9815	-116.4483	-172	100	09/05/76	STREAM	DRY	1000	0500	1	4.77	0.0319	17.93	1.19
5483	32-40.9703	-116.4493	-172	100	09/05/76	STREAM	DRY	1000	0500	1	3.73	0.0278	14.19	1.19
5521	32-40.9436	-116.0710	-172	100	09/07/76	STREAM	DRY	1000	0500	1	6.49	0.0364	10.63	1.19
5522	32-40.9472	-116.0757	-170	100	09/07/76	STREAM	WET	1000	0500	1	4.65	0.0304	12.35	1.19
5523	32-40.9835	-116.1073	-170	100	09/07/76	STREAM	WET	1000	0500	5	4.26	0.0291	15.04	1.19
5524	32-40.9076	-116.0799	-172	100	09/07/76	STREAM	DRY	1000	0500	1	4.74	0.0317		
5525	32-40.9006	-116.0712	-172	100	09/07/76	STREAM	DRY	1000	0500	1	4.48	0.0331	14.14	1.19
5525	32-40.9006	-116.0712	-172	100	09/07/76	STREAM	DRY	1000	0500	9	2.18	0.0202	11.62	1.19
5531	32-40.7152	-116.0093	-170	100	09/08/76	STREAM	WET	1000	0500	9	2.46	0.0227	8.23	0.84

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

PAGE 8-4

SITE NUMBER	-----DOE ST	SAMPLE LAT.	NUMBER----- LONG.	DATE L TY RPL	MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	PDS. CONT	Q. C. X-REF	URANIUM(ONC) PPM	ERR	THORIUM(NAA) PPM	ERR
5538	32-40.	7282-116.1711	-172-100	09/08/76		STREAM	DRY	1000	0500	1	3.92	0.0284	11.12	1.24
5539	32-40.	7688-116.1895	-172-100			STREAM	DRY	1000	0500	1	4.67	0.0309	14.00	1.24
5540	32-40.	6824-116.1918	-172-100	09/08/76		STREAM	DRY	1000	0500	1	10.42	0.0459	24.14	2.26
5541	32-40.	6807-116.0853	-172-100	09/09/76		STREAM	DRY	1000	0500	1	1.93	0.0202	4.65	0.64
5542	32-40.	6267-116.0875	-172-100	09/09/76		STREAM	DRY	1000	0500	1	7.34	0.0366	9.99	1.31
5543	32-40.	5646-116.2258	-170-100	09/09/76		STREAM	WET	1000	0500	9	5.47	0.0334	18.78	1.38
5544	32-40.	5885-116.1705	-170-100	09/09/76		STREAM	WET	1000	0500	1	2.45	0.0227	10.98	1.07
5545	32-40.	6103-116.1986	-170-100	09/09/76		STREAM	WET	1000	0500	9	5.00	0.0320	12.70	1.41
5546	32-40.	6223-116.2327	-172-100	09/09/76		STREAM	DRY	1000	0500	1	3.34	0.0263	15.19	1.13
5547	32-40.	6586-116.1495	-172-100	09/09/76		STREAM	DRY	1000	0500	1	6.08	0.0352	20.51	1.57
5548	32-40.	3085-117.4844	-172-100	09/11/76		STREAM	DRY	1000	0500	1	5.75	0.0343	13.46	3.19
5549	32-40.	8770-117.4700	-170-100	09/11/76		STREAM	WET	1000	0500	1	4.44	0.0302	11.42	1.69
5549	32-40.	8770-117.4700	-170-101			STREAM	WET	1000	0500	1	5.01	0.0320	11.59	1.93
5550	32-40.	9955-117.7264	-170-100	09/11/76		STREAM	WET	1000	0500	9	3.04	0.0251	9.65	0.74
5551	32-40.	8489-117.9490	-172-100	09/11/76		STREAM	DHY	1000	0500	1	2.80	0.0242	13.16	1.22
5552	32-40.	8263-117.9558	-170-100	09/11/76		STREAM	WET	1000	0500	1	2.80	0.0241	15.05	1.23
5553	32-40.	8028-117.9625	-172-100	09/11/76		STREAM	DRY	1000	0500	1	2.64	0.0235	10.24	1.25
5554	32-40.	7793-117.9753	-170-100	09/11/76		STREAM	WET	1000	0500	5	2.93	0.0247	14.97	1.16
5555	32-40.	8541-117.8471	-172-100	09/11/76		STREAM	DRY	1000	0500	1	2.36	0.0222	9.15	0.88
5555	32-40.	9944-117.7621	-172-100	09/11/76		STREAM	DRY	1000	0500	1	1.85	0.0159	9.76	1.01
5557	32-40.	9784-117.8570	-172-100	09/11/76		STREAM	DRY	1000	0500	1	3.31	0.0262	11.79	1.25
5558	32-40.	9879-117.8841	-172-100	09/11/76		STREAM	DRY	1000	0500	1	3.46	0.0268	15.06	1.62
5559	32-40.	9763-117.8998	-172-100	09/11/76		STREAM	DRY	1000	0500	1	3.26	0.0260	16.40	1.40
5559	32-40.	9763-117.8998	-172-101			STREAM	DRY	1000	0500	1	3.10	0.0254	14.85	1.39
5560	32-40.	9785-117.9545	-172-100	09/11/76		STREAM	DRY	1000	0500	1	3.24	0.0259	12.87	1.80
5561	32-40.	9774-117.9818	-172-100	09/11/76		STREAM	DRY	1000	0500	1	2.96	0.0248	11.97	1.15
5562	32-40.	9789-117.7833	-172-100	09/12/76		STREAM	DRY	1000	0500	1	4.35	0.0299	12.01	1.38
5563	32-40.	9905-117.8060	-172-100	09/12/76		STREAM	DRY	1000	0500	1	4.07	0.0289		
5564	32-40.	8066-117.4956	-172-100	09/12/76		STREAM	DRY	1000	0500	1	4.91	0.0317	22.03	1.54
5565	32-40.	8074-117.5193	-172-100	09/12/76		STREAM	DRY	1000	0500	1	5.38	0.0332	11.78	1.57
5566	32-40.	8310-117.4910	-172-100	09/12/76		STREAM	DRY	1000	0500	1	4.27	0.0296	21.25	1.59
5567	32-40.	8282-117.5016	-172-100	09/12/76		STREAM	DRY	1000	0500	1	5.35	0.0331	19.59	2.31
5568	32-40.	8552-117.5256	-170-100	09/12/76		STREAM	WET	1000	0500	1	5.03	0.0321	8.53	2.82
5569	32-40.	8894-117.5140	-172-100	09/12/76		STREAM	DRY	1000	0500	1	6.81	0.0372	7.57	2.65
5570	32-40.	9191-117.5286	-170-100	09/12/76		STREAM	WET	1000	0500	1	4.73	0.0311	15.51	1.70
5571	32-40.	9271-117.5535	-172-100	09/12/76		STREAM	DRY	1000	0500	1	4.12	0.0291	17.95	1.36
5572	32-40.	9469-117.5465	-172-100	09/12/76		STREAM	DRY	1000	0500	1	3.75	0.0278	19.52	1.53
5573	32-40.	9523-117.5667	-170-100	09/12/76		STREAM	WET	1000	0500	5	6.66	0.0368	19.47	4.12
5574	32-40.	9711-117.5800	-172-100	09/12/76		STREAM	DRY	1000	0500	1	3.42	0.0266	14.57	1.22
5575	32-40.	9710-117.6085	-172-100	09/12/76		STREAM	DRY	1000	0500	1	3.62	0.0273	20.08	1.64
5576	32-40.	9826-117.6431	-172-100	09/13/76		STREAM	DRY	1000	0500	1	2.73	0.0238	12.98	1.03
5577	32-40.	9537-117.6428	-170-100	09/13/76		STREAM	WET	1010	0500	1	4.75	0.0271	16.45	1.87
5578	32-40.	9428-117.6498	-170-100	09/13/76		STREAM	WET	1010	0500	5	3.41	0.0266	7.91	2.26
5579	32-40.	9158-117.6496	-172-100	09/13/76		STREAM	DRY	1000	0500	1	5.83	0.0345	15.96	1.37
5579	32-40.	9158-117.6496	-172-101			STREAM	DRY	1000	0500	1	6.25	0.0357	20.77	3.40
5580	32-40.	9176-117.6436	-170-100	09/13/76		STREAM	WET	1000	0500	1	4.21	0.0294	11.59	1.17
5581	32-40.	9020-117.6388	-170-100	09/13/76		STREAM	WET	1000	0500	1	3.43	0.0266	9.15	0.99
5582	32-40.	8830-117.7157	-172-100	09/13/76		STREAM	DRY	1000	0500	1	3.59	0.0272	13.66	1.56
5583	32-40.	8460-117.7212	-172-100	09/13/76		STREAM	DRY	1000	0500	1	3.45	0.0267	14.21	1.31

SITE NUMBER	DOE ST LAT.	SAMPLE LONG.	DATE L T Y RPL	SAMPLE MO-DA-YR	PARTICLE SOURCE/COND.	SIZE UPPER	POS. LOWER	CONT	O. C. X-REF	URANIUM(DNC) PPM	ERR	THORIUM(NAA) PPM	ERR
5584	32-40	8127	-117.7126	-170-100	09/13/76	STREAM	HET	1000 0500	1	3.71	0.0277	19.34	1.38
5586	32-40	7302	-117.6596	-170-100	09/13/76	STREAM	HET	1000 0500	9	3.11	0.0254	11.40	1.07
5587	32-40	9040	-117.9225	-170-100	09/13/76	STREAM	HET	1000 0500	9	2.46	0.0227		
5588	32-40	8484	-117.8933	-170-100	09/13/76	STREAM	HET	1000 0500	5	2.42	0.0225	8.58	0.98
5589	32-40	8670	-117.9291	-172-100	09/13/76	STREAM	DRY	1000 0500	1	5.13	0.0255	10.74	1.18
5589	32-40	8670	-117.9291	-172-101		STREAM	DRY	1000 0500	1	2.84	0.0243	10.58	1.23
5590	32-40	7675	-117.8510	-172-100	09/13/76	STREAM	DRY	1000 0500	1	5.47	0.0268	18.09	1.53
5591	32-40	7677	-117.8436	-172-100	09/13/76	STREAM	DRY	1000 0500	1	3.62	0.0273	18.76	1.53
5592	32-40	8825	-117.4498	-172-100	09/13/76	STREAM	DRY	1000 0500	1	4.10	0.0304	20.52	1.51
5593	32-40	9810	-117.3507	-172-100	09/13/76	STREAM	DRY	1000 0500	1	2.40	0.0224	6.84	1.08
5594	32-40	9920	-117.3162	-170-100	09/14/76	STREAM	HET	1000 0500	9	2.69	0.0245		
5595	32-40	9325	-117.3171	-172-100	09/13/76	STREAM	DRY	1000 0500	1	6.24	0.0356	10.21	1.35
5596	32-40	9352	-117.3172	-172-100	09/13/76	STREAM	DRY	1000 0500	1	5.40	0.0332	8.49	1.29
5597	32-40	9115	-117.4013	-172-100	09/14/76	STREAM	DRY	1000 0500	1	1.78	0.0195	5.28	1.19
5598	32-40	8747	-117.3667	-172-100	09/05/76	STREAM	DRY	1000 0500	5	2.29	0.0219	8.28	1.13
5599	32-40	8836	-117.3834	-172-100	09/14/76	STREAM	DRY	1000 0500	1	1.90	0.0201	8.07	0.95
5600	32-40	8685	-117.3299	-172-100	09/14/76	STREAM	DRY	1000 0500	1	2.68	0.0237	8.20	0.92
5595	32-40	6011	-117.9502	-170-100	09/19/76	STREAM	HET	1000 0500	9	2.55	0.0231	7.44	0.83
6101	32-40	7401	-117.9214	-172-100	09/14/76	STREAM	DRY	1000 0500	1	5.43	0.0333	15.49	1.57
6102	32-40	7327	-117.9426	-172-100	09/14/76	STREAM	DRY	1000 0500	1	3.26	0.0260	14.61	1.51
6103	32-40	7361	-117.9676	-172-100	09/14/76	STREAM	DRY	1000 0500	5	4.73	0.0311		
6104	32-40	6883	-117.9085	-172-100	09/14/76	STREAM	DRY	1000 0500	1	3.12	0.0259		
6105	32-40	6456	-117.9012	-172-100	09/14/76	STREAM	DRY	1000 0500	1	3.06	0.0252	11.21	1.34
6106	32-40	6739	-117.8625	-172-100	09/14/76	STREAM	DRY	1000 0500	1	2.91	0.0246	5.84	1.17
6107	32-40	6998	-117.8842	-172-100	09/14/76	STREAM	DRY	1000 0500	1	5.67	0.0340	22.56	2.32
6108	32-40	7054	-117.8606	-172-100	09/14/76	STREAM	DRY	1000 0500	1	6.20	0.0355	22.75	1.76
6109	32-40	7242	-117.8706	-172-100	09/14/76	STREAM	DRY	1000 0500	5	3.48	0.0304	14.40	1.27
6111	32-40	5949	-117.9537	-172-100		STREAM	DRY	1000 0500	1	2.91	0.0246	5.15	0.82
6112	32-40	5514	-117.9706	-172-100	09/16/76	STREAM	DRY	1000 0500	1	2.72	0.0238		
6113	32-40	5136	-117.9691	-172-100	09/16/76	STREAM	DRY	1000 0500	5	1.98	0.0205	7.57	1.62
6114	32-40	5198	-117.3751	-172-100	09/16/76	STREAM	DRY	1000 0500	1	2.05	0.0208	7.59	1.51
6115	32-40	7317	-117.8361	-172-100	09/17/76	STREAM	DRY	1000 0500	1	5.18	0.0326	13.63	1.59
6116	32-40	7065	-117.9286	-172-100	09/17/76	STREAM	DRY	1000 0500	1	3.48	0.0268	13.50	1.27
6117	32-40	6715	-117.8116	-172-100	09/17/76	STREAM	DRY	1000 0500	5	2.45	0.0244		
6118	32-40	6482	-117.7948	-172-100	09/17/76	STREAM	DRY	1000 0500	1	3.73	0.0277	14.22	1.52
6119	32-40	6246	-117.8217	-172-100	09/17/76	STREAM	DRY	1000 0500	5	3.33	0.0262	9.61	1.09
6119	32-40	6246	-117.8217	-172-101		STREAM	DRY	1000 0500	1	3.48	0.0268	9.40	1.13
6120	32-40	6186	-117.7862	-172-100	09/17/76	STREAM	DRY	1000 0500	9	3.16	0.0256	9.76	1.15
6121	32-40	5886	-117.8165	-172-100	09/17/76	STREAM	DRY	1000 0500	5	3.40	0.0265	11.08	1.25
6122	32-40	5684	-117.7915	-172-100	09/17/76	STREAM	DRY	1000 0500	5	1.81	0.0196	10.31	0.99
6123	32-40	5483	-117.7889	-172-100	09/17/76	STREAM	DRY	1000 0500	1	3.12	0.0254	6.95	1.15
6124	32-40	5389	-117.8431	-172-100	09/17/76	STREAM	DRY	1000 0500	1	2.71	0.0238	9.20	1.59
6154	32-40	0036	-117.3210	-172-100	09/20/76	STREAM	DRY	1000 0500	1	3.86	0.0282	17.06	1.37
6201	32-40	1568	-116.4329	-172-100	08/01/76	STREAM	DRY	1000 0500	1	4.09	0.0290	11.20	1.67
6202	32-40	1235	-116.4261	-172-100	08/01/76	STREAM	DRY	1000 0500	1	3.32	0.0284	12.62	1.36
6203	32-40	1074	-116.4614	-172-100	08/01/76	STREAM	DRY	1000 0500	1	3.98	0.0286	9.57	2.87
6204	32-40	1479	-116.4682	-172-100	08/01/76	STREAM	DRY	1000 0500	1	3.78	0.0279		
6205	32-40	1705	-116.4633	-172-100	08/01/76	STREAM	DRY	1000 0500	1	2.83	0.0243	8.84	1.11
6206	32-40	1795	-116.4761	-172-100	08/01/76	STREAM	DRY	1000 0500	1	2.56	0.0271		

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

PAGE B-6

SITE NUMBER	-----DOE SAMPLE NUMBER-----			DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC)		THORIUM(NAA)	
	ST	LAT.	LONG.	L T Y RPL						PPM	ERR	PPM	ERR
6207	32-40	2029-116	4699-1	-72-100	08/01/76	STREAM	DRY	1000	0500	2.72	0.0238	8.24	1.24
6208	32-40	1990-116	4032-1	-72-100	08/01/76	STREAM	DRY	1000	0500	5.51	0.0337	11.60	1.05
6209	32-40	1628-116	3789-1	-72-100	08/01/76	STREAM	DRY	1000	0500	5.27	0.0328	11.03	0.97
6210	32-40	1951-116	3491-1	-72-100	08/01/76	STREAM	DRY	1000	0500	4.89	0.0316	10.90	1.72
6211	32-40	2211-116	3395-1	-72-100	08/01/76	STREAM	DRY	1000	0500	4.68	0.0310	10.85	1.13
6212	32-40	2310-116	3406-1	-72-100	08/01/76	STREAM	DRY	1000	0500	2.60	0.0233	10.87	2.05
6213	32-40	2047-116	2965-1	-72-100	08/01/76	STREAM	DRY	1000	0500	2.21	0.0216	12.44	1.27
6214	32-40	2316-116	2794-1	-72-100	08/01/76	STREAM	DRY	1000	0500	2.91	0.0246	12.25	1.30
6216	32-40	3638-116	6208-1	-72-100	08/02/76	STREAM	DRY	1000	0500	2.06	0.0208	6.67	0.76
6217	32-40	3980-116	5970-1	-72-100	08/02/76	STREAM	DRY	1000	0500	3.17	0.0257	11.85	1.25
6218	32-40	4277-116	5898-1	-72-100	08/02/76	STREAM	DRY	1000	0500	4.00	0.0287	11.14	1.37
6219	32-40	4187-116	5945-1	-72-100	08/02/76	STREAM	DRY	1000	0500	3.84	0.0274	8.97	1.00
6219	32-40	4187-116	5945-1	-72-01	08/02/76	STREAM	DRY	1000	0500	3.51	0.0269	9.25	1.30
6220	32-40	4610-116	5695-1	-72-100	08/02/76	STREAM	DRY	1000	0500	4.13	0.0291	16.88	1.50
6221	32-40	4951-116	5457-1	-72-100	08/02/76	STREAM	DRY	1000	0500	3.48	0.0260	16.18	1.30
6222	32-40	3279-116	4279-1	-70-100	08/03/76	STREAM	WET	1000	0500	2.61	0.0233	11.80	1.00
6223	32-40	5905-116	3167-1	-72-100	08/03/76	STREAM	DRY	1000	0500	2.22	0.0316	10.83	1.39
6224	32-40	4612-116	2569-1	-72-100	08/03/76	STREAM	DRY	1000	0500	4.44	0.0302		
6225	32-40	4236-116	3010-1	-72-100	08/03/76	STREAM	DRY	1000	0500	6.10	0.0353	22.62	1.70
6226	32-40	4191-116	3057-1	-72-100	08/03/76	STREAM	DRY	1000	0500	4.45	0.0322	21.87	1.59
6227	32-40	4699-116	3630-1	-72-100	08/03/76	STREAM	DRY	1000	0500	6.06	0.0351	18.67	1.48
6228	32-40	4889-116	3699-1	-72-100	08/03/76	STREAM	DRY	1000	0500	2.96	0.0248	15.30	1.20
6229	32-40	4573-116	3572-1	-72-100	08/03/76	STREAM	DRY	1000	0500	3.11	0.0254	15.11	1.21
6229	32-40	4573-116	3572-1	-72-01	08/03/76	STREAM	DRY	1000	0500	4.15	0.0292	23.10	1.59
6230	32-40	4428-116	3373-1	-72-100	08/03/76	STREAM	DRY	1000	0500	4.36	0.0299	19.17	2.13
6231	32-40	2948-116	4788-1	-72-100	08/03/76	STREAM	DRY	1000	0500	2.77	0.0240	12.63	1.15
6232	32-40	3902-116	6996-1	-72-100	08/04/76	STREAM	DRY	1000	0500	2.07	0.0209	10.52	1.28
6233	32-40	4056-116	7513-1	-72-100	08/04/76	STREAM	DRY	1000	0500	2.87	0.0244	6.59	0.90
6234	32-40	3956-116	7042-1	-72-100	08/04/76	STREAM	DRY	1000	0500	9.06	0.0404	11.62	1.20
6235	32-40	4603-116	6544-1	-72-100	08/04/76	STREAM	DRY	1000	0500	10.88	0.0469	31.90	2.59
6236	32-40	3667-116	6584-1	-72-100	08/05/76	STREAM	DRY	1000	0500	1.37	0.0172	4.35	0.58
6237	32-40	3812-116	7031-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.77	0.0279	8.76	0.93
6238	32-40	3604-116	6844-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.48	0.0268	5.13	0.77
6239	32-40	0455-116	9660-1	-72-100	08/05/76	STREAM	DRY	1000	0500	5.39	0.0332	11.08	1.33
6239	32-40	0455-116	9660-1	-72-01	08/05/76	STREAM	DRY	1000	0500	4.58	0.0306	15.74	1.36
6240	32-40	0807-116	9319-1	-70-100	08/05/76	STREAM	WET	1000	0500	4.03	0.0289	15.99	1.46
6241	32-40	0897-116	9601-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.64	0.0274	7.48	1.49
6242	32-40	1113-116	9190-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.92	0.0281	15.99	1.46
6243	32-40	1203-116	9225-1	-72-100	08/05/76	STREAM	DRY	1000	0500	4.01	0.0287	19.38	1.40
6244	32-40	1329-116	9073-1	-72-100	08/05/76	STREAM	DRY	1000	0500	4.99	0.0320	24.14	1.63
6245	32-40	1626-116	8791-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.50	0.0269	15.23	1.34
6246	32-40	1985-116	8990-1	-70-100	08/05/76	STREAM	WET	1000	0500	4.06	0.0285	15.43	1.55
6247	32-40	2050-116	8942-1	-70-100	08/05/76	STREAM	WET	1000	0500	1.85	0.0198	7.82	0.98
6248	32-40	2284-116	8919-1	-70-100	08/05/76	STREAM	WET	1000	0500	3.33	0.0263	7.57	1.04
6249	32-40	2022-116	8790-1	-72-100	08/05/76	STREAM	DRY	1000	0500	3.77	0.0279	17.70	2.98
6249	32-40	2022-116	8390-1	-72-01	08/05/76	STREAM	DRY	1000	0500	4.07	0.0289		
6250	32-40	1967-116	8120-1	-72-100	08/05/76	STREAM	DRY	1000	0500	2.92	0.0246	5.22	1.13
6251	32-40	1004-116	8381-1	-72-100	08/06/76	STREAM	DRY	1000	0500	4.86	0.0315	17.82	1.53
6252	32-40	1274-116	8345-1	-72-100	08/06/76	STREAM	DRY	1000	0500	3.18	0.0257	14.86	1.25

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS, DRY AND STREAM SITES

SITE NUMBER	ST LAT.	-----DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SAMPLE SOURCE/CONC.	PARTICLE UPPER	SIZE LOWER	POS. CONT.	Q. C. X-REF	URANIUM/DNC1		THORIUM/NAAL	
		LONG.	L	T	RPL							PPM	ERR	PPM	ERR
6253	32-40.1382	-116.8591	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	3.85	0.0282	18.86	1.46
6254	32-40.0752	-116.8956	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	4.50	0.0304	6.26	0.81
6255	32-40.0653	-116.9156	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	4.01	0.0287	7.80	0.91
6256	32-40.0103	-116.8981	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	4.01	0.0287	16.33	1.35
6257	32-40.0374	-116.9332	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	3.99	0.0287		
6258	32-40.0473	-116.9355	-172	-100		08/06/76	STREAM	DRY	1000	0500	1	2.66	0.0236	6.70	0.72
6259	32-40.2527	-116.8954	-172	-100			STREAM	DRY	1000	0500	1	4.27	0.0296		
6260	32-40.2652	-116.8177	-170	-100		08/06/76	STREAM	WET	1000	0500	1	3.95	0.0285	8.93	1.00
6261	32-40.5382	-116.5088	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	4.10	0.0297	15.25	1.57
6262	32-40.5087	-116.5267	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	5.14	0.0324	9.14	1.70
6263	32-40.6154	-116.4432	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	3.94	0.0270	13.33	1.28
6264	32-40.6541	-116.4393	-172	-100		08/07/76	STREAM	DRY	1000	0500	9	3.45	0.0267	8.58	0.94
6265	32-40.6813	-116.4758	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	2.97	0.0249	8.32	0.84
6266	32-40.6605	-116.7244	-172	-100		08/09/76	STREAM	DRY	1000	0500	9	3.06	0.0252	6.32	1.08
6267	32-40.6632	-116.7007	-170	-100		08/07/76	STREAM	WET	1000	0500	1	2.47	0.0227	7.05	1.38
6268	32-40.6720	-116.6190	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	3.00	0.0250	10.91	1.94
6269	32-40.6942	-116.5503	-172	-100		08/07/76	STREAM	DRY	1000	0500	1	4.05	0.0289	10.55	1.40
6269	32-40.6942	-116.5503	-172	-101			STREAM	DRY	1000	0500	1	4.51	0.0304	10.70	1.80
6270	32-40.5625	-116.3326	-172	-100		09/08/76	STREAM	DRY	1000	0500	1	3.68	0.0276	15.02	1.28
6271	32-40.5686	-116.3099	-172	-100		08/08/76	STREAM	DRY	1000	0500	1	4.39	0.0300	19.16	1.37
6272	32-40.257	-116.3480	-172	-100		08/08/76	STREAM	DRY	1000	0500	1	3.81	0.0280	10.45	0.96
6273	32-40.5187	-116.3897	-172	-100		08/08/76	STREAM	DRY	1000	0500	1	3.82	0.0280	17.34	2.54
6274	32-40.5683	-116.4022	-172	-100		08/08/76	STREAM	DRY	1000	0500	1	4.02	0.0314	15.05	1.38
6275	32-40.7050	-116.5312	-170	-100		03/08/76	STREAM	WET	1000	0500	1	2.96	0.0248	9.22	0.83
6276	32-40.6606	-116.7457	-170	-100		08/09/76	STREAM	WET	1000	0500	1	4.27	0.0296	11.89	1.41
6277	32-40.8511	-116.3849	-172	-100		08/08/76	STREAM	DRY	1000	0500	1	2.94	0.0247	12.04	1.16
6298	32-40.1546	-116.0971	-172	-100		08/10/76	STREAM	DRY	1000	0500	1	4.64	0.0309	10.45	0.96
6299	32-40.1305	-116.1256	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	2.91	0.0246	9.26	1.01
6299	32-40.1305	-116.1256	-172	-101			STREAM	DRY	1000	0500	1	3.35	0.0263	9.80	1.18
6300	32-40.1844	-116.1002	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	3.75	0.0278	14.40	1.08
6301	32-40.1957	-116.0449	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	6.95	0.0376	5.72	1.13
6302	32-40.2319	-116.0761	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	6.54	0.0365	6.52	1.23
6303	32-40.2004	-116.0765	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	2.12	0.0211	7.42	1.09
6304	32-40.2015	-116.0941	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	3.31	0.0262	9.84	1.35
6305	32-40.2527	-116.0864	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	3.72	0.0277	11.35	1.18
6306	32-40.3030	-116.0586	-172	-100		08/11/76	STREAM	DRY	1000	0500	1	4.99	0.0319		
6307	32-40.2316	-116.1478	-172	-100		08/11/76	STREAM	DRY	1000	0500	9	3.30	0.0261	9.25	1.95
6308	32-40.2209	-116.1679	-170	-100		08/11/76	STREAM	WET	1000	0500	1	2.73	0.0239	12.12	1.14
6309	32-40.3609	-116.0944	-172	-100		08/12/76	STREAM	WET	1000	0500	1	4.31	0.0297	10.39	1.15
6309	32-40.3609	-116.0944	-170	-101			STREAM	WET	1000	0500	1	4.32	0.0298	8.62	1.03
6310	32-40.3470	-116.0498	-172	-100		08/12/76	STREAM	DRY	1000	0500	1	3.88	0.0283	13.07	1.28
6311	32-40.3999	-116.1245	-170	-100		08/12/76	STREAM	WET	1000	0500	1				
6312	32-40.4002	-116.1659	-172	-100		08/12/76	STREAM	DRY	1000	0500	1	3.96	0.0286	16.40	1.25
6313	32-40.4153	-116.1337	-172	-100		08/12/76	STREAM	DRY	1000	0500	1	4.22	0.0294	22.23	1.57
6314	32-40.4629	-116.1390	-172	-100		08/15/76	STREAM	DRY	1000	0500	1	4.13	0.0292	15.18	1.59
6315	32-40.4656	-116.1672	-172	-100		08/12/76	STREAM	DRY	1000	0500	1	4.72	0.0311	14.15	1.15
6316	32-40.8183	-116.5008	-172	-100		08/13/76	STREAM	DRY	1000	0500	1	2.70	0.0237	3.77	1.12
6317	32-40.2239	-117.0834	-172	-100		08/13/76	STREAM	DRY	1000	0500	1	6.27	0.0357	25.13	1.80
6318	32-40.2104	-117.0705	-172	-100		08/13/76	STREAM	DRY	1000	0500	9	2.22	0.0216	7.67	0.95

KINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L T Y RFL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-RFF	URANIUM(DNC) PPM	ERR	THORIUM(MA1) PPM	ERR
6319	32-40	1969-117	0775-172-100	08/13/76	STREAM	DRY	1000	0500	1	1.84	0.0198	9.60	2.36	
6319	32-40	1969-117	0775-172-101	08/13/76	STREAM	DRY	1000	0500	1	3.27	0.0260	13.24	1.14	
6320	32-40	1753-117	0587-172-100	08/13/76	STREAM	DRY	1000	0500	1	4.46	0.0303	17.83	1.34	
6321	32-40	1617-117	1057-172-100	08/13/76	STREAM	D	1000	0500	1	4.17	0.0293	18.90	1.59	
6336	32-40	1526-117	2008-172-100	08/15/76	STREAM	DRY	1000	0500	1	7.19	0.0382	30.99	1.92	
6337	32-40	1408-117	2136-172-100	08/15/76	STREAM	DRY	1000	0500	1	6.91	0.0375	27.00	2.42	
6338	32-40	1201-117	2089-172-100	08/15/76	STREAM	DRY	1000	0500	1	7.22	0.0383	28.08	1.33	
6339	32-40	0958-117	2065-170-100	08/15/76	STREAM	WET	1000	0500	1	3.74	0.0278	17.26	1.55	
6340	32-40	1715-117	2055-170-100	08/15/76	STREAM	WET	1000	0500	1	5.27	0.0328	19.89	2.33	
6341	32-40	2635-117	0800-172-100	08/16/76	STREAM	DRY	1000	0500	1	4.78	0.0313	17.74	1.32	
6342	32-40	2879-117	0529-172-100	08/16/76	STREAM	DRY	1000	0500	1	4.53	0.0305	15.53	1.25	
6343	32-40	3059-117	0671-172-100	08/16/76	STREAM	DRY	1000	0500	1	2.75	0.0239	7.20	0.99	
6344	32-40	3167-117	0553-172-100	08/16/76	STREAM	DRY	1000	0500	1	1.99	0.0205	6.44	0.97	
6345	32-40	3392-117	0600-172-100	08/16/76	STREAM	DRY	1000	0500	1	2.41	0.0225	6.86	0.72	
6346	32-40	3455-117	0200-172-100	08/16/76	STREAM	DRY	1000	0500	1	3.15	0.0256	9.27	1.02	
6347	32-40	3572-117	1142-172-100	08/16/76	STREAM	DRY	1000	0500	1	5.00	0.0320	16.63	1.22	
6348	32-40	2895-117	2059-172-100	08/16/76	STREAM	DRY	1000	0500	1	1.69	0.0190	13.96	1.19	
6349	32-40	2708-117	1976-172-100	08/16/76	STREAM	DRY	1000	0500	1	4.48	0.0303	15.10	1.56	
6349	32-40	2708-117	1976-172-101	08/16/76	STREAM	DRY	1000	0500	1	4.58	0.0310	17.96	1.45	
6350	32-40	2941-117	1647-172-100	08/16/76	STREAM	DRY	1000	0500	1	4.87	0.0316	20.09	1.55	
6351	32-40	2815-117	1470-172-100	08/16/76	STREAM	DRY	1000	0500	1	5.54	0.0336	19.98	1.53	
6352	32-40	3564-116	9929-170-100	08/16/76	STREAM	WET	1000	0500	9	3.11	0.0254	7.08	0.88	
6353	32-40	3221-116	9906-172-100	08/17/76	STREAM	DRY	1000	0500	1	2.84	0.0243	5.70	0.87	
6354	32-40	3807-116	9729-172-100	08/17/76	STREAM	DRY	1000	0500	1	3.17	0.0256	6.40	1.05	
6355	32-40	4392-116	9741-172-100	08/17/76	STREAM	DRY	1000	0500	1	3.12	0.0254	7.54	0.86	
6356	32-40	4194-116	9434-172-100	08/17/76	STREAM	DRY	1000	0500	1	3.59	0.0272	8.40	0.88	
6357	32-40	5825-116	9256-172-100	08/17/76	STREAM	DRY	1000	0500	1	7.13	0.0391	6.57	2.63	
6358	32-40	5834-116	9267-170-100	08/17/76	STREAM	WET	1000	0500	1	4.13	0.0291	14.38	1.23	
6359	32-40	3876-117	2804-172-100	08/17/76	STREAM	DRY	1000	0500	1	3.39	0.0265	14.52	1.18	
6359	32-40	3876-117	2804-172-101	08/17/76	STREAM	DRY	1000	0500	1	3.56	0.0271	14.71	1.72	
6360	32-40	3016-117	4001-172-100	08/17/76	STREAM	DRY	1000	0500	1	9.91	0.0448	33.37	2.11	
6361	32-40	2907-117	4247-172-100	08/17/76	STREAM	DRY	1000	0500	1	6.25	0.0357	21.90	2.70	
6362	32-40	5502-117	4157-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.96	0.0248	12.28	1.06	
6363	32-40	5755-117	3828-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.50	0.0229	8.33	0.85	
6364	32-40	5846-117	3734-172-100	08/20/76	STREAM	DRY	1000	0500	1	3.43	0.0266	9.03	0.92	
6365	32-40	5910-117	3522-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.99	0.0249	6.05	0.89	
6366	32-40	6116-117	3818-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.40	0.0224	8.39	1.36	
6367	32-40	6395-117	3843-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.77	0.0240	8.54	0.88	
6368	32-40	6467-117	3832-170-100	08/20/76	STREAM	WET	1000	0500	1	2.86	0.0244	9.13	0.96	
6369	32-40	6011-117	2577-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.58	0.0232	8.38	1.22	
6369	32-40	6011-117	2577-172-101	08/20/76	STREAM	DRY	1000	0500	1	2.56	0.0231	8.76	0.97	
6370	32-40	5480-117	2504-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.44	0.0226	5.71	1.20	
6371	32-40	5384-117	2515-172-100	08/20/76	STREAM	DRY	1000	0500	1	3.23	0.0259	5.42	0.88	
6372	32-40	5180-117	3471-172-100	08/20/76	STREAM	DRY	1000	0500	1	2.86	0.0244	9.22	1.35	
6373	32-40	5258-117	4321-170-100	08/20/76	STREAM	WET	1000	0500	1	2.84	0.0243	11.51	0.99	
6374	32-40	6326-117	2590-172-100	08/21/76	STREAM	DRY	1000	0500	1	2.52	0.0230	6.56	0.72	
6375	32-40	6489-117	2543-172-100	08/21/76	STREAM	DRY	1000	0500	1	2.22	0.0216	5.63	1.17	
6376	32-40	6569-117	2969-172-100	08/21/76	STREAM	DRY	1000	0500	1	3.09	0.0253	16.34	1.35	
6377	32-40	6388-117	3264-172-100	08/21/76	STREAM	DRY	1000	0500	1	2.25	0.0218	7.56	0.95	

MINNEAPOLIS QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	LAT.	DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM ERR		THORIUM(NAA) PPM ERR	
			LONG.	L	T	R										
6378	32	-40.6622	-117.3241	-1	-72	-100	09/21/76	STREAM	DRY	1000	0500	1	2.43	0.0226	7.04	0.93
6379	32	-40.6685	-117.3466	-1	-72	-100	08/21/76	STREAM	DRY	1000	0500	9	2.38	0.0223	7.64	1.49
6379	32	-40.6685	-117.3466	-1	-72	-101		STREAM	DRY	1000	0500		2.44	0.0226	7.55	0.99
6380	32	-40.6755	-117.3621	-1	-72	-100	08/21/76	STREAM	DRY	1000	0500	1	2.77	0.0240	17.72	1.30
6381	32	-40.5642	-117.2634	-1	-72	-100	08/21/76	STREAM	DRY	1000	0500	1	2.38	0.0223	9.48	1.10
6382	32	-40.5509	-117.0803	-1	-72	-100	08/21/76	STREAM	DRY	1000	0500	1	2.38	0.0223	9.33	1.46
6383	32	-40.5616	-117.0638	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	1	3.21	0.0258	11.99	1.80
6384	32	-40.6068	-117.0461	-1	-70	-100	08/22/76	STREAM	WET	1000	0500	1	3.65	0.0275	11.57	1.64
6385	32	-40.5266	-117.1322	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	9	3.43	0.0266	13.25	1.20
6386	32	-40.5355	-117.1653	-1	-70	-100	08/22/76	STREAM	WET	1000	0500	9	2.46	0.0227	7.36	0.74
6387	32	-40.5309	-117.2161	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	1	2.66	0.0233	8.92	0.86
6388	32	-40.5041	-117.1074	-1	-72	-100	08/22/77	STREAM	DRY	1000	0500	1	2.70	0.0237	10.96	1.32
6389	32	-40.5185	-117.0992	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	1	2.81	0.0242	8.39	0.97
6389	32	-40.5185	-117.0992	-1	-72	-101		STREAM	DRY	1000	0500		3.02	0.0251	11.16	1.21
6390	32	-40.6609	-117.0379	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	1	3.68	0.0275	11.99	1.06
6391	32	-40.6852	-117.0746	-1	-72	-100	08/22/76	STREAM	DRY	1000	0500	1	5.27	0.0328	5.67	1.15
6392	32	-40.6545	-116.9196	-1	-72	-100	08/23/76	STREAM	DRY	1000	0500	1	2.36	0.0223	8.62	0.87
6426	32	-40.9891	-116.6196	-1	-72	-100	08/25/76	STREAM	DRY	1000	0500	1	4.78	0.0313	9.93	0.94
6427	32	-40.9819	-116.6303	-1	-72	-100	08/25/76	STREAM	DRY	1000	0500	1	4.39	0.0300	12.22	1.52
6428	32	-40.9729	-116.6244	-1	-72	-100	08/25/76	STREAM	DRY	1000	0500	1	5.28	0.0329	17.41	1.62
6429	32	-40.9440	-116.6175	-1	-72	-100	08/25/76	STREAM	DRY	1000	0500	1	4.78	0.0313	17.12	1.35
6430	32	-40.8696	-116.7591	-1	-72	-100	08/26/07	STREAM	DRY	1000	0500	1	5.11	0.0323	17.92	1.82
6431	32	-40.8606	-116.7674	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.35	0.0259	14.70	1.82
6432	32	-40.8201	-116.7825	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.41	0.0301	12.98	1.85
6433	32	-40.7895	-116.7795	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.65	0.0309	16.90	1.64
6434	32	-40.7931	-116.7843	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.38	0.0300	16.92	1.48
6435	32	-40.8048	-116.7973	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.28	0.0297	19.25	1.63
6436	32	-40.8536	-116.8529	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.89	0.0283	19.34	1.49
6437	32	-40.8581	-116.8541	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.25	0.0286	19.74	1.61
6438	32	-40.7951	-116.9099	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.30	0.0262	12.35	1.13
6439	32	-40.7689	-116.9135	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.65	0.0275	10.92	1.04
6439	32	-40.7689	-116.9135	-1	-72	-101		STREAM	DRY	1000	0500		3.70	0.0276	11.74	1.07
6440	32	-40.8077	-116.9052	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.16	0.0256	7.55	1.07
6441	32	-40.8302	-116.9087	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.33	0.0263	14.15	1.26
6442	32	-40.8725	-116.9027	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.80	0.0280	17.14	1.49
6443	32	-40.8761	-116.9730	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.61	0.0273	15.96	1.42
6444	32	-40.7719	-116.6968	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.90	0.0283	13.49	1.58
6445	32	-40.7030	-116.7585	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	3.93	0.0284	15.64	1.33
6446	32	-40.6832	-116.8095	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	2.89	0.0245	7.79	1.26
6447	32	-40.7076	-116.8568	-1	-72	-100	08/26/76	STREAM	DRY	1000	0500	1	4.07	0.0289	7.12	1.08
6448	32	-40.9773	-117.3144	-1	-72	-100	08/27/76	STREAM	DRY	1000	0500	9	2.55	0.0231	12.29	1.18
6449	32	-40.9769	-117.3144	-1	-72	-100	08/20/76	STREAM	DRY	1000	0500	9	2.74	0.0239	8.06	0.96
6454	32	-40.9862	-117.4351	-1	-72	-100	08/30/76	STREAM	DRY	1000	0500	1	2.79	0.0241	10.12	1.13
6495	32	-40.9681	-117.3562	-1	-72	-100	08/30/76	STREAM	DRY	1000	0500	1	2.51	0.0229	9.70	0.83
6599	32	-40.4183	-117.9134	-1	-72	-100		STREAM	DRY	1000	0500	1	3.53	0.0270	6.92	1.03
6700	32	-40.4797	-117.9285	-1	-72	-100	09/29/76	STREAM	DRY	1000	0500	1	3.26	0.0260	8.81	1.11
6729	32	-40.4566	-117.9956	-1	-72	-100	09/27/76	STREAM	DRY	1000	0500	9	3.58	0.0272	10.21	1.74
6760	32	-40.4834	-117.6359	-1	-72	-100	09/27/76	STREAM	DRY	1000	0500	5	3.99	0.0287	17.60	1.56
6761	32	-40.4723	-117.5249	-1	-72	-100	09/27/76	STREAM	DRY	1000	0500	5	3.00	0.0250	11.98	0.94

MINNECAUA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS; DRY AND STREAM SITES

SITE NUMBER	DOE ST	SAMPLE LAT.	NUMBER LONG.	DATE L T YR	SAMPLE SOURCE/COND.	PARTICLE SIZE UPPER	POS. LOWER	Q. C. X-REF	URANIUM PPM	THORIUM PPM	ERR	THORIUM PPM	ERR
6762	32-40	4660-117	5202-1	72-100	09/27/76	STREAM	DRY	1000	0500	9		2.79	0.0241
6763	32-40	4189-117	5776-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		2.19	0.0215
6764	32-40	3384-117	5766-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		2.73	0.0238
6765	32-40	3756-117	5859-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		2.66	0.0236
6766	32-40	4458-117	5978-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		3.32	0.0262
6767	32-40	3046-117	5589-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		3.28	0.0261
6768	32-40	3268-117	6086-1	72-100	09/27/76	STREAM	DRY	1000	0500	5		3.80	0.0280
6769	32-40	3123-117	6249-1	72-100	09/27/76	STREAM	DRY	1000	0500	1		2.78	0.0241
6801	32-40	1077-116	3570-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		3.77	0.0279
6802	32-40	0985-116	3207-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		6.22	0.0356
6803	32-40	0252-116	2699-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		3.33	0.0263
6804	32-40	0238-116	3391-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		3.05	0.0252
6805	32-40	0636-116	3692-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		8.66	0.0419
6806	32-40	0601-116	3880-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		2.76	0.0240
6807	32-40	0002-116	4441-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		4.00	0.0267
6808	32-40	0543-116	4430-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		3.75	0.0278
6809	32-40	1614-116	7229-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		4.69	0.0310
6809	32-40	1614-116	7229-1	72-101		STREAM	DRY	1000	0500	1		4.38	0.0300
6810	32-40	1433-116	6889-1	72-100	08/01/76	STREAM	DRY	1000	0500	1		6.35	0.0360
6811	32-40	1711-116	6348-1	72-100	08/02/76	STREAM	DRY	1000	0500	1		5.07	0.0322
6812	32-40	2024-116	5805-1	72-100		STREAM	DRY	1000	0500	1		2.85	0.0244
6813	32-40	2267-116	5561-1	72-100	08/02/76	STREAM	DRY	1000	0500	1		4.22	0.0295
6814	32-40	2797-116	5212-1	72-100	05/04/76	STREAM	DRY	1000	0500	1		2.58	0.0232
6815	32-40	2923-116	5106-1	70-100	08/04/76	STREAM	WET	1000	0500	1		2.73	0.0239
6816	32-40	2755-116	6131-1	72-100	08/02/76	STREAM	DRY	1000	0500	1		3.92	0.0284
6817	32-40	2741-116	7307-1	72-100	08/04/76	STREAM	DRY	1000	0500	1		3.39	0.0265
6818	32-40	2641-116	7194-1	72-100	08/04/76	STREAM	DRY	1000	0500	1		3.63	0.0274
6819	32-40	2883-116	6812-1	70-100	08/04/76	STREAM	WET	1000	0500	1		4.07	0.0289
6819	32-40	2883-116	6812-1	70-101		STREAM	WET	1000	0500	1		4.15	0.0292
6820	32-40	3090-116	6740-1	72-100	08/02/76	STREAM	DRY	1000	0500	1		2.95	0.0248
6821	32-40	3118-116	6881-1	72-100	08/04/76	STREAM	DRY	1000	0500	1		5.93	0.0348
6822	32-40	2066-116	7673-1	72-100	05/05/76	STREAM	DRY	1000	0500	1		2.80	0.0242
6823	32-40	3344-116	7069-1	72-100	08/04/76	STREAM	DRY	1000	0500	1		8.87	0.0424
6824	32-40	3690-116	3522-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		3.63	0.0274
6825	32-40	3398-116	4608-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		4.37	0.0299
6826	32-40	3963-116	4179-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		3.34	0.0263
6827	32-40	4244-116	4389-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		2.82	0.0242
6828	32-40	4416-116	4729-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		2.72	0.0238
6829	32-40	4776-116	4550-1	72-100	08/03/76	STREAM	DRY	1000	0500	1		3.06	0.0252
6829	32-40	4776-116	4550-1	72-101		STREAM	DRY	1000	0500	1		2.94	0.0247
6831	32-40	0400-116	8277-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		3.48	0.0268
6832	32-40	0599-116	8511-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		3.10	0.0254
6833	32-40	0958-116	7970-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		3.82	0.0281
6834	32-40	0976-116	7924-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		3.49	0.0269
6935	32-40	1264-116	7887-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		3.44	0.0267
6936	32-40	1129-116	7747-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		4.78	0.0313
6937	32-40	1471-116	7546-1	72-100	08/05/76	STREAM	DRY	1000	0500	1		4.29	0.0266
6941	32-40	0101-116	4845-1	72-100	08/02/76	STREAM	DRY	1000	0500	1		3.97	0.0286
6942	32-40	3326-116	7104-1	70-100	08/07/76	STREAM	WET	1000	0500	1		3.95	0.0285

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L T Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM	ERR	THORIUM(NAA) PPM	ERR
6843	32-40.	34.21	-116.3913	-170-100	08/03/76	STREAM	WET	1000	0500	9	2.69	0.0237	7.49	0.65
6844	32-40.	35.19	-116.3677	-170-100	08/03/76	STREAM	WET	1000	0500	1	3.99	0.0287	10.46	1.11
6845	32-40.	36.25	-116.7939	-172-100	08/04/76	STREAM	DRY	1010	0500	1	4.43	0.0302	11.70	1.35
6846	32-40.	37.18	-116.8092	-172-100	08/04/76	STREAM	DRY	1000	0500	1	5.29	0.0329	8.00	1.00
6847	32-40.	38.24	-116.7952	-170-100	08/04/76	STREAM	WET	1000	0500	1	3.11	0.0254	5.11	0.75
6848	32-40.	31.74	-116.7976	-170-100	08/04/76	STREAM	WET	1000	0500	1	4.17	0.0293	7.52	1.84
6855	32-40.	61.31	-116.5425	-172-100	08/07/76	STREAM	DRY	1000	0500	1	5.05	0.0321	15.64	2.69
6856	32-40.	54.05	-116.6469	-172-100	08/07/76	STREAM	DRY	1000	0500	1	3.71	0.0277	12.63	2.61
6857	32-40.	55.86	-116.6634	-172-100	08/07/76	STREAM	DRY	1000	0500	1	3.99	0.0286	17.39	1.64
6858	32-40.	61.52	-116.6146	-172-100	08/07/76	STREAM	DRY	1000	0500	1	4.53	0.0305	18.41	1.61
6859	32-40.	57.18	-116.5652	-172-100	08/07/76	STREAM	DRY	1000	0500	1	3.48	0.0268	12.71	1.10
6859	32-40.	57.18	-116.5652	-172-100	08/07/76	STREAM	DRY	1000	0500	1	4.11	0.0291		
6860	32-40.	59.84	-116.4741	-170-100	08/08/76	STREAM	WET	1000	0500	1	2.85	0.0244	7.77	1.66
6861	32-40.	70.62	-116.4164	-172-100	08/08/76	STREAM	DRY	1000	0500	1	2.74	0.0239	7.31	0.90
6862	32-40.	72.65	-116.3205	-170-100	08/08/76	STREAM	WET	1000	0500	9	3.37	0.0264	12.57	2.17
6863	32-40.	74.03	-116.3818	-170-100	08/08/76	STREAM	WET	1000	0500	9	3.36	0.0264	12.16	1.34
6864	32-40.	72.47	-116.3286	-172-100	08/08/76	STREAM	DRY	1000	0500	1	3.84	0.0281	14.41	1.29
6865	32-40.	68.19	-116.2628	-172-100	08/08/76	STREAM	DRY	1000	0500	1	5.30	0.0329	9.43	1.07
6866	32-40.	58.39	-116.2816	-170-100	08/08/76	STREAM	WET	1000	0500	1	3.56	0.0271	8.95	2.33
6872	32-40.	00.66	-116.1893	-170-100	08/09/76	STREAM	WET	1000	0500	1	3.55	0.0271	12.14	1.06
6881	32-40.	08.15	-116.1989	-172-100	08/10/76	STREAM	DRY	1000	0500	1	2.86	0.0244	11.04	1.11
6882	32-40.	12.95	-116.1232	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.55	0.0271	10.20	1.04
6883	32-40.	08.10	-116.1309	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.74	0.0278	6.26	2.64
6884	32-40.	07.90	-116.1098	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.39	0.0265	11.57	1.29
6885	32-40.	06.19	-116.1100	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.36	0.0264	16.61	1.63
6886	32-40.	02.77	-116.1175	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.09	0.0253	16.33	1.71
6887	32-40.	16.07	-116.1921	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.33	0.0263	11.44	1.09
6888	32-40.	17.42	-116.1837	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.54	0.0271	9.02	0.85
6889	32-40.	31.89	-116.2620	-170-100	08/11/76	STREAM	WET	1000	0500	1	3.58	0.0272	8.02	1.95
6889	32-40.	31.89	-116.2620	-170-100	08/11/76	STREAM	WET	1000	0500	1	3.61	0.0273	11.87	2.02
6890	32-40.	29.75	-116.2952	-172-100	08/11/76	STREAM	DRY	1000	0500	1	3.60	0.0273	12.24	1.14
6891	32-40.	32.32	-116.1078	-170-100	08/12/76	STREAM	WET	1000	0500	1	3.21	0.0258	10.22	1.09
6892	32-40.	41.24	-116.1113	-172-100	08/12/76	STREAM	DRY	1000	0500	1	3.58	0.0272	7.01	0.85
6893	32-40.	41.78	-116.1077	-172-100	08/12/76	STREAM	DRY	1000	0500	1	3.20	0.0258	9.24	1.03
6894	32-40.	48.19	-116.1222	-170-100	08/12/76	STREAM	WET	1000	0500	1	3.59	0.0272	10.25	1.20
6895	32-40.	50.11	-116.0535	-170-100	08/12/76	STREAM	WET	1000	0500	1	3.00	0.0250	7.47	0.93
6896	32-40.	49.96	-116.0854	-172-100	08/12/76	STREAM	DRY	1000	0500	1	4.42	0.0308	6.03	0.87
6897	32-40.	50.43	-116.1160	-172-100	08/12/76	STREAM	DRY	1000	0500	1	3.53	0.0270	11.70	1.27
6898	32-40.	82.35	-116.5482	-172-100	08/13/76	STREAM	DRY	1000	0500	1	4.50	0.0304	15.29	2.20
6898	32-40.	82.37	-117.1910	-172-100	08/13/76	STREAM	DRY	1000	0500	1	2.81	0.0242	12.15	1.61
6899	32-40.	02.37	-117.1910	-172-100	08/13/76	STREAM	DRY	1000	0500	1	3.06	0.0252	10.18	1.70
6900	32-40.	01.48	-117.1418	-172-100	08/13/76	STREAM	DRY	1000	0500	1	2.43	0.0226	7.97	0.69
6901	32-40.	07.43	-117.1114	-172-100	08/13/76	STREAM	DRY	1000	0500	1	3.46	0.0267	11.45	1.67
6902	32-40.	10.05	-117.0880	-172-100	08/13/76	STREAM	DRY	1000	0500	1	4.21	0.0294	9.36	1.50
6915	32-40.	03.83	-117.1184	-172-100	08/14/76	STREAM	DRY	1000	0500	1	4.61	0.0307	23.80	1.70
6916	32-40.	12.12	-117.0786	-172-100	08/14/76	STREAM	DRY	1000	0500	1	4.59	0.0307	15.92	1.39
6917	32-40.	17.60	-117.1879	-172-100	08/15/76	STREAM	DRY	1000	0500	1	6.43	0.0362	24.28	1.72
6918	32-40.	20.22	-117.1774	-172-100	08/15/76	STREAM	DRY	1000	0500	1	5.25	0.0328	22.43	2.16
6919	32-40.	22.11	-117.1269	-172-100	08/15/76	STREAM	DRY	1000	0500	1	4.05	0.0289	18.26	1.41

MINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

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SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L TY RPL	DATE MO-DA-YR	SOURCE/ COND.	PARTICLE SIZE UPPER LOWER CGT	POS. C/GT	O. C. X-REF	URANIUM (NC) PPM	THORIUM (NA) PPM	ERR
6919	32-40.2211	-117.1269	-172-101			STREAM	DRY 1000 0500			5.46	0.0334	23.66 2.10
6920	32-40.2491	-117.1140	-172-100		08/15/76	STREAM	DRY 1000 0500	1		5.70	0.0341	25.27 1.65
6921	32-40.3192	-117.2100	-172-100		08/16/76	STREAM	DRY 1000 0500	1		2.90	0.0246	9.61 0.96
6922	32-40.3354	-117.1907	-172-100		08/16/76	STREAM	DRY 1130 0500	1		3.70	0.0276	10.71 1.81
6923	32-40.3607	-117.1908	-172-100		08/16/76	STREAM	DRY 1140 0500	1		3.79	0.0280	18.78 1.58
6924	32-40.3733	-117.1826	-172-100		08/16/76	STREAM	DRY 1000 0500	1		3.16	0.0256	13.14 1.24
6925	32-40.3986	-117.1673	-172-100		08/16/76	STREAM	DRY 1000 0500	1		4.04	0.0315	18.98 1.45
6926	32-40.4337	-117.1790	-172-100		08/16/76	STREAM	DRY 1000 0500	1		3.10	0.0254	13.67 1.34
6927	32-40.4355	-117.2075	-172-100		08/16/76	STREAM	DRY 1000 0500	1		3.57	0.0271	14.05 1.14
6928	32-40.4219	-117.2175	-172-100		08/16/76	STREAM	DRY 1000 0500	1		2.57	0.0232	8.95 1.14
6929	32-40.4544	-117.2017	-170-100		08/16/76	STREAM	WET 1000 0500	1		3.70	0.0262	10.11 2.31
6929	32-40.4544	-117.2017	-170-101			STREAM	WET 1000 0500	1		3.39	0.0265	11.74 1.16
6930	32-40.4815	-117.1369	-170-100		08/16/76	STREAM	WET 1000 0500	1		2.59	0.0233	7.04 1.39
6931	32-40.4689	-117.0649	-170-100		08/16/76	STREAM	WET 1000 0500	1		4.11	0.0291	13.52 1.04
6932	32-40.3942	-117.0424	-170-100		08/16/76	STREAM	WET 1000 0500	1		3.01	0.0250	8.23 0.89
6933	32-40.3248	-116.9141	-170-100		08/17/76	STREAM	WET 1000 0500	1		3.56	0.0271	8.07 0.92
6934	32-40.3879	-116.9505	-170-100		08/17/76	STREAM	WET 1000 0500	1		3.29	0.0261	9.44 0.93
6935	32-40.4419	-116.9068	-172-100		08/17/76	STR:AM	DRY 1000 0500	1		3.96	0.0286	9.37 1.06
6936	32-40.4590	-116.8809	-172-100		08/17/76	STR:AM	DRY 1000 0500	1		3.74	0.0278	8.58 0.91
6937	32-40.3695	-117.2956	-172-100		08/17/76	STREAM	DRY 1000 0500	1		4.34	0.0289	17.13 1.35
6938	32-40.2900	-117.3569	-170-100		08/17/76	STREAM	WET 1000 0500	1		5.33	0.0330	19.97 1.43
6939	32-40.3036	-117.3577	-172-100		08/17/76	STREAM	DRY 1000 0500	1		4.39	0.0300	16.46 1.13
6939	32-40.3036	-117.3577	-172-101			STREAM	DRY 1000 0500	1		7.22	0.0383	25.07 2.01
6940	32-40.3413	-117.3991	-172-100		08/20/76	STREAM	DRY 1000 0500	1		3.08	0.0253	13.51 1.27
6941	32-40.3456	-117.4392	-172-100		08/20/76	STREAM	DRY 1000 0500	1		3.40	0.0265	12.96 1.23
6942	32-40.3510	-117.4475	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.79	0.0241	9.56 0.94
6943	32-40.3699	-117.4435	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.68	0.0236	9.68 0.94
6944	32-40.3924	-117.4689	-170-100		08/20/76	STREAM	WET 1000 0500	1		2.89	0.0245	10.24 1.25
6946	32-40.4086	-117.4543	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.25	0.0218	9.47 1.16
6947	32-40.4357	-117.4516	-170-100		08/20/76	STREAM	WET 1000 0500	1		4.24	0.0295	
6948	32-40.4160	-117.4161	-172-100		08/20/76	STREAM	DRY 1000 0500	1		1.40	0.0174	4.33 0.59
6949	32-40.4592	-117.4564	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.36	0.0222	7.37 1.00
6949	32-40.4592	-117.4564	-172-101			STREAM	DRY 1000 0500	1		2.24	0.0217	6.28 0.80
6950	32-40.4667	-117.3256	-172-100		08/20/76	STREAM	DRY 1000 0500	1		6.78	0.0371	11.87 1.54
6951	32-40.4753	-117.4495	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.42	0.0225	8.73 0.81
6952	32-40.4879	-117.4484	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.81	0.0242	9.14 0.97
6953	32-40.5276	-117.4321	-172-100		08/20/76	STREAM	DRY 1000 0500	1		2.96	0.0248	8.30 1.60
6954	32-40.7101	-117.2723	-172-100		08/21/76	STREAM	DRY 1000 0500	1		2.40	0.0224	12.48 1.10
6955	32-40.7388	-117.3044	-172-100		08/21/76	STREAM	DRY 1000 0500	1		3.30	0.0261	19.79 1.44
6956	32-40.4184	-116.8232	-170-100		08/22/76	STREAM	WET 1000 0500	1		4.11	0.0291	8.59 1.48
6957	32-40.4382	-116.8114	-170-100		08/22/76	STREAM	WET 1000 0500	1		3.56	0.027	7.70 1.99
6958	32-40.4580	-116.8042	-172-100		08/22/76	STREAM	DRY 1000 0500	1		3.47	0.0268	7.60 0.92
6959	32-40.4950	-116.8195	-170-100		08/22/76	STREAM	WET 1000 0500	1		3.43	0.0266	8.21 1.05
6959	32-40.4950	-116.8195	-170-101			STREAM	WET 1000 0500	1		3.67	0.0275	7.32 1.36
6960	32-40.4850	-116.8561	-172-100		08/22/76	STREAM	DRY 1000 0500	1		2.99	0.0249	4.73 1.25
6961	32-40.5589	-116.7567	-172-100		08/22/76	STREAM	DRY 1000 0500	1		3.18	0.0257	8.40 1.50
6962	32-40.5542	-116.7272	-172-100		08/22/76	STREAM	DRY 1000 0500	9		3.45	0.0267	11.73 1.28
6963	32-40.5669	-116.7295	-170-100		08/22/76	STREAM	WET 1000 0500	1		2.11	0.0211	
6964	32-40.5093	-116.7533	-170-100		08/22/76	STREAM	WET 1000 0500	1		4.65	0.0309	9.74 1.15

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE		POS. UPPER LOWER	Q. C. X-REF	URANIUM(DNC)		THORIUM(NAA)		
	SI	LAT.	LONG.	L T Y PPL							PPM	ERR	PPM	ERR	
6965	32-40	0065	-116.7451	-172	100	08/22/76	STREAM	DRY	1000	0500	1	4.07	0.0289	4.57	0.76
6966	32-40	6064	-116.7624	-170	100	08/20/76	STREAM	WET	1000	0500	1	4.29	0.0297	7.32	0.79
6967	32-40	5013	-116.7613	-170	100	08/23/76	STREAM	WET	1000	0500	1	4.62	0.0307	7.53	0.95
7005	32-40	9877	-116.8110	-172	100	08/25/76	STREAM	DRY	1000	0500	1	7.55	0.0392	31.03	1.88
7006	32-40	9392	-116.8693	-170	100	08/25/76	STREAM	WET	1000	0500	1	4.64	0.0309	18.11	2.29
7007	32-40	9625	-116.8348	-172	100	08/25/76	STREAM	DRY	1000	0500	1	4.70	0.0310	22.05	1.64
7008	32-40	9373	-116.8135	-172	100	08/25/76	STREAM	DRY	1000	0500	1	5.13	0.0324	18.77	2.28
7009	32-40	9409	-116.7957	-172	100	08/25/76	STREAM	DRY	1000	0500	1	5.20	0.0326	20.94	1.45
7009	32-40	9409	-116.7957	-172	101		STREAM	DRY	1000	0500		7.35	0.0387	26.63	1.71
7010	32-40	9372	-116.7779	-172	100	08/25/76	STREAM	DRY	000	0500	1	7.4	0.0394	26.65	1.66
7011	32-40	9426	-116.7660	-172	100	08/25/76	STREAM	DRY	1000	0500	1	5.83	0.0345	17.35	3.14
7012	32-40	9930	-116.7098	-170	100	08/25/76	STREAM	WET	1000	0500	1	3.81	0.0280	14.34	1.22
7013	32-40	9587	-116.7113	-170	100	08/25/76	STREAM	WET	1000	0500	1	4.49	0.0303	14.62	1.12
7014	32-40	8848	-116.6878	-170	100	08/26/76	STREAM	WET	1000	0500	1	4.39	0.0300	14.72	1.34
7015	32-40	9245	-116.7078	-172	100	08/26/76	STREAM	DRY	1000	0500	1	2.37	0.0223	18.56	1.82
7016	32-40	9398	-116.7101	-172	100	08/26/76	STREAM	DRY	1000	0500	1	5.20	0.0326	18.40	1.43
7017	32-40	9230	-116.9299	-172	100	08/26/76	STREAM	DRY	1000	0500	1	3.27	0.0260	11.67	1.54
7018	32-40	9365	-116.9513	-172	100	08/26/76	STREAM	DRY	1000	0500	1	4.08	0.0290	16.64	1.35
7019	32-40	9708	-116.9513	-172	100	08/26/76	STREAM	DRY	1000	0500	1	4.59	0.0307	17.82	1.35
7020	32-40	9861	-116.9251	-172	100	08/06/76	STREAM	DRY	1000	0500	1	6.80	0.0372	13.99	2.82
7021	32-40	9942	-116.9227	-172	100	08/26/76	STREAM	DRY	1000	0500	1	4.38	0.0300	18.39	1.42
7023	32-40	9464	-116.9073	-172	100	08/26/76	STREAM	DRY	1000	0500	1	6.25	0.0357	27.13	1.81
7024	32-40	9347	-116.8800	-172	100	08/26/76	STREAM	DRY	1000	0500	1	3.88	0.0283	16.24	1.29
7025	32-40	9821	-116.9086	-172	100	08/26/76	STREAM	DRY	1000	0500	1	7.42	0.0388	22.47	1.67
7026	32-40	8304	-116.5873	-170	100	08/26/76	STREAM	WET	1000	0500	1	4.57	0.0306	16.68	1.24
7027	32-40	8025	-116.6088	-172	100	08/26/76	STREAM	DRY	1000	0500	1	3.68	0.0276	14.95	1.55
7028	32-40	7873	-116.6314	-172	100	08/26/76	STREAM	DRY	1000	0500	1	4.30	0.0297	18.45	1.64
7029	32-40	7747	-116.8445	-172	100	08/26/76	STREAM	DRY	1000	0500	1	4.88	0.0316	19.43	1.74
7029	32-40	7747	-116.8445	-172	101		STREAM	DRY	1000	0500		4.96	0.0313	18.63	2.99
7030	32-40	7604	-116.6524	-172	100	08/26/76	STREAM	DRY	1000	0500	1	3.02	0.0251	11.44	2.00
7031	32-40	9556	-117.4147	-172	100	08/27/76	STREAM	DRY	1000	0500	1	2.48	0.0228	15.85	1.11
7032	32-40	9890	-117.3911	-172	100	08/26/76	STREAM	DRY	1000	0500	1	2.86	0.0244	12.69	1.12
7066	32-40	9313	-117.4157	-172	100	08/30/76	STREAM	DRY	1000	0500	1	3.26	0.0260	11.10	1.20
7075	32-40	9788	-117.4838	-170	100	08/30/76	STREAM	WET	1000	0500	9	3.03	0.0251	6.22	0.53
7076	32-40	9153	-117.3396	-172	100	08/30/76	STREAM	DRY	1000	0500	1	3.71	0.0277	8.33	0.99
7077	32-40	8793	-117.3169	-172	100	08/30/76	STREAM	DRY	1000	0500	1	2.88	0.0245	7.22	1.00
7078	32-40	9127	-117.2980	-172	100	08/30/76	STREAM	DRY	1000	0500	1	3.19	0.0257	9.78	1.03
7079	32-40	9226	-117.2969	-172	100	08/30/76	STREAM	DRY	1000	0500	1	2.46	0.0227	6.92	1.32
7079	32-40	9226	-117.2969	-172	101		STREAM	DRY	1000	0500		2.53	0.0230		
7150	32-40	0721	-117.8526	-172	100	10/03/76	STREAM	DRY	1000	0500	1	2.44	0.0226	8.77	1.62
7151	32-40	1069	-117.8999	-172	100	10/03/76	STREAM	DRY	1000	0500	1	2.21	0.0216	8.81	1.16
7152	32-40	1423	-117.5717	-170	100	10/04/76	STREAM	WET	1000	0500	1	2.10	0.0210	7.37	0.95
7153	32-40	1324	-117.5671	-170	100	10/04/76	STREAM	WET	1000	0500	9	3.64	0.0274	13.76	1.16
7155	32-40	14444	-117.5200	-172	100	10/04/76	STREAM	DRY	1000	0500	1	3.21	0.0258	10.90	1.24
7156	32-40	14858	-117.5321	-170	100	10/04/76	STREAM	WET	1000	0500	9	2.80	0.0242		
7157	32-40	3459	-117.6040	-170	100	10/04/76	STREAM	WET	1000	0500	1	4.97	0.0319	16.86	1.58
7158	32-40	3215	-117.5932	-170	100	10/04/76	STREAM	WET	1000	0500	1	2.06	0.0246	13.09	1.41
7159	32-40	3163	-117.5508	-170	100	10/04/76	STREAM	WET	1000	0500	9	2.70	0.0237	9.83	1.05
7160	32-40	3154	-117.5495	-170	100	10/04/76	STREAM	WET	1000	0500	1	5.15	0.0325	16.70	1.33

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 8-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY	SAMPLE MO-DA-YR	SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM (PPM)	IRON (PPM)	THORIUM (PPM)	ALUMINUM (PPM)
7161	32-40	5878-117.1560	-1-70	100	10/04/76	STREAM	HET	1000	0500	1	2.66	0.0236	5.54	0.96
7162	32-40	5887-117.1572	-1-70	100	10/05/76	STREAM	HET	1000	0500	1	3.25	0.0259	11.16	1.30
7163	32-40	5175-117.1700	-1-72	100	10/05/76	STREAM	DRY	1000	0500	1	2.70	0.0237	8.34	1.03
7164	32-40	5276-117.4280	-1-70	100	10/05/76	STREAM	HET	1000	0500	1	3.03	0.0251	10.30	1.77
7165	32-40	4888-117.4543	-1-70	100	10/05/76	STREAM	HET	1000	0500	9	2.63	0.0234	10.89	1.01
7166	32-40	4771-117.4566	-1-70	100	10/05/76	STREAM	HET	1000	0500	9	2.54	0.0231	8.10	1.06
7167	32-40	4347-117.4598	-1-70	100	10/05/76	STREAM	HET	1000	0500	1	1.88	0.0200	5.80	0.80
7168	32-40	3959-117.4725	-1-70	100	10/02/76	STREAM	HET	1000	0500	1	2.79	0.0239	7.67	1.15
7169	32-40	3806-117.4795	-1-70	100	10/05/76	STREAM	HET	1000	0500	9	2.85	0.0244	8.70	1.21
7170	32-40	3725-117.4865	-1-70	100	10/05/76	STREAM	HET	1000	0500	1	5.20	0.0326	10.26	1.50
7171	32-40	3644-117.4793	-1-72	100	10/05/76	STREAM	DRY	1000	0500	1	3.00	0.0250	9.05	1.23
7172	32-40	2909-117.3588	-1-70	100	10/05/76	STREAM	HET	1000	0500	1	6.03	0.0351	22.71	1.89
7173	32-40	2585-117.3493	-1-72	100	10/05/76	STREAM	DRY	1000	0500	9	5.52	0.0336	14.93	1.42
7174	32-40	2378-117.3633	-1-72	100	10/05/76	STREAM	DRY	1000	0500	1	4.82	0.0314	23.32	1.83
7201	32-40	4402-117.6320	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	4.98	0.0319	17.15	1.51
7202	32-40	4429-117.6379	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	3.00	0.0250	13.04	1.28
7203	32-40	4518-117.6533	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	1.54	0.0182		
7204	32-40	4463-117.6733	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	3.20	0.0258	6.56	1.48
7205	32-40	4111-117.6859	-1-72	100	09/27/76	STREAM	DRY	1000	0500	1	1.56	0.0183	5.34	0.62
7206	32-40	4011-117.6888	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	1.46	0.0178	4.97	0.98
7207	32-40	3948-117.6964	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	3.24	0.0261	11.47	1.18
7208	32-40	3633-117.6972	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	1.98	0.0205	4.60	1.02
7209	32-40	3416-117.7041	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	2.43	0.0226	7.24	1.03
7210	32-40	3281-117.7051	-1-72	100	09/27/76	STREAM	DRY	1000	0500	1	1.87	0.0199	6.38	1.21
7211	32-40	3103-117.6731	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	2.01	0.0206	7.30	0.97
7212	32-40	2911-117.7118	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	5.06	0.0322	18.46	1.58
7213	32-40	2685-117.7221	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	2.76	0.0240	9.44	1.67
7214	32-40	2531-117.7337	-1-72	100	09/27/76	STREAM	DRY	1000	0500	1	5.77	0.0343		
7215	32-40	2369-117.7347	-1-72	100	09/27/76	STREAM	DRY	1000	0500	1	6.81	0.0372	23.08	1.78
7216	32-40	2206-117.7404	-1-72	100	09/27/76	STREAM	DRY	1000	0500	1	3.55	0.0271	15.96	1.34
7217	32-40	1961-117.7695	-1-72	100	09/27/76	STREAM	DRY	1000	0500	9	2.65	0.0235	10.47	1.18
7218	32-40	1331-117.7700	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.85	0.0244	11.05	1.35
7219	32-40	1494-117.7526	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.71	0.0238	8.25	1.27
7220	32-40	1891-117.7424	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	1.81	0.0196	6.64	1.27
7221	32-40	2008-117.7402	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.65	0.0235	8.95	0.97
7222	32-40	4212-117.4621	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	1.95	0.0204	7.95	1.24
7223	32-40	4302-117.4621	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.59	0.0252	8.86	1.24
7224	32-40	4437-117.4610	-1-72	100	09/28/76	STREAM	DRY	1000	0500	1	3.00	0.0250	6.86	1.03
7225	32-40	4591-117.4516	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.36	0.0223	6.76	1.04
7226	32-40	4628-117.4246	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	3.29	0.0261	8.73	1.27
7227	32-40	4655-117.4211	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.80	0.0241	7.89	1.24
7228	32-40	4863-117.4106	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.57	0.0232	8.65	1.09
7229	32-40	5291-117.5112	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.44	0.0226	4.46	1.08
7230	32-40	5511-117.4181	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.72	0.0238	11.24	1.11
7231	32-40	5756-117.3816	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.71	0.0242	8.32	0.86
7232	32-40	5801-117.3533	-1-72	100	09/28/76	STREAM	DRY	1000	0500	9	2.66	0.0235	12.08	1.24
7233	32-40	5171-117.3352	-1-72	100	09/29/76	STREAM	DRY	1000	0500	9	2.48	0.0244	11.24	1.24
7234	32-40	5936-117.3581	-1-72	100	09/29/76	STREAM	DRY	1000	0500	9	3.48	0.0268		
7235	32-40	6106-117.4007	-1-72	100	09/29/76	STREAM	DRY	1000	0500	9	3.30	0.0251	1.19	0.87

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS, DRY AND STREAM SITES

SITE NUMBER	DOE ST	SAMPLE LAT.	NUMBER LONG.	DATE L Y RPL	SAMPLE MO-DA-YR SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS COUNT	Q X-REF	C REF	URANIUM (DNC) PPM	ERR	THORIUM (NAA) PPM	ERR
7236	32-40	6071-117	3878-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.65	0.0235	9.20	1.05
7237	32-40	6278-117	3878-117	100	09/28/76	STREAM	DRY	1000	0500	9	3.14	0.0255	8.76	1.11
7238	32-40	6539-117	3773-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.44	0.0276		
7239	32-40	6450-117	3690-117	100	09/29/76	STREAM	DRY	1000	0500	9	1.96	0.0204	9.58	1.88
7240	32-40	6594-117	3608-117	100	09/29/76	STREAM	DRY	1000	0500	9	1.89	0.0200	6.87	1.04
7241	32-40	6942-117	3359-117	100	09/29/76	STREAM	DRY	1000	0500	9	3.48	0.0268	6.93	1.91
7242	32-40	6629-117	3455-117	100	09/29/76	STREAM	DRY	1000	0500	9	1.72	0.0192	18.17	1.81
7243	32-40	6944-117	4095-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.39	0.0224	14.77	1.78
7244	32-40	6980-117	4083-117	100	09/29/76	STREAM	DRY	1000	0500	9	1.55	0.0182	13.04	1.35
7245	32-40	7146-117	3777-117	100	09/29/76	STREAM	DRY	1000	0500	9	1.22	0.0164	6.70	0.60
7246	32-40	7288-117	3541-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.75	0.0240	11.64	1.94
7247	32-40	7182-117	2853-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.56	0.0231	18.95	2.50
7248	32-40	7101-117	2897-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.38	0.0224	14.33	2.46
7249	32-40	7406-117	3222-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.79	0.0241	16.64	1.77
7250	32-40	6821-117	3089-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.02	0.0207	12.85	1.74
7301	32-40	2825-117	6340-117	100	09/27/76	STREAM	DRY	1000	0500	1	2.31	0.0220	6.91	1.44
7302	32-40	2654-117	6374-117	100	09/27/76	STREAM	DRY	1000	0500	1	3.11	0.0254	10.17	1.79
7303	32-40	2528-117	6408-117	100	09/27/76	STREAM	DRY	1000	0500	5	3.52	0.0270	11.32	1.74
7304	32-40	2437-117	6595-117	100	09/27/76	STREAM	DRY	1000	0500	5	2.64	0.0235	8.58	0.95
7305	32-40	2284-117	6453-117	100	09/27/76	STREAM	DRY	1000	0500	5	2.70	0.0215	7.43	1.40
7306	32-40	1941-117	6544-117	100	09/28/76	STREAM	DRY	1000	0500	5	4.33	0.0298		
7307	32-40	2149-117	6463-117	100	09/28/76	STREAM	DRY	1000	0500	5	4.00	0.0287	15.66	1.54
7308	32-40	2808-117	4329-117	100	09/28/76	STREAM	DRY	1000	0500	1	6.16	0.0354	20.64	1.48
7309	32-40	3410-117	4373-117	100	09/28/76	STREAM	DRY	1000	0500	5	3.20	0.0258	8.67	1.44
7310	32-40	3293-117	4614-117	100	09/28/76	STREAM	DRY	1000	0500	1	3.18	0.0257	8.86	1.55
7311	32-40	3230-117	4567-117	100	09/28/76	STREAM	DRY	1000	0500	1	2.97	0.0249	10.80	1.20
7312	32-40	3114-117	4378-117	100	09/28/76	STREAM	DRY	1000	0500	1	5.68	0.0340	13.96	1.24
7313	32-40	2988-117	4354-117	100	09/28/76	STREAM	DRY	1000	0500	5	6.02	0.0350	14.11	1.41
7314	32-40	2908-117	3953-117	100	09/28/76	STREAM	DRY	1000	0500	1	4.33	0.0298	19.50	1.64
7315	32-40	2927-117	3847-117	100	09/28/76	STREAM	DRY	1000	0500	1	16.49	0.0576	44.00	2.73
7316	32-40	2955-117	3412-117	100	09/28/76	STREAM	DRY	1000	0500	5	3.90	0.0284	14.54	1.13
7317	32-40	3207-117	3460-117	100	09/28/76	STREAM	DRY	1000	0500	9	5.92	0.0348	25.72	2.48
7318	32-40	3234-117	3425-117	100	09/28/76	STREAM	DRY	1000	0500	5	5.74	0.0342	26.00	2.04
7319	32-40	3307-117	3096-117	100	09/28/76	STREAM	DRY	1000	0500	5	3.52	0.0270	21.49	3.33
7320	32-40	3352-117	3037-117	100	09/28/76	STREAM	DRY	1000	0500	5	5.11	0.0249	10.95	1.85
7321	32-40	3696-117	2956-117	100	09/28/76	STREAM	DRY	1000	0500	5	5.39	0.0332	18.18	1.43
7322	32-40	3957-117	2804-117	100	09/28/76	STREAM	DRY	1000	0500	1	3.08	0.0253	12.55	1.11
7323	32-40	4029-117	2581-117	100	09/28/76	STREAM	DRY	1000	0500	1	4.25	0.0254	17.58	1.65
7324	32-40	4020-117	2498-117	100	09/28/76	STREAM	DRY	1000	0500	5	3.70	0.0276	12.38	1.71
7325	32-40	4440-117	2098-117	100	09/28/76	STREAM	DRY	1000	0500	1	2.91	0.0246	14.47	1.44
7326	32-40	4174-117	2145-117	100	09/28/76	STREAM	DRY	1000	0500	1	2.97	0.0249	13.93	1.42
7327	32-40	4526-117	1981-117	100	09/28/76	STREAM	DRY	1000	0500	1	4.24	0.0295	11.93	1.51
7328	32-40	4543-117	2453-117	100	09/29/76	STREAM	DRY	1000	0500	1	3.62	0.0273		
7329	32-40	5607-117	1854-117	100	09/29/76	STREAM	DRY	1000	0500	1	2.95	0.0248	9.19	1.44
7330	32-40	5354-117	2503-117	100	09/29/76	STREAM	DRY	1000	0500	1	2.40	0.0224	4.76	1.42
7331	32-40	5471-117	2527-117	100	09/29/76	STREAM	DRY	1000	0500	5	2.95	0.0248	13.49	1.74
7332	32-40	5840-117	2375-117	100	09/29/76	STREAM	DRY	1000	0500	5	2.53	0.0230	7.94	1.48
7333	32-40	5849-117	2576-117	100	09/29/76	STREAM	DRY	1000	0500	5	2.78	0.0241	8.47	1.40
7334	32-40	6045-117	2305-117	100	09/29/76	STREAM	DRY	1000	0500	9	2.54	0.0240	11.72	1.41

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

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SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L T Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE LPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM ERR	THORIUM(AAA) PPM ERR		
7335	32-40	6192-117	3305-1-72	100	09/29/76	STREAM	DRY	1000	0500	9	3.05	0.0252	12.15	1.36
7336	32-40	6309-117	2223-1-72	100	09/29/76	STREAM	DRY	1000	0500	1	2.85	0.0244	6.97	1.35
7337	32-40	6200-117	2542-1-72	100	09/29/76	STREAM	DRY	1000	0500	5	3.41	0.0266	8.24	1.34
7441	32-40	9982-117	7241-1-70	100	08/25/76	STREAM	WET	1000	0500	1	3.53	0.0270	10.50	1.14
7442	32-40	7050-116	5301-1-70	100	08/25/76	STREAM	WET	1000	0500	1	3.22	0.0258	9.63	0.94
7443	32-40	5793-116	2651-1-70	100	08/25/76	STREAM	WET	1000	0500	1	3.72	0.0277	13.82	1.27
7452	32-40	8427-117	1993-1-70	100	09/14/76	STREAM	WET	1000	0500	1	2.38	0.0223	9.72	1.36
7460	32-40	9607-117	4931-1-70	100	09/20/76	STREAM	WET	1000	0500	1	2.56	0.0231	11.54	1.18
7469	32-40	6848-116	1527-1-70	100	08/31/76	STREAM	WET	1000	0500	1	6.21	0.0356	17.99	1.37
7470	32-40	7668-116	0415-1-70	100	08/31/76	STREAM	WET	1000	0500	1	1.71	0.0191	8.65	1.21
7471	32-40	7656-116	2392-1-70	100	08/31/76	STREAM	WET	1000	0500	1	3.22	0.0258	9.68	1.08
7472	32-40	9870-116	1919-1-70	100	08/31/76	STREAM	WET	1000	0500	1	15.33	0.0556	8.34	1.23
7473	32-40	8997-116	1060-1-70	100	09/01/76	STREAM	WET	1000	0500	1	8.19	0.0408	11.50	1.26
7482	32-40	0066-116	1635-1-70	100	09/08/76	STREAM	WET	1000	0500	1	2.99	0.0249	11.03	1.16
7483	32-40	2103-116	0717-1-70	100	09/08/76	STREAM	WET	1000	0500	1	4.10	0.0290	6.69	1.27
7484	32-40	2274-116	0703-1-70	100	09/08/76	STREAM	WET	1000	0500	1	5.17	0.0325	9.32	1.57
7485	32-40	3255-116	0583-1-70	100	09/09/76	ST TEAM	WET	1000	0500	1	2.17	0.0214		
7486	32-40	2484-116	3780-1-70	100	09/09/76	ST TEAM	WET	1000	0500	1	3.44	0.0267	11.58	1.02
7487	32-40	1280-116	4765-1-70	100	09/09/76	ST TEAM	WET	1000	0500	1	2.90	0.0246	9.46	1.14
7492	32-40	4184-116	5061-1-70	100	09/11/76	STREAM	WET	1000	0500	1	0.39	0.0101		
7493	32-40	2088-116	5394-1-70	100	12/12/76	STREAM	WET	1000	0500	1	24.64	0.0704	7.83	1.44
7494	32-40	1521-116	6208-1-70	100	09/12/76	STREAM	WET	1000	0500	1	4.66	0.0309	17.05	1.33
7495	32-40	3920-116	6889-1-70	100	09/12/76	STREAM	WET	1000	0500	1	6.24	0.0409	4.80	2.06
7496	32-40	3904-116	8138-1-70	100	09/12/76	STREAM	WET	1000	0500	1	4.77	0.0313	8.86	0.87
7497	32-40	6171-116	4337-1-70	100	09/13/76	STREAM	WET	1000	0500	1	3.31	0.0298	13.52	1.89
7498	32-40	7442-116	6895-1-70	100	09/13/76	STREAM	WET	1000	0500	1	3.75	0.0278	15.39	1.52
7499	32-40	6536-117	0875-1-70	100	09/14/76	STREAM	WET	1000	0500	1	6.70	0.0369	15.47	1.41
7500	32-40	7275-117	1362-1-70	100	09/14/76	STREAM	WET	1000	0500	1	2.17	0.0214	7.80	1.19
7501	32-40	7859-116	8044-1-70	100	09/23/76	STREAM	WET	1000	0500	1	3.56	0.0271	16.01	1.65
7515	32-40	1266-116	9131-1-70	100	10/02/76	STREAM	WET	1000	0500	1	3.95	0.0285	15.54	1.56
7516	32-40	1877-116	7933-1-70	100	10/02/76	STREAM	WET	1000	0500	1	2.52	0.0230	9.91	0.89
7517	32-40	1392-116	8826-1-70	100	10/02/76	STREAM	WET	1000	0500	1	4.44	0.0302	8.65	1.75
7518	32-40	1914-117	1057-1-70	100	10/03/76	STREAM	WET	1000	0500	1	0.19	0.0078		
7519	32-40	0953-117	3918-1-70	100	10/03/76	STREAM	WET	1000	0500	1	9.11	0.0429	19.97	1.52
7519	32-40	0953-117	3918-1-70	101	10/03/76	STREAM	WET	1000	0500	1	11.36	0.0479	16.74	1.53
7520	32-40	2088-117	0200-1-70	100	10/03/76	STREAM	WET	1000	0500	1	4.11	0.0291	9.25	1.13
7521	32-40	8298-117	3048-1-70	100	10/04/76	STREAM	WET	1000	0500	1	2.50	0.0329	8.59	0.89
7522	32-40	7616-117	4893-1-70	100	10/04/76	STREAM	WET	1000	0500	1	0.52	0.0122		
7523	32-40	8639-117	3489-1-70	100	10/04/76	STREAM	WET	1000	0500	1	1.65	0.0189	5.42	1.26
7524	32-40	8046-117	5477-1-70	100	10/04/76	STREAM	WET	1000	0500	1	2.47	0.0228	8.02	0.96
7525	32-40	8984-117	5651-1-70	100	10/04/76	STREAM	WET	1000	0500	1	7.55	0.0392	20.29	1.44
7526	32-40	9381-117	6783-1-70	100	10/05/76	STREAM	WET	1000	0500	1	3.66	0.0275	14.63	1.69
7527	32-40	9410-117	6474-1-70	100	10/05/76	STREAM	WET	1000	0500	1	3.56	0.0271	9.88	1.06
7528	32-40	5116-117	6020-1-70	100	10/09/76	STREAM	WET	1000	0500	1	4.07	0.0249	11.94	1.11
7529	32-40	6032-117	5489-1-70	100	10/09/76	STREAM	WET	1000	0500	1	0.67	0.0126		
7529	32-40	6032-117	5489-1-70	101	10/09/76	STREAM	WET	1000	0500	1	0.70	0.0128	5.05	1.49
7530	32-40	5776-117	7148-1-70	100	10/09/76	STREAM	WET	1000	0500	1	2.42	0.0225	11.91	1.48
7531	32-40	7406-117	6285-1-70	100	10/09/76	STREAM	WET	1000	0500	1	3.01	0.0250	7.49	0.90

WINNEMCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST LAT.	DOE LONG.	SAMPLE LTY	NUMBER RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(PPM) CONC. ERR	THORIUM(PPM) CONC. ERR		
7548	32-40.	4196-117.	4149-170-	100	10/28/76	STREAM	WET	1000	0500	1	5.67	0.0340	7.86	1.12
7549	32-40.	3676-117.	3263-170-	100	10/28/76	STREAM	WET	1000	0500	1	0.07	0.0062		
7550	32-40.	2513-117.	3492-170-	100	10/28/77	STREAM	WET	1000	0500	1	17.90	0.0600	16.98	1.56
7551	32-40.	3326-117.	5309-170-	100	10/29/76	STREAM	WET	1000	0500	1	2.01	0.0206	3.79	0.79
7552	32-40.	4394-117.	6261-170-	100	10/29/76	STREAM	WET	1000	0500	1	2.70	0.0237	11.13	1.52
7553	32-40.	0563-117.	9215-170-	100	10/30/76	STREAM	WET	1000	0500	1	2.17	0.0214	6.88	1.60
7555	32-40.	1775-117.	8515-170-	100	10/30/76	STREAM	WET	1000	0500	1	3.94	0.0265	8.06	1.43
7560	32-40.	4070-117.	8827-170-	100	10/31/76	STREAM	WET	1000	0500	1	1.31	0.0169		
7616	32-40.	6972-116.	1312-172-	100	08/31/76	STREAM	DRY	1000	0500	1	2.25	0.0217	8.02	0.91
7617	32-40.	5293-116.	2113-170-	100	08/31/76	STREAM	WET	1000	0500	1	4.59	0.0307	16.07	2.22
7618	32-40.	5494-116.	0127-170-	100	08/31/76	STREAM	WET	1000	0500	1	3.33	0.0262	9.90	1.23
7619	32-40.	3268-116.	2361-170-	100		STREAM	WET	1000	0500	1	4.60	0.0307	12.36	1.18
7619	32-40.	3268-116.	2361-170-	101		STREAM	WET	1000	0500	1	4.10	0.0290	10.56	1.25
7622	32-40.	3621-116.	2651-170-	100	09/10/76	STREAM	WET	1000	0500	1	2.63	0.0234	12.24	1.01
7623	32-40.	3162-116.	4351-170-	100	09/12/76	STREAM	WET	1000	0500	1	1.52	0.0181	6.09	1.16
7624	32-40.	3761-116.	3427-170-	100	09/12/76	STREAM	WET	1000	0500	1	4.90	0.0317	10.79	1.42
7625	32-40.	5203-116.	3425-170-	100	09/12/76	STREAM	WET	1000	0500	1	3.48	0.0268	11.17	1.49
7627	32-40.	4300-116.	7666-170-	100	09/13/76	STREAM	WET	1000	0500	1	4.89	0.0317	11.41	1.34
7628	32-40.	4329-116.	0715-170-	100	09/13/76	STREAM	WET	1000	0500	1	6.93	0.0375		
7629	32-40.	3311-116.	9353-170-	100	09/13/76	STREAM	WET	1000	0500	1	3.75	0.0278	7.76	0.89
7629	32-40.	3311-116.	9353-170-	101		STREAM	WET	1000	0500	1	3.72	0.0277	6.90	1.24
7630	32-40.	3158-117.	0636-170-	100	09/13/76	STREAM	WET	1000	0500	1	1.18	0.0161	4.97	1.78
7631	32-40.	2886-117.	2271-170-	100	09/13/76	STREAM	WET	1000	0500	1	5.28	0.0329	15.08	1.22
7644	32-40.	9230-117.	1093-170-	100	09/24/76	STREAM	WET	1000	0500	1	1.61	0.0186	4.83	0.73
7645	32-40.	9724-117.	1652-170-	100	09/24/76	STREAM	WET	1000	0500	1	2.94	0.0247	9.45	1.59
7656	32-40.	1995-117.	1010-170-	100	10/03/76	STREAM	WET	1000	0500	1	0.47	0.0108	2.00	0.66
7657	32-40.	6731-117.	5395-170-	100	10/04/76	STREAM	WET	1000	0500	1	1.99	0.0205		
7658	32-40.	5606-117.	5126-170-	100	10/04/76	STREAM	WET	1000	0500	1	3.97	0.0206	15.48	1.39
7659	32-40.	5527-117.	4819-170-	100	10/04/76	STREAM	WET	1000	0500	1	3.79	0.0280	13.21	1.68
7659	32-40.	5527-117.	4819-170-	101		STREAM	WET	1000	0500	1	4.02	0.0288	15.04	1.60
7660	32-40.	7131-117.	4617-170-	100	10/04/76	STREAM	WET	1000	0500	1	6.06	0.0351	7.38	1.08
7661	32-40.	7856-117.	8545-170-	100	10/09/76	STREAM	WET	1000	0500	1	3.19	0.0257	12.20	4.14
7662	32-40.	7521-117.	8766-170-	100	10/09/76	STREAM	WET	1000	0500	1	4.75	0.0312	16.87	1.43
7663	32-40.	5683-117.	7620-170-	100	10/10/76	STREAM	WET	1000	0500	1	2.28	0.0219	4.83	0.64
7664	32-40.	5617-117.	8824-170-	100	10/10/76	STREAM	WET	1000	0500	1	1.87	0.0139	12.46	2.29
7665	32-40.	6806-117.	8035-170-	100	10/10/76	STREAM	WET	1000	0500	1	2.55	0.0231	10.03	1.13
7666	32-40.	7320-117.	9142-170-	100	10/11/76	STREAM	WET	1000	0500	1	6.76	0.0371	8.95	1.28
7667	32-40.	8742-117.	9363-170-	100	10/11/76	STREAM	WET	1000	0500	1	2.52	0.0230	10.14	1.13
7701	32-40.	8391-117.	2052-172-	100	09/14/76	STREAM	DRY	1000	0500	1	2.95	0.0247	9.01	1.66
7702	32-40.	8372-117.	2147-172-	100	09/14/76	STREAM	DRY	1000	0500	1	2.42	0.0225	6.19	1.15
7703	32-40.	8192-117.	2348-172-	100	09/14/76	STREAM	DRY	1000	0500	1	2.27	0.0219	7.48	0.93
7704	32-40.	8886-117.	1852-170-	100	09/14/76	STREAM	WET	1000	0500	9	3.24	0.0259	12.84	1.30
7705	32-40.	9634-117.	1628-172-	100	09/14/76	STREAM	DRY	1000	0500	1	1.55	0.0182	5.28	0.69
7705	32-40.	9743-117.	1426-172-	100	09/14/76	STREAM	DRY	1000	0500	1	2.16	0.0214	8.24	0.78
7707	32-40.	9861-117.	0559-172-	100	09/14/76	STREAM	DRY	1000	0500	1	3.28	0.0260	12.48	1.20
7708	32-40.	8140-117.	0702-172-	100	09/14/76	STREAM	DRY	1000	0500	1	2.09	0.0210	7.13	1.19
7709	32-40.	9113-117.	0427-172-	103	09/14/76	STREAM	DRY	1000	0500	1	3.17	0.0256	7.49	1.09
7709	32-40.	9113-117.	0427-172-	101		STREAM	DRY	1000	0500	1	2.70	0.0237	8.16	0.74
7710	32-40.	8987-117.	0890-172-	100	09/14/76	STREAM	DRY	1000	0500	1	3.03	0.0251	10.33	1.76

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

PAGE B-18

SITE NUMBER	-----DOE SAMPLE NUMBER-----				DATE	SAMPLE SOURCE/COND	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM (PPM)		THORIUM (PPM)	
	ST	LAT.	LONG.	L Y RPL							PPM	ERR	PPM	ERR
7711	32-40	9356	-117.1212	-1-70-100	09/14/76	STREAM	WET	1000	0500	9	2.75	0.0240	10.11	1.14
7712	32-40	8437	-117.0830	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.06	0.0252	7.35	1.43
7713	32-40	8643	-117.1721	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.19	0.0215	7.59	0.69
7714	32-40	7348	-117.6407	-1-70-100	09/15/76	STREAM	WET	1000	0500	9	3.23	0.0259	15.25	1.42
7715	32-40	7607	-117.6824	-1-72-100	08/15/76	STREAM	DRY	1000	0500	1	4.07	0.0289	14.66	1.31
7716	32-40	7502	-117.3004	-1-70-100	09/14/76	STREAM	WET	1000	0500	1	3.33	0.0263	14.19	1.19
7717	32-40	6932	-117.8711	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.26	0.0260		
7718	32-40	6916	-117.6344	-1-70-100	09/14/76	STREAM	WET	1000	0500	9	2.61	0.0233	14.98	1.31
7719	32-40	6664	-117.6235	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.64	0.0274		
7719	32-40	6664	-117.6235	-1-72-101		STREAM	DRY	1000	0500	1	3.03	0.0251	24.19	1.62
7720	32-40	6167	-117.6443	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	1.60	0.0186	7.90	1.12
7721	32-40	5874	-117.6025	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.66	0.0236	11.66	1.22
7722	32-40	5318	-117.6801	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.26	0.0260	11.72	1.34
7723	32-40	5129	-117.6917	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.15	0.0255	12.56	1.60
7724	32-40	5407	-117.7050	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.26	0.0218	8.19	1.19
7725	32-40	5551	-117.7146	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.85	0.0244	12.07	1.04
7726	32-40	5819	-117.7468	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.94	0.0247	33.22	1.89
7727	32-40	5577	-117.5622	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	3.77	0.0279	13.14	1.72
7728	32-40	5109	-117.5441	-1-70-100	09/14/76	STREAM	WET	1000	0500	1	4.46	0.0303	15.99	2.02
7729	32-40	5273	-117.5159	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	4.57	0.0306		
7729	32-40	5273	-117.5159	-1-72-101		STREAM	DRY	1000	0500	1	4.57	0.0306	21.05	1.39
7730	32-40	5247	-117.4994	-1-70-100	09/14/76	STREAM	WET	1000	0500	1	3.74	0.0278	14.57	1.35
7731	32-40	5307	-117.5620	-1-72-100	09/14/76	STREAM	DRY	1000	0500	1	2.84	0.0245	13.96	1.23
7732	32-40	6512	-117.6080	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.12	0.0212	8.17	0.96
7733	32-40	6307	-117.5581	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.85	0.0244		
7734	32-40	6210	-117.5178	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	3.75	0.0278	11.46	1.10
7735	32-40	5743	-117.4856	-1-70-100	09/17/76	STREAM	WET	1000	0500	9	3.44	0.0267	14.30	1.40
7736	32-40	6696	-117.5312	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	1.15	0.0159	5.18	1.26
7737	32-40	6939	-117.5373	-1-70-100	09/17/76	STREAM	WET	1000	0500	1	4.37	0.0300	15.95	1.63
7738	32-40	7336	-117.5163	-1-72-100	09/17/76	STREAM	WET	1000	0500	9	1.70	0.0191	6.80	1.15
7739	32-40	6049	-117.4870	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.51	0.0229	6.22	0.80
7739	32-40	6049	-117.4870	-1-72-101		STREAM	DRY	1000	0500	1	2.35	0.0222	6.91	1.29
7740	32-40	6023	-117.4692	-1-70-100	09/17/76	STREAM	WET	1000	0500	1	2.37	0.0223	7.68	0.83
7741	32-40	6431	-117.4681	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.20	0.0215	6.26	0.73
7742	32-40	6185	-117.4528	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	1.65	0.0207	9.99	0.95
7743	32-40	6511	-117.4278	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.14	0.0213	5.90	1.15
7744	32-40	6672	-117.4365	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.06	0.0209	7.78	0.86
7745	32-40	6887	-117.4817	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.07	0.0209	9.94	0.92
7746	32-40	7167	-117.4841	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	4.09	0.0290		
7747	32-40	7277	-117.4216	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	2.15	0.0213		
7748	32-40	7277	-117.4216	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	5.59	0.0336	21.53	1.57
7749	32-40	7253	-117.3665	-1-72-100	09/18/76	STREAM	WET	1000	0500	1	4.65	0.0309	6.40	1.22
7749	32-40	7253	-117.3665	-1-72-101		STREAM	WET	1000	0500	1	3.93	0.0295	11.36	1.43
7750	32-40	7239	-117.3212	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	6.12	0.0353	25.74	1.79
7751	32-40	7263	-117.2886	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	6.95	0.0376	23.43	1.82
7752	32-40	7236	-117.2886	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	4.91	0.0317	18.56	1.37
7753	32-40	7237	-117.2886	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	9.54	0.0439	29.81	1.96
7754	32-40	7238	-117.2886	-1-72-100	09/18/76	STREAM	WET	1000	0500	1	5.06	0.0320	19.11	1.05
7755	32-40	7266	-117.2561	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	4.48	0.0303	17.43	1.13

WINNEMUKA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	-----DOE LAT	SAMPLE NUMBER----- LONG.	DATE L T Y R MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS CONT	O. C X-REF	URANIUM (PPM)	THORIUM (PPM)	ERR	ERR	
7756	32	-40.0677	-117.2979	-1-72-100	09/17/76	STREAM	DRY	1000	0500	1	4.90	0.0317	21.96	1.51
7757	32	-40.0937	-117.3437	-1-70-100	09/18/76	STREAM	WET	1000	0500	1	6.85	0.0373	23.30	1.50
7758	32	-40.0701	-117.3858	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	5.79	0.0344	22.18	1.54
7759	32	-40.0711	-117.3694	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	5.23	0.0327	20.25	1.49
7759	32	-40.0711	-117.3694	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	6.06	0.0351	23.47	1.69
7760	32	-40.0627	-117.4315	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	5.55	0.0337	25.52	1.64
7761	32	-40.0517	-117.4983	-1-72-100	09/18/76	STREAM	DRY	1000	0500	1	3.80	0.0280	15.41	1.14
7794	32	-40.7355	-117.1717	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	3.49	0.0269	9.54	1.14
7795	32	-40.7229	-117.1492	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	3.21	0.0258	7.19	1.37
7796	32	-40.6841	-117.1953	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	3.96	0.0286	7.87	1.32
7797	32	-40.7281	-117.2345	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	2.48	0.0228	7.51	0.86
7798	32	-40.7264	-117.2143	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	2.82	0.0242	8.51	0.97
7799	32	-40.7264	-117.2143	-1-72-100	09/21/76	STREAM	DRY	1000	0500	1	3.65	0.0275		
7799	32	-40.6959	-117.1811	-1-72-101		STREAM	DRY	1000	0500	1	3.51	0.0269	12.14	1.11
7800	32	-40.8131	-117.4577	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.49	0.0228	9.45	1.60
7801	32	-40.8222	-117.4471	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.82	0.0242		
7802	32	-40.8186	-117.4399	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.90	0.0229	12.09	1.23
7803	32	-40.8132	-117.4292	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	1.65	0.0188	7.95	1.37
7804	32	-40.8322	-117.4104	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.37	0.0244	5.59	0.96
7805	32	-40.8139	-117.1885	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.87	0.0244	9.42	1.90
7806	32	-40.7814	-117.1813	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	1.68	0.0189	7.53	0.98
7807	32	-40.7589	-117.1824	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.34	0.0222	7.89	1.05
7808	32	-40.8005	-117.0616	-1-72-100	09/22/76	STREAM	DRY	1000	0500	9	4.14	0.0292	13.07	1.48
7809	32	-40.7984	-117.2442	-1-72-100		STREAM	DRY	1000	0500	1	2.25	0.0218	7.91	1.08
7810	32	-40.7696	-117.2702	-1-72-100	09/22/76	STREAM	DRY	1000	0500	1	2.56	0.0231	8.82	1.10
7811	32	-40.7903	-117.2598	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	2.89	0.0237	6.85	1.00
7812	32	-40.8029	-117.2738	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	2.71	0.0258	7.26	0.95
7813	32	-40.8137	-117.2881	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	2.44	0.0226	7.05	0.97
7814	32	-40.7946	-117.3532	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	1.61	0.0186	5.94	1.05
7815	32	-40.7656	-117.3957	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	3.40	0.0265		
7816	32	-40.7507	-117.4828	-1-72-100	09/23/76	STREAM	DRY	1000	0500	1	4.40	0.0301	20.00	1.51
7889	32	-40.0962	-117.9983	-1-72-100	09/29/76	STREAM	DRY	1000	0500	1	1.11	0.0157	4.61	1.00
7890	32	-40.0723	-117.9487	-1-70-100	09/29/76	STREAM	WET	1000	0500	9	1.60	0.0185	5.95	1.82
7891	32	-40.0795	-117.9489	-1-72-100	09/29/76	STREAM	DRY	1000	0500	1	1.70	0.0191	5.70	1.02
7892	32	-40.572	-117.9145	-1-70-100	09/29/76	STREAM	WET	1000	0500	9	0.89	0.0142	3.58	0.93
7893	32	-40.0600	-117.9028	-1-72-100	09/29/76	STREAM	DRY	1000	0500	1	0.93	0.0437	2.35	0.88
7894	32	-40.4431	-117.9869	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	3.25	0.0260		
7895	32	-40.4432	-117.9822	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	2.89	0.0245	8.95	1.18
7896	32	-40.3095	-117.7955	-1-70-100	10/03/76	STREAM	WET	1000	0500	1	1.45	0.0177	4.96	1.20
7897	32	-40.157	-117.9188	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	1.19	0.0162	4.64	1.14
7898	32	-40.0991	-117.8658	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	3.13	0.0255	13.36	1.38
7899	32	-40.0955	-117.8646	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	3.03	0.0251	14.84	1.45
7900	32	-40.0847	-117.8551	-1-72-100	10/03/76	STREAM	DRY	1000	0500	1	3.17	0.0256	12.04	1.52
7901	32	-40.4770	-117.9225	-1-72-100	03/29/76	STREAM	DRY	1000	0500	9	2.96	0.0248	5.62	1.18
7902	32	-40.4729	-117.9603	-1-72-100	03/29/76	STREAM	DRY	1000	0500	1	2.85	0.0243	7.54	1.22
7903	32	-40.8500	-117.994	-1-72-100	09/25/76	STREAM	DRY	1000	0500	1	2.16	0.0213	6.57	0.92
7904	32	-40.8500	-117.9922	-1-72-100	09/29/76	STREAM	DRY	1000	0500	1	2.05	0.0208	6.24	0.95
7905	32	-40.4498	-117.9422	-1-72-100	05/29/76	STREAM	DRY	1000	0500	1	2.93	0.0243	5.87	1.28
7905	32	-40.4498	-117.9422	-1-72-100		STREAM	DRY	1000	0500	1	2.89	0.0245	9.03	1.22

MINNEAPOLIS QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-1. SEDIMENT ANALYSIS: OXY AND STREAM SITES

PAGE 3-20

SITE NUMBER	ST	-----DOE LAT.	SAMPLE LONG. L	DATE TY RPL	MC-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(10NC) PPM	THORIUM(10NC) PPM	MAI ERR		
7906	32	-40.4438	-117.9020	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.52	0.0230	4.59	0.94	
7906	32	-40.4438	-117.9020	-172-110		STREAM	DRY	1000	0500		2.78	0.024			
7907	32	-40.4486	-117.8738	-172-100	09/29/76	STREAM	DRY	1000	0500	1	3.53	0.0270			
7907	32	-40.4486	-117.8738	-172-110		STREAM	DRY	1000	0500		3.49	0.0269	9.15	1.32	
7908	32	-40.4857	-117.8472	-172-100	09/29/76	STREAM	DRY	1000	0500	1	3.28	0.0261	9.26	1.30	
7909	32	-40.4812	-117.8400	-172-100	09/29/76	STREAM	DRY	1000	0500	1	3.44	0.0267	7.82	1.26	
7910	32	-40.4388	-117.8536	-172-100	09/29/76	STREAM	DRY	1000	0500	1	3.43	0.0256			
7911	32	-40.4208	-117.8440	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.91	0.0246			
7911	32	-40.4208	-117.8440	-172-110		STREAM	DRY	1000	0500		2.59	0.0233	8.54	0.77	
7912	32	-40.4001	-117.8508	-172-100	09/29/76	STREAM	DRY	1000	0500	1	3.85	0.0262	8.27	1.51	
7913	32	-40.3925	-117.8966	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.08	0.0209	6.07	1.25	
7913	32	-40.3925	-117.8966	-172-110		STREAM	DRY	1000	0500		1.98	0.0205	5.64	0.89	
7914	32	-40.3749	-117.8375	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.53	0.0230	6.90	1.56	
7915	32	-40.3607	-117.8103	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.84	0.0243	8.83	1.38	
7916	32	-40.3518	-117.7972	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.40	0.0224	8.49	1.10	
7917	32	-40.3391	-117.8124	-172-100	09/29/76	STREAM	DRY	1000	0500	9	2.55	0.0231	7.64	1.20	
7918	32	-40.3132	-117.7791	-172-100	09/29/76	STREAM	DRY	1000	0500	9	6.09	0.0352	14.92	1.51	
7919	32	-40.3265	-117.8075	-172-100	09/29/76	STREAM	DRY	1000	0500	9	2.26	0.0218	6.68	0.99	
7920	32	-40.3201	-117.8215	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.11	0.0211			
7921	32	-40.3119	-117.8391	-172-100	09/29/76	STREAM	DRY	1000	0500	9	1.61	0.0186	5.48	0.81	
7922	32	-40.3055	-117.8461	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.48	0.0228	9.15	1.08	
7923	32	-40.2992	-117.9024	-172-100	09/29/76	STREAM	DRY	1000	0500	1	2.16	0.0214	9.62	1.25	
7924	32	-40.2573	-117.9019	-172-100	09/30/76	STREAM	DRY	1000	0500	1	3.60	0.0273	14.99	1.22	
7925	32	-40.2036	-117.8566	-172-100	09/30/76	STREAM	DRY	1000	0500	1	3.38	0.0264	9.61	1.66	
7926	32	-40.2461	-117.9430	-172-100	09/30/76	STREAM	DRY	1000	0500	1	2.50	0.0229	6.01	0.65	
7927	32	-40.2400	-117.8147	-172-100	09/30/76	STREAM	DRY	1000	0500	9	9.74	0.0421	13.92	3.56	
7928	32	-40.2239	-117.7969	-172-100	09/30/76	STREAM	DRY	1000	0500	1	2.97	0.0248	16.24	1.43	
7929	32	-40.2139	-117.8026	-172-100	09/30/76	STREAM	DRY	1000	0500	9	1.89	0.0200	6.07	0.92	
7930	32	-40.2065	-117.8354	-172-100	09/30/76	STREAM	DRY	1000	0500	9	2.55	0.0231	9.76	0.92	
7931	32	-40.1759	-117.8351	-172-100	09/30/76	STREAM	DRY	1000	0500	1	2.66	0.0236	9.17	2.05	
7932	32	-40.1560	-117.8407	-172-100	09/30/76	STREAM	DRY	1000	0500	9	2.36	0.0222	9.33	1.20	
7933	32	-40.1307	-117.8498	-172-100	09/30/76	STREAM	DRY	1000	0500	1	2.72	0.0238	11.41	1.35	
7934	32	-40.1198	-117.8637	-172-100	09/30/76	STREAM	DRY	1000	0500	1	2.78	0.0241	8.31	1.05	
7935	32	-40.2815	-117.9176	-172-100	09/30/76	STREAM	DRY	1000	0500	1	3.67	0.0275	12.05	1.15	
7936	32	-40.2703	-117.9750	-172-100	09/30/76	STREAM	DRY	1000	0500	1	9.25	0.0433	4.47	1.35	
8314	32	-40.4373	-117.2087	-172-100	05/08/76	STREAM	DRY	1000	0500	1	6927	2.94	0.0247	11.65	1.04
8315	32	-40.4544	-117.2017	-172-100	05/08/76	STREAM	DRY	1000	0500	1	6929	3.72	0.0277	12.82	1.21
8319	32	-40.3335	-116.7080	-170-100	06/29/76	STREAM	WET	1000	0500	1	698-2	4.04	0.0288	9.90	1.20
8319	32	-40.3335	-116.7080	-170-100		STREAM	WET	1000	0500			4.13	0.0291	8.57	0.97
8324	32	-40.1706	-117.2102	-170-100	05/07/76	STREAM	WET	1000	0500	9	6340	5.07	0.0322	19.89	1.51
8325	32	-40.2661	-117.0494	-172-100	05/07/76	STREAM	DRY	1000	0500	1	6342	3.38	0.0266		
8326	32	-40.3567	-117.0341	-172-100	05/07/76	STREAM	DRY	1000	0500	1	6346	3.19	0.0257	11.71	1.20
8327	32	-40.5167	-117.0992	-172-100		STREAM	DRY	1000	0500	1	6389	2.87	0.0245	8.55	1.01
8336	32	-40.4815	-117.1380	-172-100	05/08/76	STREAM	DRY	1000	0500	9	6930	4.23	0.0295	12.09	1.22
8337	32	-40.4708	-117.0625	-170-100	05/07/76	STREAM	WET	1000	0500	9	6931	4.13	0.0292	12.95	1.12
8339	32	-40.4382	-116.8114	-170-100		STREAM	WET	1000	0500			3.66	0.0275		
8340	32	-40.4950	-116.8195	-170-100	05/16/76	STREAM	WET	1000	0500	9	6999	3.50	0.0265	7.32	1.14
8341	32	-40.5579	-116.7590	-172-100	05/16/76	STREAM	DRY	1000	0500	9	6961	3.73	0.0277	9.04	1.12
8342	32	-40.6084	-116.7624	-172-100	05/16/76	STREAM	DRY	1000	0500	1	6966	3.07	0.0253	5.74	1.56

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	-----DOE LAT.	SAMPLE LONG.	NUMBER L	DATE YR	SAMPLE MO-DA-YR	SOURCE/COND.	PARTICLE SIZE JPPER	POS. LOWER	CONT.	Q C X-REF	URANIUM(DNC) PPH	THORIUM(MAA) PPH	ERR	
8343	32-40	5822-116	7566-1	-172-100	09/06/76	STREAM	DRY	1000	0500	9	6967	3.22	0.0258	7.29	1.01
19723	32-40	7631-116	6694-1	-172-100	07/17/77	STREAM	DRY	1000	0500	5		1.41	0.0175		
19724	32-40	7881-116	6409-1	-172-100	07/17/77	STREAM	DRY	1000	0500	5		5.50	0.0335	22.60	1.76
19725	32-40	8951-116	5300-1	-172-100	07/17/77	STREAM	DRY	1000	0500	5		3.12	0.0255	14.41	2.23
19726	32-40	8111-116	5048-1	-172-100	07/17/77	STREAM	DRY	1000	0500	1		4.70	0.0310		
19727	32-40	8959-116	5168-1	-172-100	07/17/77	STREAM	DRY	1000	0500	1		4.94	0.0318	15.64	1.92
19728	32-40	4817-116	0974-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		3.62	0.0273	7.45	0.88
19729	32-40	4735-116	0881-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		3.09	0.0253	5.93	0.91
19730	32-40	4526-116	0636-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		3.82	0.0280	10.32	1.40
19731	32-40	4391-116	0721-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		1.87	0.0199	6.08	0.73
19732	32-40	4310-116	0875-1	-170-100	07/18/77	STREAM	DET	1000	0500	5		1.80	0.0196	4.96	0.75
19733	32-40	4185-116	0783-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		2.64	0.0235	7.65	0.90
19734	32-40	4031-116	0773-1	-172-100	07/18/77	STREAM	DRY	1000	0500	5		2.36	0.0223	6.82	0.84
19735	32-40	3959-116	0786-1	-172-100	07/19/77	STREAM	DRY	1000	0500	1		3.46	0.0267	10.72	1.00
19736	32-40	3742-116	0694-1	-172-100	07/19/77	STREAM	DRY	1000	0500	5		4.71	0.0311	4.76	0.81
19737	32-40	3641-116	0413-1	-170-100	07/19/77	STREAM	DET	1000	0500	1		3.67	0.0275	7.39	0.95
19738	32-40	3444-116	0557-1	-172-100	07/19/77	STREAM	DRY	1000	0500	5		3.86	0.0282	6.52	1.69
19739	32-40	3044-116	0151-1	-172-100	07/19/77	STREAM	DRY	1000	0500	1		2.44	0.0226	4.34	0.87
19740	32-40	5250-116	5844-1	-172-100	07/20/77	STREAM	DRY	1000	0500	1		4.36	0.0239	18.35	1.37
19741	32-40	5098-116	6140-1	-172-100	07/20/77	STREAM	DRY	1000	0500	1		3.94	0.0285	17.10	1.79
19742	32-40	4999-116	6117-1	-172-100	07/20/77	STREAM	DRY	1000	0500	5		4.29	0.0297	21.85	1.61
19743	32-40	5279-116	6462-1	-172-100	07/20/77	STREAM	DRY	1000	0500	4		3.28	0.0262	13.70	1.48
19744	32-40	5135-116	6589-1	-172-100	07/20/77	STREAM	DRY	1000	0500	5		1.72	0.0192	6.32	1.78
19745	32-40	5478-116	6693-1	-172-100	07/20/77	STREAM	DRY	1000	0500	5		2.80	0.0242	10.87	1.58
19746	32-40	5747-116	6479-1	-172-100	07/21/77	STREAM	DRY	1000	0500	5		3.57	0.0272	12.36	2.03
19747	32-40	5837-116	6266-1	-172-100	07/21/77	STREAM	DRY	1000	0500	5		1.57	0.0184	6.03	1.03
19748	32-40	5954-116	6254-1	-172-100	07/21/77	STREAM	DRY	1000	0500	5		1.47	0.0176	7.05	1.25
19749	32-40	6990-116	6172-1	-172-100	07/21/77	STREAM	DRY	1000	0500	5		3.37	0.0284	11.31	1.32
19750	32-40	6134-116	6241-1	-172-100	07/21/77	STREAM	DRY	1000	0500	5		2.60	0.0233	8.72	1.69
19751	32-40	7445-117	1883-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		2.84	0.0243	8.50	1.03
19752	32-40	7364-117	1918-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		2.25	0.0217	8.05	1.35
19753	32-40	7328-117	1954-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		2.08	0.0219	9.43	1.10
19754	32-40	6436-117	1679-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.19	0.0257		
19755	32-40	6292-117	1478-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.08	0.0253	10.42	1.19
19756	32-40	6374-117	1313-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.37	0.0264	13.48	1.13
19757	32-40	6706-117	1775-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.56	0.0271	7.99	1.13
19758	32-40	7103-117	1657-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.53	0.0270	8.58	1.07
19759	32-40	7103-117	1586-1	-172-100	07/26/77	STREAM	DRY	1000	0500	1		3.94	0.0270	9.33	1.50
19760	32-40	7319-117	1692-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		2.53	0.0230		
19761	32-40	7076-117	1432-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		4.18	0.0283	8.05	1.03
19762	32-40	7168-117	1421-1	-172-100	07/26/77	STREAM	DRY	1000	0500	5		3.83	0.0281	9.01	0.97
19763	32-40	7013-117	1290-1	-172-100	07/27/77	STREAM	DRY	1000	0500	5		5.12	0.0324	6.55	0.97
19764	32-40	7077-117	1112-1	-172-100	07/27/77	STREAM	DRY	1000	0500	1		4.54	0.0305	9.19	1.30
19765	32-40	6924-117	0970-1	-172-100	07/27/77	STREAM	DRY	1000	0500	5		3.33	0.0263	13.80	1.28
19766	32-40	6825-117	0899-1	-172-100	07/27/77	STREAM	DRY	1000	0500	2		3.57	0.0272	6.95	0.82
19767	32-40	6771-117	5905-1	-172-100	07/27/77	STREAM	DRY	1000	0500	9		2.77	0.0240	9.43	0.99
19768	32-40	6545-117	0651-1	-172-100	07/27/77	STREAM	DRY	1000	0500	9		3.57	0.0272	15.43	1.14
19769	32-40	6374-117	0438-1	-172-100	07/27/77	STREAM	DRY	1000	0500	2		2.55	0.0231	6.63	1.16
19770	32-40	6248-117	0130-1	-172-100	07/27/77	STREAM	DRY	1000	0500	9		4.62	0.0308	10.10	1.05

WINNEMUKA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-1. SEDIMENT ANALYSIS; DRY AND STREAM SITES

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SITE NUMBER	DOE SAMPLE NUMBER- LAT LONG			DATE L TY RPL		SAMPLE MO-DA-YR SOURCE/COND.		PARTICLE SIZE UPPER LOWER		POS. CONT	Q. C. X-REF	URANIUM(ONC) PPM ERR		THORIUM(INAA) PPM ERR	
19771	32-40.6275	-117.0733	-1-72-100	07/27/77	STREAM	DRY	1000 0500	9				3.33	0.0263	16.68	1.29
19772	32-40.6185	-117.0768	-1-72-100	07/27/77	STREAM	DRY	1000 0500	2				3.69	0.0276	15.25	1.38
19773	32-40.5888	-117.0804	-1-72-100	07/27/77	STREAM	DRY	1000 0500	2				2.75	0.0239	11.70	0.91
19775	32-40.5635	-117.0980	-1-72-100	07/27/77	STREAM	DRY	1000 0500	9				1.16	0.0256	7.44	0.99
19776	32-40.5302	-117.0862	-1-72-100	07/28/77	STREAM	DRY	1000 0500	5				3.06	0.0252	11.28	1.12
19777	32-40.5860	-117.1583	-1-70-100	07/28/77	STREAM	WET	1000 0500	5				3.02	0.0251		
19778	32-40.5535	-117.2055	-1-72-100	07/28/77	STREAM	DRY	1000 0500	1				2.30	0.0220	8.34	1.18
19779	32-40.5462	-117.2232	-1-72-100	07/28/77	STREAM	DRY	1000 0500	5				2.32	0.0251	9.76	1.36
19780	32-40.5831	-117.2375	-1-72-100	07/28/77	STREAM	DRY	1000 0500	5				2.42	0.0225	7.98	0.91
19781	32-40.5750	-117.2363	-1-72-100	07/28/77	STREAM	DRY	1000 0500	1				3.36	0.0264	14.99	1.34
19782	32-40.6057	-117.2317	-1-72-100	07/28/77	STREAM	DRY	1000 0500	2				2.74	0.0239	9.81	0.96
19783	32-40.6183	-117.2305	-1-72-100	07/28/77	STREAM	DRY	1000 0500	5				2.25	0.0217	4.45	0.88
19784	32-40.6318	-117.2247	-1-72-100	07/28/77	STREAM	DRY	1000 0500	9				2.77	0.0240	8.12	0.76
19785	32-40.6589	-117.2200	-1-72-100	07/28/77	STREAM	DRY	1000 0500	5				4.34	0.0298	12.82	1.41
19786	32-40.6131	-117.0071	-1-72-100	07/29/77	STREAM	DRY	1000 0500	2				3.48	0.0268		
19787	32-40.5554	-117.0662	-1-72-100	07/29/77	ST. AM	DRY	1000 0500	1				2.90	0.0245	14.99	1.34
19944	32-40.5700	-116.9654	-1-72-100	07/16/77	STREAM	DRY	1000 0500	1				3.03	0.0251	11.97	1.46
19945	32-40.5620	-116.5948	-1-72-100	07/16/77	STREAM	DRY	1000 0500	9				3.65	0.0274	14.13	2.55
19946	32-40.9526	-116.6093	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				4.17	0.0293	16.83	1.36
19947	32-40.9852	-116.5923	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				3.00	0.0250	6.29	0.69
19948	32-40.9845	-116.5934	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				3.31	0.0262	8.22	1.23
19949	32-40.9431	-116.5877	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				4.92	0.0317	19.42	1.66
19950	32-40.9228	-116.6232	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				5.03	0.0321	10.40	1.04
19951	32-40.9784	-116.6772	-1-72-100	07/17/77	STREAM	DRY	1000 0500	9				4.58	0.0306	16.76	2.01
19952	32-40.4687	-116.1872	-1-72-100	07/18/77	STREAM	DRY	1000 0500	1				3.41	0.0266	11.94	1.14
19953	32-40.4363	-116.1806	-1-72-100	07/18/77	STREAM	DRY	1000 0500	5				4.14	0.0292	14.21	1.46
19954	32-40.4155	-116.1620	-1-72-100	07/18/77	STREAM	DRY	1000 0500	5				4.27	0.0296	16.50	1.45
19955	32-40.4020	-116.1610	-1-72-100	07/18/77	STREAM	DRY	1000 0500	5				4.43	0.0302	15.02	1.38
19956	32-40.3636	-116.2121	-1-72-100	07/18/77	STREAM	DRY	1000 0500	9				4.47	0.0303	15.22	1.16
19957	32-40.3521	-116.2405	-1-70-100	07/19/77	STREAM	WET	1000 0500	9				2.82	0.0242	12.15	1.36
19958	32-40.3276	-116.2172	-1-70-100	07/19/77	STREAM	WET	1000 0500	9				2.88	0.0245	11.24	1.47
19959	32-40.2894	-116.0565	-1-72-100	07/19/77	STREAM	DRY	1000 0500	9				7.35	0.0366		
19960	32-40.2522	-116.0241	-1-72-100	07/19/77	STREAM	DRY	1000 0500	5				1.62	0.0186	3.56	1.28
19961	32-40.5858	-116.7294	-1-72-100	07/20/77	STREAM	DRY	1000 0500	9				2.58	0.0232	6.17	1.27
19962	32-40.5362	-116.7272	-1-72-100	07/20/77	STREAM	DRY	1000 0500	5				2.10	0.0211	5.94	1.02
19963	32-40.6577	-116.6842	-1-72-100	07/20/77	STREAM	DRY	1000 0500	1				3.10	0.0253		
19964	32-40.6604	-116.6546	-1-72-100	07/20/77	STREAM	DRY	1000 0500	5				0.34	0.0096		
19965	32-40.6888	-116.6574	-1-72-100	07/20/77	STREAM	DRY	1000 0500	5				4.51	0.0304	16.72	1.32
19966	32-40.6950	-116.5195	-1-72-100	07/20/77	STREAM	DRY	1000 0500	1				3.65	0.0274	8.60	0.95
19967	32-40.6365	-116.5364	-1-72-100	07/21/77	STREAM	DRY	1000 0500	3				5.36	0.0331	19.47	1.62
19968	32-40.6232	-116.6004	-1-72-100	07/21/77	STREAM	DRY	1000 0500	9				4.86	0.0316	18.93	1.94
19969	32-40.6196	-116.5850	-1-72-100	07/21/77	STREAM	DRY	1000 0500	9				4.69	0.0310	19.89	1.58
20536	32-40.3323	-116.6303	-1-72-100	08/09/77	STREAM	DRY	1000 0500	5				3.79	0.0280	20.90	1.64
20537	32-40.0221	-116.8359	-1-72-100	08/04/77	STREAM	DRY	1000 0500	5				4.24	0.0295	5.86	1.03
20538	32-40.0798	-116.5625	-1-72-100	08/04/77	STREAM	DRY	1000 0500	5				3.78	0.0279	7.92	0.79
20539	32-40.1439	-116.5856	-1-72-100	08/04/77	STREAM	DRY	1000 0500	1				3.62	0.0273	9.23	1.28
20540	32-40.1152	-116.6397	-1-72-100	08/09/77	STREAM	DRY	1000 0500	5				12.05	0.0493	17.95	1.99
20540	32-40.1152	-116.6397	-1-72-100		STREAM	DRY	1000 0500					10.83	0.0468		
20541	32-40.0774	-116.6435	-1-72-100	08/09/77	STREAM	DRY	1000 0500	5				4.58	0.0306	11.94	1.26

WINNEMCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

SITE NUMBER	ST	----- LAT.	----- LONG.	SAMPLE NUMBER----- L * Y RPL	DATE	SAMPLE SOURCE/CONC.	PARTICLE SIZE UPPER LOWER CONT	POS. CONT	Q. C. X-REF	URANIUM (PPM) ERR	THORIUM (PPM) ERR	
20502	32	-40.0414	-116.6577	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		4.35 0.0299	7.79 0.76	
20503	32	-40.0270	-116.6590	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		3.71 0.0276	10.04 1.06	
20504	32	-40.0027	-116.6591	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		5.17 0.0325		
20505	32	-40.0048	-116.7903	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		4.27 0.0296	6.97 1.02	
20554	32	-40.0030	-116.7903	-1-72-100	08/09/77	STREAM	CRY 1000 0500	5		4.24 0.0295	10.20 1.14	
20555	32	-40.0093	-116.7950	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		4.07 0.0289	17.60 1.49	
20556	32	-40.0219	-116.7973	-1-72-100	08/09/77	STREAM	DRY 1000 0500	5		5.05 0.0321		
29539	32	-40.0382	-117.8076	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.02 0.0268	13.37 1.81	
29539	32	-40.0174	-117.8261	-1-72-100	08/16/77	STREAM	DRY 1000 0500	9		1.76 0.0194	2.72 0.80	
29540	32	-40.0011	-117.8306	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		1.56 0.0204	4.65 1.09	
29541	32	-40.0654	-117.7856	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		3.37 0.0264	11.65 1.11	
29542	32	-40.0664	-117.7751	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		2.47 0.0228	6.90 0.93	
29543	32	-40.0664	-117.7622	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		2.47 0.0227	7.65 0.76	
29544	32	-40.0873	-117.7413	-1-72-100	08/16/77	STREAM	DRY 1000 0500	5		3.14 0.0255	12.69 1.41	
29545	32	-40.1265	-117.6608	-1-72-100	08/16/77	STREAM	DRY 1000 0500	5		3.30 0.0261	12.47 1.17	
29546	32	-40.1355	-117.6620	-1-72-100	08/16/77	STREAM	DRY 1000 0500	5		3.67 0.0275	14.56 1.37	
29547	32	-40.1508	-117.6633	-1-72-100	08/16/77	STREAM	DRY 1000 0500	5		2.99 0.0249	8.42 0.75	
29548	32	-40.1688	-117.6764	-1-72-100	08/16/77	STREAM	DRY 1000 0500	5		3.61 0.0273	13.28 1.69	
29549	32	-40.1096	-117.6301	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		3.69 0.0276	15.01 1.42	
29550	32	-40.1340	-117.6162	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		4.42 0.0301	13.11 1.31	
29552	32	-40.0883	-117.7202	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		1.48 0.0178	5.70 0.95	
29553	32	-40.0947	-117.7097	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		2.95 0.0248	11.85 1.21	
29554	32	-40.1472	-117.6715	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		2.99 0.0249	11.52 1.12	
29555	32	-40.1553	-117.6775	-1-72-100	08/16/77	STREAM	DRY 1000 0500	1		3.32 0.0262	13.62 1.20	
29556	32	-40.1255	-117.5797	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		4.09 0.0290	18.62 1.77	
29557	32	-40.1406	-117.5646	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		4.51 0.0304	16.51 1.43	
29558	32	-40.1568	-117.5495	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		4.31 0.0297	19.60 1.56	
29559	32	-40.1623	-117.5460	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		3.89 0.0283	15.55 1.21	
29560	32	-40.1849	-117.5251	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		5.22 0.0326	21.77 1.73	
29561	32	-40.2029	-117.5284	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.86 0.0275	10.53 0.78	
29562	32	-40.2183	-117.5053	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.86 0.0282	14.68 1.39	
29563	32	-40.2409	-117.4914	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.58 0.0272	14.18 1.21	
29564	32	-40.2409	-117.4879	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.37 0.0300	15.72 1.31	
29565	32	-40.2339	-117.4326	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		5.90 0.0347	17.28 1.41	
29566	32	-40.2320	-117.4596	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.51 0.0289	14.43 1.29	
29567	32	-40.2194	-117.4630	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.64 0.0308	16.98 1.51	
29568	32	-40.1995	-117.4723	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		5.16 0.0256	9.25 1.01	
29569	32	-40.1873	-117.4710	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.99 0.0320	20.53 1.45	
29570	32	-40.1662	-117.4721	-70-100	08/17/77	STREAM	WET 1000 0500	1		11.10 0.0474	19.48 1.81	
29571	32	-40.1535	-117.4966	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		5.85 0.0346	21.79 1.71	
29572	32	-40.1085	-117.4834	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		7.06 0.0379	26.58 2.05	
29573	32	-40.1031	-117.4834	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		6.46 0.0363	20.80 1.75	
29574	32	-40.0911	-117.4850	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		6.46 0.0414	31.81 2.83	
29575	32	-40.0797	-117.4727	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.98 0.0286	18.37 1.39	
29576	32	-40.0833	-117.4785	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.41 0.0301		
29577	32	-40.1391	-117.4848	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.76 0.0312	16.67 1.48	
29578	32	-40.1264	-117.5176	-1-72-100	08/17/77	STREAM	DRY 1000 0500	1		6.41 0.0361	24.94 1.91	
29580	32	-40.1146	-117.5304	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		3.82 0.0281	11.95 1.06	
29581	32	-40.0975	-117.5326	-1-72-100	08/17/77	STREAM	DRY 1000 0500	5		4.66 0.0309	16.31 1.26	

WINNEQUA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-1. SEDIMENT ANALYSIS: DRY AND STREAM SITES

PAGE B-24

SITE NUMBER	ST LAT.	DOE LONG.	SAMPLE L TY RPL	DATE MO-DA-YR	SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM ERR	THORIUM(NAI) PPM ERR		
29582	32-40.	0955-117.5584	-1-72-100	08/17/77	STREAM	DRY	1000	0500	1	4.24	0.0295	13.92	1.11
29583	32-40.	0811-117.5724	-1-72-100	08/17/77	STREAM	DRY	1000	0500	1	4.06	0.0289	12.22	1.08
29584	32-40.	0684-117.5828	-1-72-100	08/17/77	STREAM	DRY	1000	0500	1	5.68	0.3341	7.33	0.89
29585	32-40.	0611-117.5886	-1-72-100	08/17/77	STREAM	DRY	1000	0500	1	4.10	0.0291	7.30	0.82
29586	32-40.	0575-117.5921	-1-72-100	08/17/77	STREAM	DRY	1000	0500	1	3.21	0.0258	9.21	0.93
29587	32-40.	2147-117.6898	-1-72-100	08/18/77	STREAM	DRY	1000	0500	5	4.04	0.0288	14.73	1.49
29589	32-40.	1913-117.6861	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	2.67	0.0236	10.31	1.20
29590	32-40.	1891-117.7424	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	1.89	0.0201	8.25	1.09
29591	32-40.	1702-117.7352	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	1.44	0.0177	5.26	0.97
29592	32-40.	1458-117.7560	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	2.81	0.0242	8.83	1.43
29593	32-40.	1331-117.7712	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	2.90	0.0246		
29594	32-40.	1285-117.7770	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	3.06	0.0252	9.32	0.92
29595	32-40.	1249-117.7758	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	3.21	0.0258	10.30	0.97
29597	32-40.	1970-117.7684	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	2.74	0.0239	9.94	1.12
29598	32-40.	1988-117.7696	-1-72-100	08/18/77	STREAM	DRY	1000	0500	1	2.93	0.0247	10.02	1.02
29599	32-40.	2162-117.7298	-1-72-100		STREAM	DRY	1000	0500	1	4.28	0.0297	16.74	1.58

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-2. WATER ANALYSIS: RIVERS, STREAMS & LAKES

PAGE B-25

SI NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER LTY	DATE RPL	SOURCE MO-DA-YR	TEMP	PH	SPEC UMPHO/CM	COND MG/LITER	AKTDTL MG/LITER	WHEN POS.	POS. CONT	URANIUM PPB	(CONC) ERR	O. C. X-REF
5078	32-40.5	04-116.1238	-122-200	08/07/76	STREAM	27.8	9.1	387.	140.	40.	5	1.31	0.0306			
5078	32-40.5	04-116.1238	-122-201		STREAM											
5079	32-40.56	7-116.1412	-122-200	08/07/76	STREAM	23.5	8.9	721.	190.	40.	9	3.90	0.0516			
5081	32-40.5946	116.1361	-122-200	08/07/76	STREAM	24.6	9.3	323.	80.	40.	9	2.13	0.0385			
5082	32-40.5976	116.1763	-122-200	08/07/76	STREAM	25.2	8.8	747.	120.	40.	9	4.12	0.0529			
5144	32-40.9737	116.0100	-122-200	08/12/76	STREAM	27.3	8.8	505.	240.	40.	1	2.88	0.0440			
5145	32-40.9476	116.0092	-122-200	08/12/76	STREAM	19.3	8.4	345.	160.	40.	1	0.99	0.0269			
5149	32-40.8530	116.0058	-122-200	08/12/76	STREAM	25.9	9.9	983.	100.	60.	9	1.78	0.0353			
5155	32-40.7186	116.0919	-122-200	08/13/76	STREAM	12.4	8.0	53.	200.	40.	9	3.32	0.0477			
5155	32-40.7186	116.0919	-122-201		STREAM											
5160	32-40.7269	116.0101	-122-200	08/13/76	STREAM	15.3	8.5	509.	220.	20.	9	5.30	0.0600			
5160	32-40.7269	116.0101	-122-201		STREAM											
5396	32-40.6981	116.1312	-122-200	08/27/76	STREAM	23.2	8.0	570.	180.	40.	9	4.50	0.0553			
5397	32-40.6908	116.1171	-122-200	08/27/76	STREAM	20.0	8.6	343.	80.	20.	1	1.12	0.0284			
5398	32-40.6564	116.0951	-122-200	08/27/76	STREAM	14.9	7.7	323.	60.	40.	9	0.53	0.0204			
5399	32-40.4877	116.0620	-122-200	08/27/76	STREAM	26.7	9.0	445.	120.	40.	9	0.72	0.0232			
5425	32-40.7703	116.1374	-122-200	08/29/76	STREAM	24.0	8.0	467.	140.	40.	9	2.50	0.0415			
5428	32-40.7672	116.2192	-122-200	08/29/76	STREAM	25.8	8.8	394.	120.	20.	1	1.88	0.0361			
5431	32-40.8425	116.2230	-122-200	08/29/76	STREAM	24.3	8.8	436.	140.	20.	1	3.37	0.0480			
5432	32-40.8249	116.2221	-122-200	08/30/76	STREAM	12.0	8.1	455.	160.	40.	9	2.64	0.0426			
5435	32-40.9412	116.2290	-122-200	08/30/76	STREAM	8.9	7.7	400.	100.	20.	9	1.70	0.0345			
5441	32-40.8647	116.2392	-122-200	08/30/76	STREAM	20.7	8.5	796.	200.	20.	9	7.17	0.0696			
5442	32-40.8188	116.2518	-122-200	08/30/76	STREAM	27.6	8.6	666.	160.	20.	9	1.18	0.0291			
5443	32-40.8831	116.1750	-122-200	08/30/76	STREAM	24.9	8.1	359.	120.	40.	9	1.55	0.0331			
5445	32-40.8831	116.1656	-122-200	08/30/76	STREAM	27.1	8.9	461.	100.	40.	9	1.37	0.0312			
5449	32-40.9587	116.1635	-122-200	08/30/76	STREAM	21.6	8.3	385.	120.	40.	9	1.59	0.0335			
5450	32-40.9552	116.1706	-122-200	08/30/76	STREAM	19.0	8.2	249.	80.	40.	1	0.65	0.0222			
5456	32-40.7906	116.3540	-122-200	09/04/76	STREAM	12.2	7.7	639.	160.	20.	9	0.63	0.0219			
5457	32-40.7895	116.3232	-122-200	09/04/76	STREAM	12.8	8.5	721.	200.	20.	1	1.91	0.0365			
5472	32-40.9831	116.3082	-122-200	09/04/76	STREAM	29.8	9.2	494.	120.	40.	9	8.11	0.0739			
5473	32-40.9887	116.3402	-122-200	09/04/76	STREAM	25.8	8.6	478.	120.	20.	9	4.26	0.0539			
5475	32-40.9827	116.4033	-122-200	09/04/76	STREAM	28.2	9.5	433.	90.	40.	9	6.47	0.0661			
5477	32-40.9838	116.4282	-122-200	09/04/76	STREAM	28.3	8.5	442.	160.	20.	9	0.98	0.0267			
5522	32-40.9472	116.0757	-122-200	09/07/76	STREAM	21.1	8.5	169.	40.	20.	1	0.22	0.0145			
5523	32-40.9836	116.1073	-122-200	09/07/76	STREAM	21.2	9.4	238.	60.	40.	5	1.67	0.0342			
5531	32-40.7152	116.0091	-122-200	09/09/76	STREAM	13.6	9.3	430.	160.	20.	9	1.70	0.0345			
5543	32-40.5646	116.2298	-122-200	09/09/76	STREAM	7.3	7.9	1066.	220.	20.	9	5.71	0.0622			
5544	32-40.5885	116.1705	-122-200	09/09/76	STREAM	8.7	7.6	578.	200.	20.	1	9.96	0.0819			
5545	32-40.6103	116.1986	-122-200	09/09/76	STREAM	15.7	8.4	519.	200.	20.	9	4.28	0.0540			
5549	32-40.8770	117.4700	-122-200	09/11/76	STREAM	13.0	7.3	717.	220.	20.	9	7.51	0.0712			
5550	32-40.9951	117.7264	-122-200	09/11/76	STREAM	17.2	8.3	696.	220.	20.	9	2.92	0.0633			
5552	32-40.8263	117.9558	-122-200	09/11/76	STREAM	15.1	8.5	990.	180.	20.	1	4.51	0.0554			
5554	32-40.7793	117.9753	-122-200	09/11/76	STREAM	17.0	8.5	929.	160.	20.	5	10.07	0.0823			
5558	32-40.8552	117.5256	-122-200	09/12/76	STREAM	13.8	7.5	249.	60.	40.	1	0.28	0.0157			
5570	32-40.9191	117.5296	-122-200	09/12/76	STREAM	16.0	8.4	267.	100.	20.	1	0.63	0.0218			
5573	32-40.9523	117.5667	-122-200	09/12/76	STREAM	21.0	8.6	186.	40.	20.	5	3.70	0.0503			
5577	32-40.9537	117.6428	-122-200	09/13/76	STREAM	9.3	7.5	451.	20.	20.	1	11.36	0.0311			
5578	32-40.9428	117.6458	-122-200	09/13/76	STREAM	9.3	7.8	633.	180.	20.	5	2.47	0.0413			
5580	32-40.917	117.6436	-122-200	09/13/76	STREAM	9.8	8.3	305.	100.	40.	1	0.70	0.0229			

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-2. WATER ANALYSIS: RIVERS, STREAMS & LAKES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE	TEMP C.	PH METR	SPEC UMHO/CM	COND MG/LITER	AKTOTL MG/LITER	A-PHEN MG/LITER	POS. CONT	URANIUM(ONC) PPB	Q. C. ERR	X-REF
5581	32-40	9020	-117.6969	-1-22-200	09/13/76	STREAM	13.8	8.4	358.	140.	20.	1	1.20	0.0293		
5584	32-40	8127	-117.7126	-1-22-200	09/13/76	STREAM	23.7	8.9	263.	80.	20.	1	1.52	0.0328		
5586	32-40	7302	-117.6596	-1-22-200	09/13/76	STREAM	23.8	8.6	394.	100.	20.	9	1.61	0.0337		
5587	32-40	8040	-117.9239	-1-22-200	09/13/76	STREAM	23.0	8.4	820.	220.	20.	9	6.05	0.0540		
5588	32-40	8484	-117.8933	-1-22-200	09/13/76	STREAM	17.7	8.5	529.	220.	20.	5	3.39	0.0482		
5594	32-40	9920	-117.3162	-1-22-200	09/14/76	STREAM	11.7	7.7	270.	400.	20.	9	11.41	0.0876		
5859	32-40	6011	-117.9502	-1-22-200	09/19/76	STREAM	11.0	5.7	1098.	160.	9	7.11	0.0693			
6222	32-40	3279	-116.4279	-1-22-200	08/03/76	STREAM	25.0	8.8	440.	260.	40.	1	5.33	0.0601		
6223	32-40	3605	-116.3167	-1-22-200	08/03/76	STREAM	14.0	8.3	264.	100.	1	1.11	0.0282			
6250	32-40	2652	-116.8177	-1-22-200	08/08/76	STREAM	12.0	7.4	388.	10.	1	2.17	0.0388			
6275	32-40	7050	-116.5312	-1-22-200	03/08/76	STREAM	24.0	8.4	642.	240.	40.	1	3.30	0.0475		
6276	32-40	6606	-116.7457	-1-22-200	08/08/76	STREAM	23.0	8.2	655.	220.	20.	1	4.86	0.0574		
6309	32-40	3609	-116.0944	-1-22-200	08/12/76	STREAM	13.0	8.4	336.	220.	20.	1	1.13	0.0286		
6311	32-40	3999	-116.1245	-1-22-200	08/12/76	STREAM	18.0	8.7	752.	220.	40.	1	2.26	0.0386		
6340	32-40	1715	-117.2055	-1-22-200	08/15/76	STREAM	21.0	9.4	493.	100.	40.	1	7.35	0.0705		
6352	32-40	3554	-116.9929	-1-22-200	08/16/76	STREAM	14.0	8.4	489.	140.	20.	9	3.51	0.0490		
6353	32-40	3221	-116.9906	-1-22-200	08/17/76	STREAM	10.0	8.1	525.	160.	1	0.76	0.0238			
6373	32-40	5258	-117.4321	-1-22-200	08/20/76	STREAM	19.0	8.5	419.	140.	20.	1	1.13	0.0285		
6392	32-40	6945	-116.9196	-1-22-200	08/23/76	STREAM	17.0	8.4	594.	180.	20.	1	4.68	0.0564		
6842	32-40	3326	-116.7104	-1-22-200	08/03/76	STREAM	11.5	8.5	444.	120.	20.	1	1.73	0.0349		
6843	32-40	3421	-116.3913	-1-22-200	08/03/76	STREAM	18.0	8.6	281.	140.	20.	9	2.40	0.0407		
6847	32-40	3291	-116.7552	-1-22-200	08/04/76	STREAM	26.0	9.3	391.	120.	40.	1	1.25	0.0298		
6860	32-40	5984	-116.4741	-1-22-200	08/08/76	STREAM	19.0	8.6	577.	220.	20.	1	5.70	0.0621		
6863	32-40	7403	-116.3818	-1-22-200	08/08/76	STREAM	27.0	8.6	501.	110.	20.	9	1.12	0.0284		
6872	32-40	0066	-116.1893	-1-22-200	08/09/76	STREAM	17.5	8.0	544.	200.	20.	1	4.14	0.0531		
6891	32-40	3232	-116.1078	-1-22-200	08/12/76	STREAM	18.5	8.5	351.	140.	20.	1	1.40	0.0315		
6895	32-40	5011	-116.0535	-1-22-200	08/12/76	STREAM	23.5	8.8	285.	140.	20.	1	0.98	0.0267		
6933	32-40	3248	-116.9141	-1-22-200	08/17/76	STREAM	9.0	7.7	206.	120.	20.	1	2.35	0.0403		
6934	32-40	3879	-116.9505	-1-22-200	08/17/76	STREAM	12.5	8.6	294.	120.	20.	1	1.10	0.0281		
6938	32-40	2900	-117.3588	-1-22-200	08/17/76	STREAM	16.0	8.7	860.	180.	40.	1	20.92	0.1183		
6939	32-40	2900	-117.3588	-1-22-201		STREAM										
6957	32-40	4382	-116.8114	-1-22-200	08/22/76	STREAM	15.0	7.8	535.	80.	1	0.77	0.0239			
6959	32-40	4950	-116.8195	-1-22-200	08/22/76	STREAM	15.0	8.4	535.	140.	20.	1	1.49	0.0324		
7075	32-40	9789	-117.4839	-1-22-200	08/30/76	STREAM	25.5	8.2	513.	260.	20.	9	5.71	0.0622		
7152	32-40	4243	-117.5717	-1-22-200	10/04/76	STREAM	6.5	8.3	374.	140.	20.	1	0.78	0.0240		
7153	32-40	4324	-117.5671	-1-22-200	10/04/76	STREAM	6.4	8.3	321.	100.	20.	9	1.30	0.0305		
7154	32-40	4534	-117.5201	-1-22-200	10/04/76	STREAM	7.5	8.1	348.	120.	20.	1	2.24	0.0394		
7156	32-40	4859	-117.5321	-1-22-200	10/04/76	STREAM	13.1	8.1	468.	200.	20.	9	0.46	0.0191		
7157	32-40	3459	-117.6044	-1-22-200	10/04/76	STREAM	15.0	8.0	28.	180.	20.	1	0.36	0.0174		
7158	32-40	3215	-117.5932	-1-22-200	10/04/76	STREAM	13.6	8.0	898.	260.	20.	1	6.05	0.0540		
7159	32-40	3163	-117.5508	-1-22-200	10/04/76	STREAM	17.2	8.6	448.	160.	20.	9	1.28	0.0302		
7160	32-40	3154	-117.5496	-1-22-200	10/04/76	STREAM	18.0	8.7	845.	220.	40.	1	3.94	0.0519		
7161	32-40	5878	-117.1560	-1-22-200	10/04/76	STREAM	8.7	7.5	336.	140.	20.	1	1.53	0.0329		
7162	32-40	5887	-117.1572	-1-22-200	10/05/76	STREAM	7.5	7.3	292.	100.	1	1.26	0.0300			
7164	32-40	5276	-117.4390	-1-22-200	10/05/76	STREAM	9.0	8.3	435.	140.	20.	1	1.20	0.0293		
7165	32-40	4688	-117.4543	-1-22-200	10/05/76	STREAM	11.5	8.5	427.	160.	20.	1	1.50	0.0326		
7166	32-40	4771	-117.4566	-1-22-200	10/05/76	STREAM	13.3	8.3	582.	200.	20.	9	1.81	0.0356		
7167	32-40	4347	-117.4598	-1-22-200	10/05/76	STREAM	12.6	8.3	355.	140.	20.	1	4.31	0.0541		
7168	32-40	3959	-117.4725	-1-22-200	10/02/76	STREAM	9.3	8.4	316.	140.	20.	1	0.82	0.0247		

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-2. WATER ANALYSIS; RIVERS, STREAMS & LAKES

SITE NUMBER	DOE ST	SAMPLE LAT.	NUMBER LONG.	DATE L Y RPL	SAMPLE MO-DA-YR	TEMP C.	PH METR	SPEC COND UMHO/CM	AKT TOTL MG/LITER	A-THEW POS. MG/LITER	POS. CONT	URANIUM(ONC) PPB	O. C. X-REF		
7169	32-40.	3806-117.	4795-1	22-200	10/05/76	STREAM	11.0	8.2	338.	140.	9	0.85	0.0250		
7170	32-40.	3725-117.	4865-1	22-200	10/05/76	STREAM	13.5	8.3	425.	140.	20.	1	0.73	0.0234	
7172	32-40.	2909-117.	3588-1	22-200	10/05/76	STREAM	15.6	7.6	954.	200.	1	20.89	0.1183		
7173	32-40.	2585-117.	3493-1	22-200	10/05/76	STREAM	17.1	8.8	768.	200.	40.	9	6.88	0.0682	
7441	32-40.	9582-117.	7241-1	22-200	08/25/76	STREAM	19.5	8.3	896.	240.	20.	1	5.98	0.0636	
7442	32-40.	7050-116.	5301-1	22-200	08/25/76	STREAM	25.0	8.5	650.	20.	20.	1	5.07	0.0586	
7443	32-40.	5793-116.	2651-1	22-200	08/25/76	STREAM	18.0		869.	220.	1	3.99	0.0522		
7528	32-40.	5116-117.	6020-1	22-200	10/09/76	STREAM			950.		1	2.08	0.0380		
7545	32-40.	5793-116.	2651-1	22-200	10/18/76	STREAM	6.0	8.1	958.	220.	1	4.57	0.0557	7443	
7546	32-40.	7022-116.	5205-1	22-200	10/08/76	STREAM	10.0	8.5	508.	160.	20.	1	4.75	0.0569	7442
7547	32-41.	0000-117.	7229-1	22-200	10/19/76	STREAM	7.0	8.5	845.	220.	20.	1	5.93	0.0633	7441
7704	32-40.	8886-117.	1852-1	22-200	09/14/76	STREAM	19.5	8.5	1063.	220.	20.	9	5.07	0.0587	
7711	32-40.	9356-117.	1212-1	22-200	09/14/76	STREAM	18.0	10.1	7521.	2160.	940.	9	0.84	0.0249	
7714	32-40.	7348-117.	6407-1	22-200	09/15/76	STREAM	11.7	8.6	395.	120.	20.	9	1.49	0.0324	
7716	32-40.	7592-117.	9004-1	22-200	09/14/76	STREAM	8.6	7.4	590.	180.	20.	1	4.61	0.0550	
7718	32-40.	6816-117.	6344-1	22-200	09/14/76	STREAM	12.0	8.1	689.	160.	20.	9	4.68	0.0554	
7728	32-40.	5109-117.	5441-1	22-200	09/14/76	STREAM	15.7		512.	140.	20.	1	2.93	0.0449	
7730	32-40.	5247-117.	4994-1	22-200	09/14/76	STREAM	13.2	8.4	512.	140.	20.	1	2.77	0.0437	
7735	32-40.	5743-117.	4856-1	22-200	09/17/76	STREAM	11.7	8.2	411.	160.	20.	9	1.44	0.0319	
7737	32-40.	6939-117.	5373-1	22-200	09/17/76	STREAM	23.3	8.7	859.	180.	40.	9	31.43	0.1450	
7738	32-40.	7336-117.	5163-1	22-200	09/17/76	STREAM	19.8	8.3	756.	120.	20.	9	11.54	0.0881	
7740	32-40.	6023-117.	4692-1	22-200	09/17/76	STREAM	11.2	8.4	806.	160.	20.	1	0.76	0.0239	
7749	32-40.	2053-117.	3666-1	22-200	09/18/76	STREAM	15.0	7.1	217.	40.	20.	1	0.87	0.0253	
7754	32-40.	2038-117.	2573-1	22-200	09/18/76	STREAM	19.8	8.5	1018.	120.	20.	1	8.91	0.0774	
7757	32-40.	0937-117.	3437-1	22-200	09/18/76	STREAM	17.7	8.0	367.	100.		1			
7808	32-40.	8005-117.	0616-1	22-200	09/22/76	STREAM	18.0	8.6	694.	200.	20.	9	5.65	0.0619	
7890	32-40.	0723-117.	9487-1	22-200	09/29/76	STREAM	18.7	9.0	1236.	60.	20.	9	3.03	0.0456	
7892	32-40.	0572-117.	9145-1	22-200	09/29/76	STREAM	15.6	8.3	1125.	120.	20.	9	2.22	0.0392	
7896	32-40.	3095-117.	7955-1	22-200	10/03/76	STREAM	16.5	8.5	736.	220.	20.	1	6.64	0.0670	
8339	32-40.	4382-116.	8114-1	22-200	09/16/76	STREAM	14.5	7.8		60.	20.	9			6957
29570	32-40.	1662-117.	4721-1	22-200	08/17/77	STREAM	21.0	8.0	499.	100.	1	2.44	0.0411		

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WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-3. WATER ANALYSIS: SPRING AND WELL SITES

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SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE	TEMP C.	WELL DEPTH	WELL TYPE	WELL CASING	PH METR	SPEC COND UN/NO/CM	AKT TOTL MG/LITER
7452	32	-40.8427	-117.1993	-1-21-200	09/14/76	SPRING	18.0				7.0	694.	320.
7460	32	-40.9607	-117.4931	-1-21-200	09/20/76	SPRING	68.0				7.5	654.	340.
7466	32	-40.7316	-116.4411	-1-23-200	09/23/76	WELL	22.5		FARM/LIVESTOCK	IRON	7.2	946.	400.
7467	32	-40.8013	-116.3341	-1-21-200	09/23/76	SPRING	14.5				7.2	2637.	320.
7469	32	-40.6848	-116.1527	-1-21-200	08/31/76	SPRING	21.5				7.5	365.	120.
7470	32	-40.7668	-116.0415	-1-21-200	08/31/76	SPRING	59.0				7.4	1145.	460.
7471	32	-40.7656	-116.6392	-1-21-200	08/31/76	SPRING	10.5				7.5	501.	200.
7472	32	-40.9670	-116.1919	-1-21-200	08/31/76	SPRING	14.0				7.1	242.	80.
7473	32	-40.6997	-116.1060	-1-21-200	09/01/76	SPRING	12.0				7.2	241.	60.
7482	32	-40.0065	-116.1635	-1-21-200	09/09/76	SPRING	15.0				7.5	385.	160.
7483	32	-40.2103	-116.0717	-1-21-200	09/09/76	SPRING	20.5				7.5	504.	280.
7484	32	-40.2274	-116.0703	-1-21-200	09/09/76	SPRING	34.5				7.3	676.	200.
7485	32	-40.3265	-116.0583	-1-21-200	09/09/76	SPRING	25.5				7.4	376.	160.
7486	32	-40.2484	-116.3780	-1-21-200	09/09/76	SPRING	13.0				7.4	495.	220.
7487	32	-40.1290	-116.4765	-1-21-200	09/09/76	SPRING	18.0				7.5	544.	220.
7490	32	-40.6629	-116.4050	-1-23-200		WELL	16.0		FARM/LIVESTOCK	IRON	7.7	412.	140.
7491	32	-40.5601	-116.5913	-1-21-200	09/11/76	SPRING	60.0				9.2	953.	320.
7492	32	-40.4184	-116.5061	-1-21-200	09/11/76	SPRING	44.5				7.0	1814.	740.
7493	32	-40.2089	-116.5394	-1-21-200	12/12/76	SPRING	12.0				7.1	455.	160.
7494	32	-40.1521	-116.6208	-1-21-200	09/12/76	SPRING	10.0				7.7	311.	120.
7495	32	-40.3920	-116.6889	-1-21-200	09/12/76	SPRING	10.0				7.2	1070.	260.
7496	32	-40.3904	-116.8139	-1-21-200	09/12/76	SPRING	10.0				7.0	352.	100.
7497	32	-40.6171	-116.4337	-1-21-200	09/13/76	SPRING	17.0				7.4	367.	140.
7498	32	-40.7442	-116.6885	-1-21-200	09/13/76	SPRING	22.0				7.6	403.	140.
7499	32	-40.6536	-117.0875	-1-21-200	09/14/76	SPRING	10.0				7.2	550.	160.
7500	32	-40.7275	-117.1362	-1-21-200	09/14/76	SPRING	15.5				7.3	208.	60.
7501	32	-40.7859	-116.3044	-1-21-200	09/23/76	SPRING	12.5				7.2	277.	100.
7514	32	-40.0293	-117.0094	-1-23-200	10/02/76	WELL	12.0		FARM/LIVESTOCK	IRON	7.3	1337.	140.
7515	32	-40.1266	-116.9131	-1-21-200	10/02/76	SPRING	20.5				7.2	986.	100.
7516	32	-40.1877	-116.7933	-1-21-200	10/02/76	SPRING	39.5				8.2	760.	80.
7517	32	-40.1332	-116.8826	-1-21-200	10/02/76	SPRING	16.5				7.0	638.	280.
7519	32	-40.0953	-117.3918	-1-21-200	10/03/76	SPRING	16.0				7.1	545.	140.
7520	32	-40.2086	-117.0200	-1-21-200	10/03/76	SPRING	10.0				7.3	987.	200.
7521	32	-40.8298	-117.3048	-1-21-200	10/04/76	SPRING	34.0				7.4	1107.	380.
7522	32	-40.7616	-117.4893	-1-21-200	10/04/76	SPRING	75.0				7.2	1015.	240.
7523	32	-40.0939	-117.3499	-1-21-200	10/04/76	SPRING	18.0				7.5	926.	340.
7524	32	-40.8046	-117.6477	-1-21-200	10/04/76	SPRING	95.0				7.1	72.	80.
7525	32	-40.8964	-117.5651	-1-21-200	10/04/76	SPRING	10.0				7.0	183.	60.
7526	32	-40.9381	-117.6783	-1-21-200	10/05/76	SPRING	12.5				7.5	370.	120.
7527	32	-40.9410	-117.6474	-1-21-200	10/05/76	SPRING	8.5				7.5	1177.	240.
7529	32	-40.6032	-117.6489	-1-21-200	10/09/76	SPRING	83.0				7.4	659.	260.
7530	32	-40.5730	-117.7148	-1-21-200	10/09/76	SPRING	20.5				7.1	1205.	120.
7531	32	-40.7089	-117.6295	-1-21-200	10/09/76	SPRING	13.0				7.2	430.	120.
7532	32	-40.7967	-117.6840	-1-21-200	10/09/76	SPRING	12.0				7.2	602.	300.
7548	32	-40.4196	-117.4149	-1-21-200	10/28/76	SPRING	12.5				7.4	383.	140.
7549	32	-40.3676	-117.4253	-1-21-200	10/28/76	SPRING	56.0				7.7	1374.	340.
7550	32	-40.2513	-117.3492	-1-21-200	10/28/77	SPRING	19.5				7.1	504.	120.
7551	32	-40.3326	-117.5309	-1-21-200	10/29/76	SPRING	13.5				7.7	373.	180.
7552	32	-40.4394	-117.6261	-1-21-200	10/29/76	SPRING	22.0				7.2	956.	360.

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-3. WATER ANALYSIS; SPRING AND WELL SITES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE	TEMP C.	WELL DEPTH	WELL TYPE	WELL CASING	PH METR	SPEC COND UMHO/CM	AKTOTL MG/LITER
7553	32-40.2454	-117.6725	-123-200	10/29/76	WELL	22.5			FARM/LIVESTOCK	IRON	7.6	841.	180.
7555	32-40.0563	-117.9215	-121-200	10/30/76	SPRING	16.0					7.6	969.	140.
7555	32-40.0563	-117.9215	-121-201		SPRING								
7556	32-40.1775	-117.8515	-121-200	10/30/76	SPRING	14.5					7.5	1130.	200.
7560	32-40.0700	-117.8827	-121-200	10/31/76	SPRING	67.0					6.1	3306.	480.
7579	32-40.5	-117.3401	-123-200	09/28/76	WELL	12.0			FARM/LIVESTOCK	IRON	7.4	602.	120.
7616	32-40.6912	-116.1312	-121-200	09/31/76	SPRING	78.5					6.9	589.	240.
7617	32-40.5293	-116.2113	-121-200	08/31/76	SPRING	17.0					7.7	1184.	140.
7618	32-40.5949	-116.0127	-121-200	08/31/76	SPRING	13.0					7.0	287.	120.
7619	32-40.3268	-116.2361	-121-200		SPRING	19.0					7.8	317.	120.
7621	32-40.3772	-116.1083	-121-200	09/10/76	SPRING	14.0					8.9	699.	140.
7622	32-40.3621	-116.2651	-121-200	09/10/76	SPRING	12.5					7.8	205.	80.
7623	32-40.3162	-116.4351	-121-200	09/12/76	SPRING	68.0					7.9	1254.	360.
7624	32-40.3761	-116.3427	-121-200	09/12/76	SPRING	18.0					7.9	417.	160.
7625	32-40.4555	-116.3596	-121-200	09/12/76	SPRING	19.0						9.	160.
7626	32-40.5203	-116.3425	-121-200	09/12/76	SPRING	13.0					7.7	365.	120.
7627	32-40.4300	-116.7666	-121-200	09/13/76	SPRING	12.0					7.8	535.	160.
7628	32-40.4329	-116.8715	-121-200	09/13/76	SPRING	9.5					7.2	1144.	200.
7629	32-40.3311	-116.9353	-121-200	09/13/76	SPRING	10.0					7.5	367.	120.
7630	32-40.3158	-117.0636	-121-200	09/13/76	SPRING	3.0					6.9	1748.	340.
7631	32-40.2886	-117.2271	-121-200	09/13/76	SPRING	13.5					8.0	644.	180.
7642	32-40.9924	-116.9334	-123-200	09/23/76	WELL	13.0			FARM/LIVESTOCK	IRON	6.9	196.	60.
7643	32-40.9481	-116.8515	-121-200	09/23/76	SPRING	17.0					7.0	95.	40.
7644	32-40.9230	-117.1093	-121-200	09/24/76	SPRING	39.0					7.7	2438.	1360.
7645	32-40.9724	-117.1652	-121-200	09/24/76	SPRING	14.0					9.1	572.	200.
7656	32-40.1935	-117.1010	-121-200	10/03/76	SPRING	51.5					6.9	793.	320.
7657	32-40.5693	-117.5395	-121-200	10/04/76	SPRING	11.5					7.4	677.	220.
7658	32-40.5606	-117.5126	-121-200	10/04/76	SPRING	13.0					7.4	469.	200.
7659	32-40.5527	-117.4819	-121-200	10/04/76	SPRING	11.5					7.2	515.	280.
7660	32-40.7131	-117.4617	-121-200	10/04/76	SPRING	27.5					7.7	372.	140.
7661	32-40.7856	-117.8545	-121-200	10/09/76	SPRING	11.0					7.3	659.	280.
7662	32-40.7521	-117.8766	-121-200	10/09/76	SPRING	9.0					7.3	174.	60.
7663	32-40.5693	-117.7620	-121-200	10/10/76	SPRING	14.0					7.7	2415.	160.
7664	32-40.5647	-117.8824	-121-200	10/10/76	SPRING	9.5					7.8	2431.	260.
7665	32-40.6806	-117.8035	-121-200	10/10/76	SPRING	17.0					7.6	710.	220.
7666	32-40.7320	-117.9142	-121-200	10/11/76	SPRING	16.0					7.9	727.	360.
7667	32-40.8742	-117.9363	-121-200	10/11/76	SPRING	23.0					6.8	2601.	1120.
29551	32-40.0901	-117.7226	-121-200	08/16/77	SPRING	52.0					8.0	1378.	200.
29579	32-40.137	-117.5222	-121-200	08/17/77	SPRING	37.0					6.9	3285.	480.
29589	32-40.2445	-117.6737	-121-200	08/18/77	SPRING	22.0					7.5	125.	120.
29596	32-40.1735	-117.7845	-121-200	08/18/77	SPRING	23.0					7.8	135.	180.

WINNEMUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE B-3. WATER ANALYSIS: SPRING AND WELL SITES

SITE NUMBER	AKPHEN MG/LITER	POS. CONT	URANIUM(DNC) PPB	ERR	Q. C. X-REF
7452		I	0.27	0.0154	
7460		I	0.05	0.0096	
7466		I	2.35	0.0403	
7467		I	15.74	0.1027	
7469		I	5.56	0.0614	
7470		I	0.09	0.0109	
7471		I	1.47	0.0322	
7472		I	0.44	0.0187	
7473		I	1.05	0.0275	
7482		I	1.90	0.0354	
7483		I	2.72	0.0433	
7484		I	0.12	0.0117	
7485		I	1.26	0.0300	
7486		I	2.87	0.0444	
7487		I	0.05	0.0095	
7490		I	2.59	0.0422	
7491	180.	I	0.19	0.0135	
7492		I	0.22	0.0144	
7493		I	5.23	0.0595	
7494		I	4.97	0.0561	
7495		I	36.70	0.1556	
7496		I	0.78	0.0241	
7497		I	1.65	0.0341	
7498		I	2.28	0.0397	
7499		I	1.29	0.0303	
7500		I	0.05	0.0095	
7501		I	1.49	0.0324	
7514		I	10.59	0.0844	
7515		I	0.92	0.0259	
7516	140.	I	0.40	0.0180	
7517		I	2.71	0.0432	
7519		I	19.11	0.1131	
7520		I	6.22	0.0648	
7521		I	1.19	0.0292	
7522		I	0.12	0.0118	
7523		I	0.30	0.0161	
7524		I	0.97	0.0266	
7525		I	0.10	0.0112	
7526		I	0.79	0.0243	
7527		I	4.49	0.0553	
7529		I	0.10	0.0111	
7530		I	0.18	0.0135	
7531		I	2.68	0.0430	
7532		I			
7548		I	3.28	0.0474	
7549		I	0.12	0.0119	
7550		I	0.14	0.0124	
7551		I	1.00	0.0270	
7552		I	1.23	0.0296	

WINNEHUCCA QUAD REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE B-3, WATER ANALYSIS; SPRING AND WELL SITES

SITE NUMBER	AKPHEN MG/LITER	POS. CONT	URANIUM(DNC) PPB	O. C. ERR	X-REF
7553		1	2.58	0.0422	
7555		1	1.74	0.0349	
7555					
7556		1	3.44	0.0485	
7560		1	0.31	0.0163	
7579		1	1.50	0.0326	
7616		1	0.08	0.0105	
7617		1	0.51	0.0200	
7618		1	0.22	0.0144	
7619		1	2.25	0.0395	
7621	40.	1	0.06	0.0102	
7622		1	1.02	0.0271	
7623	40.	1	0.19	0.0138	
7624		1	3.57	0.0494	
7625		1			
7626		1	2.38	0.0406	
7627		1	0.96	0.0252	
7628		1	0.96	0.0265	
7629		1	2.09	0.0380	
7630		1	0.08	0.0108	
7631		1	17.21	0.1074	
7642		1	0.21	0.0141	
7643		1	0.80	0.0244	
7644		1	0.24	0.0149	
7645	60.	1	2.37	0.0405	
7656		1	0.17	0.0131	
7657		1	0.90	0.0257	
7658		1	2.04	0.0377	
7659		1	0.61	0.0216	
7660		1	2.29	0.0398	
7661		1	1.47	0.0323	
7662		1	0.42	0.0185	
7663		1	15.59	0.1022	
7664		1	2.62	0.0425	
7665		1	1.97	0.0371	
7666		1	4.09	0.0528	
7667		1	0.93	0.0261	
29551	20.	1	0.08	0.0106	
29579		5	0.16	0.0129	
29588		1	2.51	0.0416	
29596		1			

WINNEMUCCA

15'

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7162 □ 7161

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NK 11-11

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NK 11-11

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29588 Δ 7553

Δ 7556

Δ 29596

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7555 Δ □ 7892

SYMBOL EXPLANATION

SITE TYPES. WATER SAMPLES

□ RIVER/STREAM

Δ SPRING

▽ WELL

◇ LAKE/RESERVOIR

**LAWRENCE
LIVERMORE
LABORATORY**
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△ 7548

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□ 7170

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△ 7551

159 □ 7160

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30'

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117°00'

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SITE LOCATIONS. WATER

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45'

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20 STATUTE MILES

20 25 30 KILOMETERS

7

SAMPLES

8

OVERLAY 1A

SITE LOCATIONS, WATER SAMPLES

GEOCHEMICAL
RECONNAISSANCE STUDY
WINNEMUCCA
(NTMS QUAD)

118°00'

45'

30'

41°00'

45'

30'

1

WINNEMUCCA

15'

117°00'

2

NK 11-11

45'

30'

15'

3

116° 00'

41° 00'

45'

30'

4

5

SYMBOL EXPLANATION

URANIUM (TOTAL) CONCENTRATIONS

PARTS PER BILLION (PPB) BY WEIGHT

* LESS THAN 0.01 PPB
(OR NOT DETECTED)

● GREATER THAN 200 PPB

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LABORATORY
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17°00'

1:250000

45'

30'

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15

20 STATUTE MILES

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25

30 KILOMETERS

7

NCENTRATIONS (PPB)
SAMPLES

OVERLAY 1B

URANIUM(TOTAL)
CONCENTRATIONS(PPB)
(WATER SAMPLES)

GEOCHEMICAL
RECONNAISSANCE STUDY
WINNEMUCCA
(NTMS QUAD)

118 ° 00 '

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30'

41°00'

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117 ° 00 '

NK 11-11

This map displays a survey area with a grid of points. The points are labeled with numbers, some of which are circled. A large black square with the number 3 is centered on the map. The points are distributed across the area, with some clusters and some isolated points. The labels include:

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116 ° 00 '

41°00'

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30'

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6

SITE LOCATIONS. S

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08216

08219

117482

08827

06934

06954

117476

117475

116846

116845

116840

116836

116847

116848

116849

116849

116847

116846

116846

116845

116844

116843

116845

116842

116841

117488

116841

116840

116849

116849

116842

117483

116847

116848

117486

116840

116846

116845

116848

117484

116847

116849

116848

116847

116849

116846

117487

116849

116844

116846

116841

116843

116843

116847

116841

116847

116848

116848

116848

116842

08216

08219

116841

116841

116847

116848

116846

116846

116846

116846

00'

50000

10

15

20 STATUTE MILES

30'

15

20

25

30 KILOMETERS

SEDIMENT SAMPLES

8

OVERLAY 2A

SITE LOCATIONS. SEDIMENT SAMPLES

GEOCHEMICAL
RECONNAISSANCE STUDY
WINNEMUCCA
(NTMS QUAD)

118°00'

45'

30'

1°00'

45'

30'

WINNEMUCCA

15'

117°00'

2

NK 11-11

45'

30'

15'

3

NK 11-11

15'

116° 00'

41° 00'

45'

30'

4

5

LAWRENCE
LIVERMORE
LABORATORY

UNIVERSITY OF CALIFORNIA

SYMBOL EXPLANATION

URANIUM (TOTAL) CONCENTRATIONS

PARTS PER MILION (PPM) BY WEIGHT
• LESS THAN 0.02 PPM
(OR NOT DETECTED)

● GREATER THAN 500 PPM

117°00'
SCALE 1:250000

45'

30'

10

15

20 STATUTE MILES

15

20

25

30 KILOMETERS

7

CONCENTRATIONS (PPM)
T SAMPLES

8

OVERLAY 2B
URANIUM(TOTAL)
CONCENTRATIONS(PPM)
(SEDIMENT SAMPLES)
GEOCHEMICAL
RECONNAISSANCE STUDY
WINNEMUCCA
(NTMS QUAD)

118°00'

45'

30'

41°00'

45'

30'

1

WINNEMUCCA

15'

117°00'

2

NK 11-11

45'

30'

15'

3

NK 11-11

30'

15'

116°00'

41°00'

45'

4

30'

5

SYMBOL EXPLANATION

THORIUM (TOTAL) CONCENTRATIONS

PARTS PER MILLION (PPM) BY WEIGHT

+ LESS THAN 0.02 PPM
(OR NOT DETECTED)

● GREATER THAN 500 PPM

LAWRENCE
LIVERMORE
LABORATORY

UNIVERSITY OF CALIFORNIA

5 0 5

5 0 5 10

THORIUM (TOTAL) CON
SEDIMENT

117°00'
E 1,250000

CONCENTRATIONS (PPM)
T SAMPLES

OVERLAY 2C
THORIUM(TOTAL)
CONCENTRATIONS(PPM)
(SEDIMENT SAMPLES)

GEOCHEMICAL
RECONNAISSANCE STUDY
WINNEMUCCA
(NTMS QUAD)