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HYDROGEOCHEMICAL AND STREAM SEDIMENT RECONNAISSANCE BASIC DATA REPORT FOR WILLIAMS NTMS QUADRANGLE, ARIZONA

J. L. Wagoner

February 1979

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HYDROGEOCHEMICAL AND STREAM SEDIMENT RECONNAISSANCE BASIC DATA REPORT FOR WILLIAMS NTMS QUADRANGLE, ARIZONA

ABSTRACT

This report presents the result of geochemical reconnaissance sampling in the Williams $1^{\circ} \times 2^{\circ}$ quadrangle of the National Topographic Map Series (NTMS). We collected wet and dry sediments throughout the 18,500-km² arid-to-semiarid region and water samples at available streams, springs, and wells. Samples were collected between August 1977 and January 1978. We present the results of neutron activation analyses of uranium and trace elements and other field and laboratory analyses in tabular hardcopy and microfiche format. The report includes six full-size overlays for use with the Williams NTMS 1:250,000 quadrangle. We divided sediment samples into five general groups according to the source rock from which the sediment was derived; we treated these groups as independent populations. Background uranium concentrations for the quadrangle are relatively low, ranging from 1.91 to 2.40 ppm, with the highest associated with the Precambrian igneous and metamorphic complexes of the Basin and Range province. Uranium correlates best with the rare-earth elements and iron, scandium, titanium, and manganese. Known uranium occurrences are not readily identified by the stream sediment data.

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) has conducted a hydrogeochemical and stream sediment reconnaissance (HSSR) in a portion of 1.8 million km² in 10 western states. Other DOE laboratories are responsible for similar reconnaissance of the remaining continental U.S. including Alaska (Fig. 1). The individual laboratories collect a proper set of field samples in their areas, process and analyze the material, 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. Lawrence Livermore Laboratory releases its data as a basic data report containing an interpretative discussion of its significance. The data are received and presented in tabular form with map overlays (Appendix A, Appendix B).

Lawrence Livermore Laboratory subdivided the 10 western states into geologic provinces that were further subdivided into sample acquisition or project areas. Each was sampled in an appropriately timed reconnaissance phase by professional geologist contract teams monitored by the LLL field quality assurance group. Before fielding a major reconnaissance project, LLL conducted one or more "pilot" or orientation studies in the geologic province, providing a rational sampling program sensitive to the variable geological and climatic conditions occurring in the area.¹ Using this system, 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

FIG. 1. Areas of responsibility for the NURE Hydrogeochemical Reconnaissance Program.

irradiated at the Livermore Pool Type Reactor. The neutron activation analysis and delayed neutron counting were performed using an automated transport and detection system.³ Data reduction for neutron activation analytical results uses 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 produced the elemental concentration values.

An automated optical emission spectrometer equipped with a argon plasma source provided trace and major element analysis of water samples. A modified spectrophotometric analyzer was used to measure chloride and sulphate concentration of water samples.

GEOLOGY OF THE WILLIAMS NTMS QUADRANGLE

The Williams NTMS $1^{\circ} \times 2^{\circ}$ quadrangle covers an area of approximately 18,500 km² and includes parts of Mohave, Coconino, and Yavapai Counties, Arizona (Fig. 2). The geology of the region has been mapped by Wilson and Moore,⁷ Moore *et al.*,⁸ and geologists from the University of Arizona.⁹ The quadrangle is divided into two geologic provinces: the Basin and Range province and the Colorado Plateau province (Fig. 3).

The Basin and Range province is characterized by north-northwest-trending mountain ranges separated by alluvial valleys. The alluvial valleys consist of Quaternary and Tertiary sand, gravel and conglomerate deposits, and volcanic flows. The predominant rock types in the ranges are Precambrian granite, schist, and granitic gneiss. Early Tertiary-Late Cretaceous granitic intrusives and rhyolitic-to-andesitic dikes and plugs exist locally in the ranges. Quaternary basalt and Tertiary rhyolite and andesite are common in the province (Fig. 3).

The Colorado Plateau is an elevated structural platform mantled by flat-lying or gently-dipping sedimentary rocks. The strata are deformed by monoclines, faulted monoclines, and normal faults along generally north-northwest-trending belts. Broad uplifts elevate and large basins depress the strata; laccolithic intrusions puncture the overlying sedimentary pile locally. Quaternary and Tertiary volcanics are common along the margin of the province.

FIG. 2. Location of the Williams NTMS quadrangle.

Rocks exposed in the province are from Precambrian to Holocene age. Precambrian rocks are mostly granitics and high-ranking metamorphics. Lower Paleozoic rocks are marine carbonates and quartzose clastics. The upper Paleozoic consists of marginal marine clastics, continental evaporites, and quartzose-feldspathic clastics. Mesozoic rocks are predominately continental quartzose-feldspathic clastics and minor, marginal marine sediments. Cenozoic rocks are mostly nonmarine quartzose-feldspathic-tuffaceous clastic sediments with subordinate amounts of intermediate to mafic intrusive and extrusive rocks.¹⁰

The major stratigraphic units of the Colorado Plateau (Fig. 4) that occur in the Williams area are:

- Chinle Formation (upper Triassic); Shinarump Member; lithology ranges from basal conglomerate to sandstone and mudstone.

LEGEND

- Quaternary-Tertiary sedimentary rocks
- Quaternary-Tertiary igneous rocks
- Mesozoic and Paleozoic sedimentary rocks
- Precambrian metamorphic and igneous rocks
- Approximate Boundary between Colorado Plateau and Basin and Range Provinces

0 10 20 30 40 50
Scale in Kilometers

FIG. 3. Generalized geologic map of the Williams NTMS quadrangle.

- Moenkopi Formation (middle and lower Triassic); interbedded reddish-brown mudstone, siltstone, and sandstone.
- Kaibab Formation (Permian); thick-bedded dolomitic limestone with interbeds of calcareous sandstone and shale.
- Toroweap Formation (Permian); fine- to medium-grained cross-bedded sandstone, siltstone, and cherty limestone.
- Coconino Sandstone (Permian); medium- to fine-grained sandstone with large-scale planar cross-stratification.
- Hermit Shale (Permian); dark red shale and siltstone with subordinate sandstone.
- Supai Formation (Permian and Pennsylvanian); dark red siltstone with subordinate sandstone; lower part grades into the Callville Limestone.
- Redwall Limestone (Mississippian); coarse-grained massive limestone with minor siltstone interbeds and chert lenses.

FIG. 4. Generalized stratigraphic column of the Williams NTMS quadrangle.

Geologic time units			Formations
Cenozoic	Tertiary	Quaternary	Alluvial deposits, basalt
		Pliocene	Nonmarine sediments
		Miocene	Local volcanics and sediments
		Oligocene	
		Eocene	
		Paleocene	
Mesozoic		Cretaceous	Andesites
		Jurassic	
		Triassic	
	Permian	Chinle Formation	
		Moenkapi Formation	
		Kaibab Limestone Toroweap Formation Coconino Sandstone Hermit Shale Supai Formation	
Paleozoic	Carboniferous	Pennsylvanian	Collville Limestone
		Mississippian	Redwall Limestone
	Devonian	Martin Formation	
	Silurian		
	Ordovician		
	Cambrian	Muav Limestone Bright Angel Shale Tapeats Sandstone	
Precambrian		Granite	
		Schist	
		Granitic gneiss	

- Martin Formation (Devonian); fine-grained dolomitic limestone with subordinate siltstone and sandstone.
- Muav Formation (middle Cambrian); thin-bedded limestone with interbedded mudstone and siltstone.
- Bright Angel Shale (middle Cambrian); shale with subordinate sandstone, siltstone, and silty limestone.
- Tapeats Sandstone (middle and lower Cambrian); coarse- to medium-grained cross-bedded sandstone.
- Precambrian rocks; lithology ranges from younger granite to older schist and granitic gneiss.

The transition between undeformed, flat-lying Paleozoic and Mesozoic sediments of the Colorado Plateau province and faulted blocks of deformed Precambrian igneous and metamorphic rocks of the Basin and Range province occurs within the Williams quadrangle.¹¹ The transition zone is characterized by voluminous Late Cenozoic alkalic basalt flows and several north-striking normal fault systems (Fig. 3).

The geophysical characteristics of the transition zone are a thinning of the crust from 40 km in the east to 30 km in the west,¹² thickening of the low-velocity zone,¹³ and higher surface-heat flow.¹⁴ The distribution of Tertiary ash-flow tuffs in southwestern Utah indicates that the Colorado Plateau and Basin and Range

provinces became separate structural basins approximately 29 million years ago.¹⁵ Multiple orogenic episodes have contributed to the formation of the structural picture we see today. Chronologically, the episodes were:

- Mazatzal Orogeny—Mountain-building episode occurring throughout Arizona approximately 1.7 billion years ago.
- Grand Canyon Disturbance—Regional uplift and erosion of Precambrian rocks about 1.2 billion years ago.
- Broad regional up-warping in central Arizona during the Paleozoic.
- Uplift of southern Basin and Range province in Triassic, Jurassic, and early Cretaceous. Normal faulting and erosion possibly related to the Nevadan and Sevier Orogenies of California, Nevada, and Utah. Colorado Plateau province remained low and stable.
- Laramide Orogeny—Late Cretaceous–Early Tertiary large-scale folding, strike-slip faulting, thrust faulting, and igneous intrusion and volcanism in the Basin and Range. Disturbance was less severe in the Colorado Plateau area and was limited to gentle warping and high-angle faulting.
- Basin and Range Disturbance—Began approximately 30 million years ago. Effects include Basin and Range block faulting, local intrusions, and voluminous volcanism. Marked the separation of Colorado Plateau and Basin and Range into distinct structural provinces.

Compared with other areas in Arizona, the Williams quadrangle has relatively few significant mineral deposits. Noteworthy deposits that occur in the region are tungsten, uranium, rare earths, lead, gold, and beryllium.¹⁶

Fourteen uranium occurrences in the quadrangle are shown in Fig. 5 and described in Table 1. The anomalous radioactivity is associated with Precambrian granitics and metamorphics of the Basin and Range and Paleozoic sediments of the Colorado Plateau.^{17,18}

CLIMATE AND HYDROLOGY

The climate varies throughout the quadrangle. Average summer temperatures range from 65°F in the east to more than 85°F in the west. Average winter temperatures range from less than 30°F in the east to more than 40°F in the west. Average annual precipitation ranges from less than 10 in./yr to more than 20 in./yr; the greatest amount of precipitation occurs in the higher elevations of the plateaus.¹⁶ Precipitation was near normal during the sampling period.¹⁹

There are three main drainage systems in the Williams quadrangle: The largest is the Colorado River, which drains the northwestern half of the quadrangle. The Big Chino Wash drains the central and northeastern half of the quadrangle, and the Knight Creek–Big Sandy River system drains the western–southwestern third of the area.

In the Basin and Range province, groundwater aquifers, located in the alluvial valleys that separate the mountain ranges, are made up of alluvium and lacustrine deposits. In the Colorado Plateau province, aquifers occur in consolidated rocks, and the Coconino Sandstone aquifer is the most important. Subordinate aquifer rocks are the Supai Formation, Redwall Limestone, and, locally, Quaternary volcanics.¹⁶

SAMPLE-SITE SELECTION AND COLLECTION

Proper selection of the sample site is the most important technical aspect of sample acquisition. The sites must relate to the geologic features of an area and the mobility of uranium in a given environment. Because uranium is measured in parts per million, seemingly insignificant sources of contamination can mask the natural background. Therefore, sample sites were selected to best represent the acquisition areas and to minimize the potential contamination by environmental pollution (agriculture, roads, mines, etc.), windblown sediment, and lake deposits.

FIG. 5. Location of uranium occurrences.

To minimize windblown contamination, dry sediment samples were sieved to eliminate the fine-grained, wind-transported fraction. The 500 to 1000 μ m fraction was retained for analysis.

Emphasis was placed on stream sampling along the range fronts. For relatively small drainages, a single sample was collected at the canyon mouth. In larger drainage systems, samples were taken up the canyons and along tributaries to obtain representative coverage. Sampling on the alluvial fan aprons and valley lowlands was biased toward groundwater samples; dry stream samples were collected only along the most prominent, active stream channels.

TABLE 1. Williams quadrangle uranium occurrences.

Map No.	District or claim	Location	Formation or host rock
1	Democrat Mine	S.12 T.19N, R.15W	Precambrian Crystalline Complex
2	Uranium Basin	S.11 T.20N, R.13W	Precambrian Crystalline Complex
3	Blazing Star Group	S.25 T.21N, R.13W	Precambrian Crystalline Complex
4	Big Ledge Claims	S.2 T.23N, R.12W	Precambrian Crystalline Complex
5	H. E. C. Prospect	S.25-26 T.26N, R.11W	Bright Angel Shale
6	Hillside and Quartz Mountain Groups	S.10, 14 T.28N, R.16W	Precambrian Crystalline Complex
7	Twin Tanks	S.14 T.30N, R.8W	Kaibab Limestone
8	National Group of Claims	S.16 T.30N, R.6W	Kaibab Limestone
9	Rowes Well	S.28 T.30N, R.2E	Kaibab Limestone
10	Anita Mine	S.26 T.29N, R.1E	Kaibab Limestone
11	Blue Bonnet	S.8 T.28N, R.2E	Kaibab Limestone
12	Copper No. 1 and Willaha Group	S.34, 35 T.28N, R.1E	Kaibab Limestone
13	Packrat	S.12 T.26N, R.2E	Kaibab Limestone
14	Hematite Group	S.22 T.20N, R.6W	Redwall Limestone

QUALITY ASSURANCE

FIELD SAMPLING

Our field quality assurance program provides a high level of confidence in the quality of the samples returned to LLL for analysis. Contract specifications for sample collection impose strict requirements for methods and procedures. The specifications provide uniformity in the sampling process and thus minimize errors. To encourage a high level of professionalism, sampling personnel are required to place a 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 plotted accurately on the field map. Contract personnel must select suitable alternative sites if the original site proves to be inadequate or inaccessible. All persons collecting samples must be graduate geologists or possess a minimum of two years of formal education in geology plus one year of field experience.

Lawrence Livermore Laboratory personnel occasionally accompanied the contract sampling crews, and LLL geologists resampled approximately 5% of the project sites. Sites selected for quality assurance were biased toward sites that were relocated by the contractor. More than 95% of the resample sites were accurately located on the field maps; the remaining sites were plotted within 180 m of the correct location.

TABLE 2. INAA sediment quality assurance data summary.

Element	Detection limit, ^a ppm	Precision, ^b %	Accuracy ^c % bias
Ag	500	ND ^d	ND
Al	50	10	-7
As	3	6	-1
Ba	100	13	ND
Br	5	ND	NR ^e
Ca	20,000	7	ND
Ce	15	ND	NR
Cl	50	ND	NR
Co	3	5	+6
Cr	30	8	+13
Cs	30	5	NR
Dy	0.2	10	NR
Eu	0.1	16	NR
Fe	2,000	5	5
Hf	1	14	NR
Hg	500	ND	NR
K	2,000	7	ND
La	0.3	4	NR
Lu	2	22	NR
Mg	50	10	+4
Mn	0.2	4	+11
Na	20	4	0
Rb	150	4	ND
Sb	0.5	4	-5
Sc	0.1	5	-1
Sm	0.3	4	NR
Sr	40	ND	ND
Ta	3	20	NR
Tb	20	ND	NR
Th	2	4	-6
Ti	200	8	+2
U	2	12	-4
V	1	5	+4
W	30	ND	NR
Yb	3	13	-6
Zn	200	16	ND

^aApproximate lower limits for detection in "typical" sediment samples.

^bPrecision is an estimate of the reproducibility of analyses. Values entered are percent standard deviation of a measurement for 30 analyses of control samples over a five-month period. (See footnote c, Table 4.)

^cAccuracy is a measure of analytical agreement with "known" values. Entries are the percent deviation from unity of the ratio of measured to known values, averaged for 15 measurements obtained over a five-month period. (See footnote d, Table 4.) Known values were obtained from the Canadian Association for Applied Spectroscopy.

^dND = not detected.

^eNR = not reported for standards.

The duplicate samples are reported in Appendix B. Comparisons of the sediment's duplicate and original sample results show an average variance of 5% for the uranium values. This 5% also accounts for the natural variability of the sample. Therefore, the reported values are within the same magnitude of uncertainty as the analytical variance.

LABORATORY ANALYSIS

Sediment samples were analyzed by instrumental neutron activation analysis (INAA) and delayed neutron counting (DNC) with the automated transport and detection system installed at the LLL Pool Type Reactor (LPTR). Water samples were analyzed by optical emission spectrometry (OES) using an inductively coupled plasma (ICP) source.

The reduction of INAA data uses the GAMANAL code⁴ to interpret the gamma spectra and the NURDAC code^{5,6} to produce elemental concentration values. Detection limits for the elements are reported in Table 2.

Six types of samples are analyzed for calibration of the analytical systems and for quality assurance:

- Elemental standards are used to calibrate the emission spectrometer and spectrophotometer and to determine physical parameters for the activation analysis system.
- Blanks are analyzed concurrently with samples to detect any potential source of contamination.
- Splits of samples are analyzed to determine the reproducibility of results. These data are included in the microfiche tables. Reproducibility is generally within the estimated standard deviation of the measurement.

TABLE 3. Optical emission spectrometry (ICP) quality assurance data summary.

Element	Detection limit ppb ^a	Precision ^b		Accuracy ^c	
		ppm	% σ	ppm	% bias
Al	12	0.5	1.3	0.904	+1
As	170	1.01	4.0	-	-
B	17	1.0	1.2	-	-
Cd	3	0.051	0.9	0.073	+1
Co	4	0.052	2.1	0.396	+2
Cu	2	0.10	1.0	0.102	-2
Fe	2	0.11	0.9	0.678	0
Li	1	0.051	2.2	-	-
Mn	1	1.01	0.6	0.397	+3
Mo	4	0.11	3.4	-	-
Ni	12	1.01	1.0	0.152	-3
P	170	1.5	6.5	-	-
Pb	15	0.50	2.0	0.352	+3
Si	14	1.01	1.4	-	-
Sr	3	1.01	1.6	-	-
Ti	2	0.51	1.0	-	-
U	70	1.0	2.1	-	-
V	4	0.051	1.8	0.157	0
Zn	1	0.17	1.6	0.174	+1
Zr	3	-	-	-	-
Ca	3	5.0	1.6	44.5	-3
K	80	5.1	2.6	8.4	+1
Mg	1	0.55	0.7	14.4	+1
Na	7	10.3	2.4	39.7	-2

^aApproximate lower limits of detection in water samples. Values given are four times the standard deviation of the background in each elemental channel.

^bPrecision is a measure of analytical agreement for repeated analyses of a standard sample. Values are given for the mean elemental concentration in the check standard and the percent standard deviation of the mean for seven determinations in a 20-day period.

^cAccuracy is a measure of analytical agreement with known values. Entries are the elemental concentration as given by the Environmental Protection Agency and the percent deviation from unity of the ratio of measured to known concentrations.

- Quality control samples are analyzed by all systems at an approximate ratio of 1:30 to check the precision of the measurements and to detect long-term drift. Results are summarized in Table 2.
- Standard reference samples are analyzed to determine the accuracy of measurements in actual samples. Results are tabulated in Table 3.
- Interlaboratory comparison samples for uranium are distributed by DOE to the national laboratories participating in the NURE program. Analyses of these samples are reported monthly by Ames Laboratory.²⁰ This data is summarized in Table 4.

TABLE 4. Delayed neutron assay for uranium analyses of DOE interlaboratory comparison samples during the period of analytical activity for the Williams quadrangle.

	Water, ppb		Sediment, ppm		
	A2	B2	R1	S1	T1
Number of analyses	5	4	8	7	6
Recommended value ^a	0.98	9.98	5.28	11.0	95
Mean value ^b	1.06	9.49	5.33	10.4	90.7
Standard deviation of a measurement, ^c %	7.6	2.0	6.1	1.4	1.8
Bias, ^d ± %	+8	-5	+1	-5	-5

^aRecommended values for samples A2 and B2 are from isotope dilution mass spectrometry (Ref. 20). Values for samples R1 and S1 are the average of results from two independent laboratories. The value for sample T1 is estimated from synthesis parameters.

^bMean of LLL measurements.

$$^c \frac{100}{\bar{x}} [\sum(x - \bar{x})^2 / (n - 1)]^{1/2}.$$

$$^d \left[\frac{\text{mean value (b)}}{\text{recommended value (a)}} - 1 \right] \cdot 100.$$

GEOCHEMISTRY

INTRODUCTION

Logarithmic histograms and cumulative-probability curves for uranium concentrations of sediment and water samples and thorium concentrations of sediment samples are provided in Appendix A. These figures were generated to comply with DOE specifications.

In the Williams quadrangle, data samples were collected from two distinctly different geologic provinces: the Basin and Range province and the Colorado Plateau province (Fig. 3). Uranium mineralization has different characteristics in each province, and therefore it is not feasible to interpret the data as a single population. Population recognition and sorting is essential to the statistical interpretation of the data.

Each sample was classified according to the type of source rock from which the sediment detritus originated. Source rocks were grouped into five general classes:

- Quaternary-Tertiary volcanics.
- Tertiary sediments.
- Basin and Range alluvium.

- Basin and Range igneous and metamorphic complexes.
- Colorado Plateau sedimentary rocks.

Each group was treated statistically as an independent population. The median elemental concentrations for each group are shown in Table 5.

GEOCHEMISTRY OF THE ROCK TYPES

Quaternary-Tertiary Volcanics

Late Cenozoic volcanic flows and cinder cones are common in the southeastern portion of the quadrangle and along the transition zone between the Basin and Range and Colorado Plateau provinces (Fig. 3). The volcanics are primarily alkalic basalt¹¹ with subordinate rhyolite and andesite. Compared with other rock types, the volcanics have the highest relative median concentrations of aluminum, barium, cesium, cobalt, chromium, europium, iron, lanthanum, lutetium, magnesium, scandium, samarium, titanium, and vanadium. The rocks are low in potassium and sodium (Table 5). Uranium concentrations range from 0.59 to 8.29 ppm with a median of 2.36 ppm. Uranium correlates best with thorium.

TABLE 5. Median elemental concentrations (ppm) of sediment samples from the various rock classifications in the Williams quadrangle.

Elements	Quaternary-Tertiary volcanics	Tertiary sediments	Basin and Range Precambrian complex	Basin and Range alluvium	Colorado Plateau	Uranium occurrences
Al*	64.26	38.46	63.47	61.71	45.40	53.01
Ba*	0.98	0.62	0.91	0.92	0.59	0.65
Ca	58.29	31.33	32.87	32.12	67.83	54.19
Ce	108.40	61.33	64.15	84.04	68.73	67.17
Co	24.81	7.48	7.55	7.93	9.28	7.50
Cr	153.10	50.55	45.73	57.24	67.51	74.42
Eu	1.43	0.75	0.90	1.07	0.91	0.99
Fe*	50.70	20.53	27.81	21.44	26.92	24.37
Hf	6.48	4.73	5.28	5.43	6.51	7.06
K*	27.18	28.62	42.41	35.86	27.40	29.78
La	49.96	29.81	30.85	41.70	37.91	39.89
Lu	0.65	0.54	0.58	0.58	0.62	0.63
Mg*	19.07	7.42	10.20	8.54	12.64	14.35
Mn*	1.04	0.51	0.44	0.37	0.72	0.70
Na*	14.50	28.56	23.00	21.92	43.51	51.73
Rb	98.81	88.61	135.70	126.00	96.47	100.20
Sc	16.17	6.87	8.78	7.53	9.12	10.25
Sm	7.74	4.37	4.53	6.37	5.65	5.28
Th	11.01	9.40	11.14	11.20	10.46	9.68
Ti*	6.27	2.62	2.49	2.47	3.41	3.82
U	2.36	2.01	1.98	1.91	2.40	2.55
V	117.70	45.25	50.67	41.61	59.10	60.29
Yb	2.83	2.10	2.40	2.33	2.62	3.34
Th/U	4.56	4.51	5.21	5.42	4.44	4.23
No. of sites	416	39	138	156	746	23

*parts per thousand

Tertiary Sediments

Miocene-Pliocene nonmarine, sedimentary deposits occur in the central portion of the quadrangle in the Colorado Plateau. The sediments consist of conglomerate, sandstone, siltstone, and limestone and are locally interbedded with rhyolitic-to-andesitic volcanic flows and tuffaceous clastics.

They are characterized by low concentrations of most of the elements (Table 5). Uranium concentrations range from 0.69 to 3.99 ppm with a median of 2.01 ppm. Uranium correlates well with the rare earths and iron, scandium, vanadium, titanium, and manganese. This suggests that uranium exists in the resistate phase and is adsorbed onto iron oxides.

Basin and Range Precambrian Complexes

Precambrian igneous and metamorphic rocks are the major range-forming lithologic units of the Basin and Range province. The youngest rocks are granitic intrusives that intrude older schists; the oldest rocks are granitic gneiss. The granitic intrusives are granite, quartz monzonite, granodiorite, and quartz diorite.

The rocks have high concentrations of aluminum, iron, potassium, rubidium, and thorium and low concentrations of calcium, cerium, cobalt, hafnium, lanthanum, samarium, and uranium (Table 5). Uranium concentrations range from 0.73 to 28.37 ppm with a median of 1.98 ppm. Uranium correlates best with thorium.

Basin and Range Alluvium

This group consists of all rock types in the Basin and Range other than the Precambrian crystalline complexes. Quaternary alluvium is the dominant deposit, occurring mainly in the alluvial valleys that separate the mountain ranges.

The group has high concentrations of aluminum, potassium, rubidium, and thorium and low values of calcium, iron, hafnium, magnesium, scandium, titanium, uranium, and vanadium (Table 5). Uranium ranges from 0.68 to 17.48 ppm with a median of 1.91 ppm. Uranium correlates well with thorium.

Colorado Plateau

This group is composed of all pre-Tertiary sedimentary rocks of the Colorado Plateau province. The dominant rock type is the Kaibab Limestone, which crops out over much of the province.

The group has high concentrations of calcium, hafnium, magnesium, rubidium, and uranium and low concentrations of aluminum, barium, and rubidium (Table 5). Uranium concentration ranges from 0.55 to 39.50 ppm with a median of 2.40 ppm. Uranium correlates well with iron, titanium, and vanadium, suggesting an association with the iron-oxide minerals.

GEOGRAPHICAL URANIUM DISTRIBUTION

The areal distribution of uranium concentrations in water and sediment samples is shown on Overlays 1B and 2B (rear pocket). Samples with high uranium values are plotted on Figs. 6 and 7. High uranium concentrations are arbitrarily set at greater than 10.0 ppm for sediments and greater than 10.0 ppb for water samples.

The highest uranium values for sediment samples (>10.0 ppm) are primarily restricted to the Basin and Range province. All of these samples are associated with the Precambrian igneous and metamorphic complexes and located along the Grand Wash Cliffs, Cottonwood Mountains, Hualpai Mountains, and the Colorado River Gorge (Fig. 6). Lower uranium values (1.0 to 5.0 ppm) are characteristic of the alluvial valleys of the Basin and Range and are widespread through the Colorado Plateau (Overlay 2B).

As with the sediments, water samples with high uranium values (>10.0 ppb) are located in the Basin and Range province and are associated with the Precambrian crystalline rocks (Fig. 7). High uranium samples are located in the Grand Wash Cliffs, Peacock Mountains, Hualpai Mountains, and Cottonwood Mountains.

FIG. 6. Distribution of sediment samples with greater than 10.0 ppm uranium.

IDENTIFICATION OF KNOWN URANIUM OCCURRENCES

Samples collected downstream from known uranium occurrences have the highest median uranium concentrations in the Williams quadrangle (Table 5). Uranium values range from 0.83 to 4.44 ppm. The samples have the highest median concentrations of hafnium, sodium, and ytterbium and the lowest median Th/U ratio.

Uranium correlates well with the rare earths (ytterbium, hafnium, lutetium, thorium, lanthanum, and cerium) and iron, titanium, vanadium, and scandium. The rare-earth correlation suggests that the uranium is locked up in the resistate phases. The iron group correlation suggests that uranium is adsorbed onto iron oxides.

The geochemical data presented above suggest that much of the uranium from known uranium occurrences exists in the resistate phases and is not readily mobile in the geologic environment. These resistate phases may be responsible for the anomalous radioactivity at some of the claims.

LEGEND

- Sample location
- Precambrian metamorphic and igneous rocks
- Approximate Boundary between Colorado Plateau and Basin and Range Provinces

FIG. 7. Distribution of water samples with greater than 10.0 ppb uranium.

CONCLUSIONS

- The individual rock types of the Williams quadrangle have characteristic uranium and trace-element concentrations.
- Background uranium values for the Williams quadrangle are relatively low, ranging from 1.91 to 2.40 ppm.
- The highest uranium concentrations are associated with the Precambrian igneous and metamorphic complexes of the Basin and Range province and Colorado River Gorge.
- In general, uranium correlates best with the rare earths, iron, scandium, titanium, vanadium, and manganese. This suggests that the uranium exists primarily in the resistate phases and is adsorbed onto iron-oxide minerals.
- Known uranium occurrences of the Williams quadrangle are not readily identified by the stream-sediment data.

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APPENDIX A
DATA ORGANIZATION AND DEFINITIONS
DATA PRESENTATION

ORGANIZATION

The numerical results of this reconnaissance survey are presented in three hardcopy tables (Appendix B), in microfiche tables (back-cover pocket), and in six vellum overlays (back-cover pocket). In addition, frequency histograms and cumulative frequency plots of the uranium and thorium concentrations, and water conductivity are included in the back of this appendix.

HARDCOPY TABLES

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

Sediment analyses; 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 umho/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 umho/cm
Total alkalinity
Phenolphthalein alkalinity
Possible contamination
Uranium concentration, ppb
Quality-control, cross-reference site 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° × 2° 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. Different sample-site types (stream vs spring or well water; 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 larger by a factor of nearly 10^3 in sediments than in natural waters. The range assignments are shown in Figs. A-1 through A-3.

HISTOGRAMS AND CUMULATIVE FREQUENCY CURVES

Histograms and cumulative frequency plots for uranium concentration on Overlays 1B and 2B are shown in Fig. A-4 (water samples) and Fig. A-6 (sediment samples). Histograms and cumulative frequency plots for field conductivity on Overlay 1C are given in Fig. A-5 and for thorium concentration of sediments on Overlay 2C in Fig. A-7. These are presented as the logarithm of the elemental concentrations.

FIG. A-1. Uranium concentration in water samples.

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

FIG. A-3. Thorium concentration in sediment samples.

FIG. A-4. Histogram (A) and cumulative frequency distribution (B) of uranium concentrations for water samples plotted on Overlay 1B.

FIG. A-5. Histogram (A) and cumulative frequency distribution (B) of field conductivity for water samples plotted on Overlay 1C.

FIG. A-6. Histogram (A) and cumulative frequency distribution (B) of uranium concentrations for sediment samples plotted on Overlay 2B.

FIG. A-7. Histogram (A) and cumulative frequency distribution (B) of thorium concentrations for 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 no measurement available. Detection units for INAA determinations are given in the text. Emission spectrometry detection units are indicated in the data tables by the symbol (<).

DOE SAMPLE NUMBER

Each analyzed field sample is assigned a DOE number consisting of 28 characters. Five characters (dashes) are used to delineate the number of subdivisions. The subdivision assignments are:

Number	Description
01	<i>Spring water sample untreated.</i>
02	<i>River or stream water sample untreated.</i>
03	<i>Well water sample untreated.</i>
04	<i>Lake or reservoir water sample untreated.</i>
06	<i>Spring water sample filtered through a 0.45-μm membrane filter and acidified to a pH of ≤1 with high purity nitric acid (HNO₃).</i>
07	<i>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 (HNO₃).</i>
08	<i>Well water sample filtered through a 0.45-μm membrane filter and acidified to a pH of ≤1 with high purity nitric acid (HNO₃).</i>
09	<i>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 (HNO₃).</i>
21	<i>Spring water sample filtered through a 0.45-μm membrane filter.</i>
22	<i>River or stream water sample filtered through a 0.45-μm membrane filter.</i>
23	<i>Well water sample filtered through a 0.45-μm membrane filter.</i>
24	<i>Lake or reservoir water sample filtered through a 0.45-μm membrane filter.</i>
70	<i>Wet sediment sample dried at 110°C and sieved to the reported particle size range.</i>
71	<i>Lake or reservoir sediment sample dried at 110°C and sieved to the reported particle size range.</i>
72	<i>Dry sediment sample dried at 110°C and sieved to the reported particle size range.</i>
73	<i>Playa sediment sample taken by hand auger over the reported depth, dried at 100°C, and crushed to a fine powder.</i>
74	<i>Rock sample crushed and sieved to less than 250 μm.</i>

Position	Description
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. Three-digits used to distinguish between samples from the same site. The first indicates sample type (1 = sediment, 2 = water), the second identifies the field duplicate, and the third identifies analytical splits.

TEMPERATURE

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

pH

Activity 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 bromocresol 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. agriculture¹; 4. industrial; 5. sewage; 6. power generation; 7. urban; 8. recreation; 9. other.

CHLORIDE

Laboratory measurement of the chloride content reported in parts per million; detection limit estimated to be 2 ppm; accuracy ± 2 ppm.

SULFATE

Laboratory measurement of the sulfate content reported in parts per million (ppm); detection limit estimated to be 5 ppm; accuracy ± 5 ppm.

DISS-O₂

Dissolved oxygen; measurement with a commercial dissolved oxygen meter; accuracy is estimated to be ± 0.1 ppm.

Eh

Oxidation potential; measurement with a portable commercial Eh meter; Reported in millivolts referenced to a standard calomel electrode at 25°C.

URANIUM

The trace-element concentration of uranium in the sample as determined by DNC is given in parts per billion (ppb) by weight for waters and in parts per million (ppm) by weight for sediments. Where DNC values are not available, INAA determinations have been substituted and flagged with an asterisk (*). The error column contains a statistical estimate of measurement uncertainty expressed as a percentage of the concentration.

APPENDIX B
NUMERICAL RESULTS OF RECONNAISSANCE SURVEY

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY RPL	MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPLER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(MAA) PPM	ERR	
14813	4-35	5941	-113.9006	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	0.74	2.35	7.13	0.90
14814	4-35	6055	-113.9088	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.36	1.91	4.39	1.46
14815	4-35	6091	-113.9111	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.66	1.62	8.95	0.99
14816	4-35	6234	-113.9171	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.12	2.61	22.41	1.99
14817	4-35	5825	-113.8947	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.34	1.95	14.70	1.23
14818	4-35	5701	-113.8854	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.35	1.78	9.38	1.08
14819	4-35	6224	-113.8453	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.33	1.73	5.27	0.81
14820	4-35	6037	-113.8453	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.17	1.85	6.80	0.90
14821	4-35	5746	-113.8458	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.83	1.58	14.10	1.10
14822	4-35	5639	-113.8444	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	2.13	1.45	9.25	0.89
14823	4-35	5458	-113.8459	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.91	1.53	7.95	0.87
14824	4-35	5462	-113.8283	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.83	1.68	8.10	1.38
14825	4-35	5374	-113.8192	-172	-100	08/06/77	STREAM	DRY	1000	0500	9	1.75	1.62	1.06	1.08
14826	4-35	5273	-113.8254	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.77	1.64	9.07	1.11
14827	4-35	5220	-113.8230	-172	-100	08/06/77	STREAM	DRY	1000	0500	1	1.14	2.21	13.76	1.54
14828	4-35	5105	-113.8072	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	1.16	1.91	13.92	1.05
14829	4-35	5240	-113.7768	-172	-101	08/07/77	STREAM	DRY	1000	0500	1	0.82	2.10	7.17	0.94
14830	4-35	5432	-113.7642	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	0.79	2.06	4.15	0.74
14831	4-35	5255	-113.8992	-172	-100	08/07/77	STREAM	DRY	1000	0500	3	0.92	1.92	3.38	0.63
14832	4-35	5071	-113.9173	-172	-100	08/07/77	STREAM	DRY	1000	0500	3	1.23	1.91	13.45	1.00
14833	4-35	5300	-113.9402	-172	-100	08/07/77	STREAM	DRY	1000	0500	9	0.88	1.83	2.21	0.48
14834	4-35	6538	-113.9271	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	1.32	1.88	7.37	1.33
14835	4-35	6549	-113.9197	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	3.05	1.62	17.33	2.06
14836	4-35	6878	-113.8985	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	1.11	2.99	20.18	1.62
14837	4-35	6969	-113.8955	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	2.72	1.58	25.69	2.00
14838	4-35	7292	-113.8657	-172	-100	08/07/77	STREAM	DRY	1000	0500	9	1.32	1.95	11.57	1.32
14839	4-35	7048	-113.9808	-172	-100	08/07/77	STREAM	DRY	1000	0500	5	1.44	1.79	13.52	1.12
14839	4-35	7048	-113.9808	-172	-101	08/07/77	STREAM	DRY	1000	0500	5	1.07	1.74	3.64	0.50
14840	4-35	7018	-113.9553	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	2.09	1.43	7.47	0.84
14841	4-35	7001	-113.9558	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	2.03	1.54	14.52	1.58
14842	4-35	6970	-113.9319	-172	-100	08/07/77	STREAM	DRY	1000	0500	1	3.04	1.47	26.21	1.87
14843	4-35	6018	-113.7729	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.14	1.93	10.00	1.00
14844	4-35	6033	-113.7877	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.31	2.32	23.26	2.05
14845	4-35	6033	-113.7877	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.89	1.54	9.52	0.88
14846	4-35	6179	-113.7293	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.92	1.58	11.57	1.16
14847	4-35	5936	-113.7273	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	2.42	1.54	13.87	1.51
14848	4-35	5928	-113.7251	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.31	1.94	12.51	1.34
14849	4-35	6103	-113.7047	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.58	1.76	12.25	1.37
14849	4-35	6203	-113.7040	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	4.31	1.34	21.94	2.15
14849	4-35	6203	-113.7040	-172	-101	08/08/77	STREAM	DRY	1000	0500	5	3.30	1.38	15.08	1.98
14850	4-35	6130	-113.6673	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	3.27	1.51	16.70	2.45
14851	4-35	6104	-113.6595	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.35	1.71	9.92	0.86
14852	4-35	6164	-113.6394	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.65	1.74	6.20	1.49
14853	4-35	5655	-113.6703	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	2.51	1.68	14.00	2.35
14854	4-35	5599	-113.6622	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	2.60	1.50	14.36	1.51
14855	4-35	5617	-113.6645	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	3.53	1.39	17.44	1.40
14856	4-35	5691	-113.6537	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	1.43	1.53	11.53	1.22
14857	4-35	5797	-113.5823	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	2.95	1.43	13.98	1.18
14857	4-35	5797	-113.5823	-172	-100	08/08/77	STREAM	DRY	1000	0500	5	3.02	1.48	16.55	1.38

WILLIAMS 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 UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC)		THORIUM(NAA)	
	LAT.	LONG.	L	T	RPL							PPM	%ERR	PPM	%ERR
14858	4-35,6169	-113,5692	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.70	1.63	8.78	1.10
14859	4-35,6235	-113,5573	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	2.40	1.53	11.15	1.52
14859	4-35,6235	-113,5573	-1	-72	-101		STREAM	DRY	1000	0500	5	2.03	1.53	13.92	1.50
14860	4-35,5986	-113,5440	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.19	1.01	7.24	0.75
14861	4-35,5662	-113,5339	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.04	1.05	4.84	0.61
14862	4-35,5689	-113,5368	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.02	1.00	4.66	0.50
14863	4-35,5760	-113,5017	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.04	1.93	4.24	0.91
14864	4-35,5219	-113,5463	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	2.62	1.45		
14865	4-35,5274	-113,5410	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	2.28	1.53	9.99	0.97
14866	4-35,5259	-113,5233	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	0.94	1.77	4.04	0.53
14867	4-35,5056	-113,5469	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	0.89	1.00	3.76	0.57
14868	4-35,5035	-113,5612	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.50	1.49	7.48	0.62
14869	4-35,5204	-113,5716	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.80	1.52	4.72	0.96
14869	4-35,5204	-113,5716	-1	-72	-101		STREAM	DRY	1000	0500	5	1.47	1.68	7.33	0.76
14870	4-35,5302	-113,4043	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	1.44	1.59	6.87	0.76
14871	4-35,5205	-113,4088	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	0.67	1.06		
14872	4-35,5185	-113,4492	-1	-72	-100	08/09/77	STREAM	DRY	1000	0500	5	0.72	2.18	2.58	0.76
14873	4-35,5014	-113,4894	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	9	1.12	1.67	4.21	0.48
14874	4-35,5594	-113,4758	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.12	1.72	5.39	0.80
14875	4-35,5614	-113,4670	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.01	2.03	13.12	1.10
14876	4-35,5766	-113,4289	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.09	1.73	6.62	0.65
14877	4-35,5908	-113,4381	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.99	1.76	6.35	0.77
14878	4-35,6026	-113,4352	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.46	1.47		
14879	4-35,5954	-113,4769	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.92	1.81	3.67	0.48
14879	4-35,5954	-113,4769	-1	-72	-101		STREAM	DRY	1000	0500	5	0.99	1.78	2.53	0.48
14880	4-35,5974	-113,4670	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.92	1.98	10.44	0.88
14881	4-35,6002	-113,4845	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.92	1.77	5.34	0.54
14882	4-35,6149	-113,4510	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.05	1.69	4.20	0.59
14883	4-35,6378	-113,4329	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.96	1.40	6.98	0.64
14884	4-35,6522	-113,4312	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	2.58	1.35	10.43	0.87
14885	4-35,6320	-113,4411	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.97	1.77	2.23	0.61
14886	4-35,6448	-113,4431	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	1.53	1.49	6.23	0.66
14887	4-35,6384	-113,4484	-1	-72	-100	08/10/77	STREAM	DRY	1000	0500	5	0.94	1.77	2.08	0.61
14888	4-35,7460	-113,9912	-1	-72	-100	08/11/77	STREAM	CRY	1000	0500	5	1.88	1.59	11.83	1.31
14889	4-35,7603	-113,9940	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.12	1.41	5.09	0.82
14889	4-35,7603	-113,9940	-1	-72	-101		STREAM	DRY	1000	0500	5	2.20	1.55	13.40	1.50
14890	4-35,7107	-113,9954	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	1.44	1.79	15.29	1.19
14891	4-35,7198	-113,9849	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.02	1.45	8.31	0.91
14892	4-35,7217	-113,9527	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.68	1.39	13.84	1.10
14893	4-35,6755	-113,9610	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	0.98	1.89	6.43	0.91
14894	4-35,6675	-113,9563	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	9	0.79	2.02	6.35	0.72
14895	4-35,6332	-113,7320	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	1.65	1.59	11.76	1.23
14896	4-35,6557	-113,7692	-1	-70	-100	08/11/77	STREAM	WET	1000	0500	5	1.39	1.46	7.67	0.60
14897	4-35,6548	-113,7692	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.33	1.44	9.13	0.93
14898	4-35,6816	-113,7436	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.39	1.68	13.74	1.50
14899	4-35,6876	-113,7162	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	1.74	1.66	14.01	1.29
14899	4-35,6876	-113,7162	-1	-72	-101		STREAM	DRY	1000	0500	5	1.83	1.70	11.58	1.47
14900	4-35,6921	-113,7948	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	1.66	1.52	8.07	0.69
14901	4-35,7134	-113,8110	-1	-72	-100	08/11/77	STREAM	DRY	1000	0500	5	2.06	1.44	18.51	1.54

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY	COND. RPL	SAMPLE MO-DA-YR	UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	%ERR	THORIUM(INAA) PPM	%ERR
14902		4-35.7223	-113.8157	-1-72-100	08/11/77	STREAM	DRY	1000	0500	5		1.45	1.90	10.44	1.50
14903		4-35.6885	-113.4223	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		0.69	1.94	2.25	0.17
14904		4-35.6866	-113.4256	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		0.80	1.73	1.99	0.31
14905		4-35.6825	-113.4067	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		1.22	1.55	4.23	0.48
14906		4-35.7071	-113.3908	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		0.99	1.69	3.61	0.51
14907		4-35.5513	-113.3388	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		2.52	1.50	15.51	1.15
14908		4-35.5668	-113.3271	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		2.14	1.49	12.71	0.97
14909		4-35.5670	-113.3549	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		3.00	1.43	16.85	1.35
14909		4-35.5628	-113.3249	-1-72-101		STREAM	DRY	1000	0500			3.05	1.43	17.27	1.32
14910		4-35.5637	-113.3027	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		3.15	1.46	16.32	1.78
14911		4-35.5796	-113.2745	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		2.54	1.51	13.50	1.30
14912		4-35.5127	-113.3321	-1-72-100	08/12/77	STREAM	DRY	1000	0500	9		1.88	1.54	9.27	0.87
14913		4-35.5167	-113.3587	-1-72-100	08/12/77	STREAM	DRY	1000	0500	9		1.37	1.61	6.05	0.71
14914		4-35.5274	-113.3634	-1-72-100	08/12/77	STREAM	DRY	1000	0500	9		0.70	1.85	1.47	0.34
14915		4-35.5165	-113.3179	-1-72-100	08/12/77	STREAM	DRY	1000	0500	9		1.92	1.64	10.22	1.13
14916		4-35.5212	-113.2629	-1-72-100	08/12/77	STREAM	DRY	1000	0500	5		2.94	1.46	15.41	1.33
14917		4-35.5116	-113.2913	-1-72-100	08/12/77	STREAM	DRY	1000	0500	9		2.42	1.66	13.38	1.51
14932		4-35.6309	-113.8866	-1-72-100	08/15/77	STREAM	DRY	1000	0500	9		2.27	1.49	14.31	1.46
14933		4-35.6327	-113.8678	-1-72-100	08/15/77	STREAM	DRY	1000	0500	9		1.72	1.73	21.85	1.49
14934		4-35.7416	-113.7191	-1-72-100	08/15/77	STREAM	DRY	1000	0500	5		3.63	1.38	20.87	1.67
14935		4-35.7492	-113.7039	-1-72-100	08/15/77	STREAM	DRY	1000	0500	5		1.65	1.57	7.95	0.83
14936		4-35.7049	-113.7058	-1-72-100	08/15/77	STREAM	DRY	1000	0500	5		2.61	1.27		
14937		4-35.6501	-113.7006	-1-72-100	08/15/77	STREAM	DRY	1000	0500	5		2.22	1.46	12.47	1.14
14942		4-35.9951	-113.1257	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		1.35	1.52	15.20	1.31
14943		4-35.9789	-113.1273	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		3.57	1.35	12.85	1.19
14944		4-35.9662	-113.1303	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		3.54	1.32	12.46	1.32
14945		4-35.9592	-113.1700	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		1.62	1.51	3.80	0.55
14946		4-35.9596	-113.2000	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1		1.56	1.48	2.23	0.40
14947		4-35.9409	-113.1353	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		3.89	1.32	13.61	1.11
14948		4-35.9164	-113.1456	-1-72-100	08/22/77	STREAM	DRY	1000	0500	5		3.92	1.33	13.43	1.15
14949		4-35.9006	-113.1706	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		2.69	1.37	6.77	0.89
14950		4-35.9005	-113.1706	-1-72-101		STREAM	DRY	1000	0500			2.65	1.43	5.68	0.84
14954		4-35.8789	-113.1756	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		4.24	1.29	16.47	1.25
14951		4-35.9174	-113.1379	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.48	1.63	0.09	0.86
14952		4-35.9329	-113.1261	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		3.57	1.38	10.39	1.22
14953		4-35.9338	-113.1261	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		3.14	1.39	11.07	1.31
14954		4-35.8989	-113.1163	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		1.63	1.41		
14955		4-35.8908	-113.1128	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		3.80	1.28	12.29	1.50
14956		4-35.8309	-113.0879	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5		1.04	1.96	13.99	0.99
14957		4-35.8009	-113.6008	-1-72-100	08/24/77	STREAM	DRY	1000	0500	5		1.90	1.52	10.32	0.85
14958		4-35.6582	-113.5374	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.08	1.53	11.41	1.02
14959		4-35.6991	-113.5188	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		0.76	1.68	4.48	0.49
14959		4-35.6991	-113.5188	-1-72-101		STREAM	DRY	1000	0500			0.87	1.94	5.49	0.58
14960		4-35.7027	-113.5178	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		0.7	1.96	3.75	0.44
14961		4-35.7119	-113.5534	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		0.79	1.67	2.35	0.31
14962		4-35.6465	-113.5326	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.81	1.48	19.27	1.50
14963		4-35.6378	-113.5202	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.88	1.45	19.25	1.40
14964		4-35.6471	-113.5492	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.69	1.53	16.07	1.70
14965		4-35.6577	-113.5606	-1-72-100	08/25/77	STREAM	DRY	1000	0500	5		2.40	1.40	9.86	1.06

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

PAGE B-5

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	DATE MO-DA-YR	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE	POS. UPPER LOWER	CONT.	Q. C. X-REF	URANIUM(10C) PPM	THORUM(10C) PPM	THORUM(10C) PPM	THORUM(10C) PPM
14966	4-35,6628-113,5729-1	-72-100	08/25/77	STREAM	DRY	1000	0500	5			3.06	1.38	14.77	1.60
14967	4-35,6657-113,6008-1	-72-100	08/25/77	STREAM	DRY	1000	0500	5			2.89	1.52	16.59	1.91
14968	4-35,6766-113,6086-1	-72-100	08/25/77	STREAM	DRY	1000	0500	5			1.24	1.82	4.92	1.01
14969	4-35,6450-113,1847-1	-72-100	09/01/77	STREAM	DRY	1000	0500	5			3.55	1.38	11.56	1.20
14969	4-35,6450-113,1847-1	-72-101		STREAM	DRY	1000	0500				3.80	1.39	12.08	1.20
14970	4-35,6417-113,1901-1	-72-100	09/01/77	STREAM	DRY	1000	0500	9			2.75	1.71	9.49	1.24
14971	4-35,6327-113,1887-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.84	1.53	5.37	0.78
14972	4-35,6250-113,1942-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.83	1.79	4.44	0.82
14973	4-35,6230-113,1908-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.23	1.60	1.66	0.43
14974	4-35,6235-113,1973-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.66	1.97	5.79	1.23
14975	4-35,6189-113,2005-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.56	1.63	5.30	0.67
14976	4-35,6208-113,1951-1	-72-100	09/01/77	STREAM	DRY	1000	0500	1			1.84	1.49	4.79	0.61
14977	4-35,6120-113,0841-1	-72-100	09/01/77	STREAM	DRY	000	0500	1			0.33	1.92	4.52	0.61
14978	4-35,7977-113,0780-1	-72-100	09/01/77	STREAM	DRY	000	0500	1			1.95	1.79	20.37	1.25
14979	4-35,7852-113,0702-1	-72-100	09/01/77	STREAM	DRY	000	0500	1			1.16	1.93	10.39	0.93
14979	4-35,7852-113,0702-1	-72-101		STREAM	DRY	1000	0500	1			1.21	1.79	10.78	0.83
14980	4-35,9550-113,0480-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			4.15	1.38	15.91	1.32
14981	4-35,9758-113,0452-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			4.25	1.38	16.73	1.77
14983	4-35,9724-113,0885-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			4.61	1.31	15.86	1.38
14984	4-35,9899-113,0644-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			3.35	1.41	8.80	1.26
14985	4-35,9742-113,0695-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			4.46	1.34	6.31	1.67
14987	4-35,8956-113,0442-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			4.89	1.33	16.84	1.72
14988	4-35,9224-113,0061-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			3.88	1.44	13.91	1.29
14989	4-35,8857-113,0429-1	-72-101	09/02/77	STREAM	DRY	1000	0500	1			4.25	1.38	16.18	1.69
14989	4-35,8857-113,0429-1	-72-101		STREAM	DRY	1000	0500				4.37	1.35	17.69	1.76
14990	4-35,8777-113,0393-1	-72-100	09/02/77	STREAM	DRY	1000	0500	1			3.49	1.44	16.54	1.56
14992	4-35,8760-113,9817-1	-72-100	09/03/77	STREAM	DRY	1000	0500	1			1.85	1.55	4.31	1.21
14993	4-35,8761-113,9751-1	-72-100	09/03/77	STREAM	DRY	1000	0500	1			1.86	1.54	10.70	0.92
14994	4-35,8799-113,9708-1	-72-100	09/03/77	STREAM	DRY	1000	0500	1			2.07	1.52	12.69	1.19
14995	4-35,8884-113,9468-1	-72-100	09/03/77	STREAM	DRY	1000	0500	1			0.96	1.81	3.46	0.61
14996	4-35,8967-113,9448-1	-70-100	09/03/77	STREAM	NET	1000	0500	1			2.33	1.53	13.91	1.48
14997	4-35,9015-113,9350-1	-72-100	09/03/77	STREAM	DRY	1000	0500	5			2.71	1.46	15.76	1.41
14998	4-35,9079-113,9297-1	-72-100	09/03/77	STREAM	DRY	1000	0500	9			2.87	1.47	16.34	1.64
14999	4-35,9489-113,9135-1	-72-100	09/03/77	STREAM	DRY	1000	0500	5			0.96	1.75	3.53	0.47
15000	4-35,9493-113,9135-1	-72-101		STREAM	DRY	1000	0500				0.99	2.03	4.12	0.73
15009	4-35,9507-113,9135-1	-72-100	09/03/77	STREAM	DRY	1000	0500	5			0.92	1.91	3.06	0.67
20889	4-35,3076-112,0846-1	-72-101		STREAM	DRY	1000	0500				3.46	1.44	16.31	1.91
20891	4-35,3163-112,0176-1	-72-100	08/19/77	STREAM	DRY	1000	0500	5			2.96	1.34	8.10	0.36
20892	4-35,3395-112,0465-1	-72-100	08/19/77	STREAM	DRY	1000	0500	1			2.93	1.32	5.74	0.76
20895	4-35,3538-112,0889-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			3.13	1.32	11.07	0.87
20896	4-35,3562-112,0689-1	-72-100		STREAM	DRY	1000	0500	1			3.27	1.32	9.08	0.87
20897	4-35,3567-112,0445-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			2.84	1.52	11.60	1.34
20899	4-35,4163-112,0364-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			3.31	1.36	16.07	1.23
20899	4-35,4163-112,0364-1	-72-101		STREAM	DRY	1000	0500				3.67	1.42	15.93	1.49
20900	4-35,4381-112,0147-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			1.10	1.87	2.55	0.74
20901	4-35,4440-112,0544-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			2.51	1.33	15.03	1.38
20902	4-35,4460-112,0448-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			2.53	1.56	12.77	1.33
20903	4-35,4847-112,0483-1	-72-100	08/20/77	STREAM	DRY	1000	0500	1			2.38	1.60	14.07	1.52
20903	4-35,4847-112,0483-1	-72-110		STREAM	DRY	1000	0500				2.30	1.84	8.58	2.60

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER LTYRPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAA) PPM	UNL ERR	
20904		4-35	4617-112.0781	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	2.95	1.31	8.50	0.91
20905		4-35	4609-112.1009	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	1.30	1.71	9.57	1.67
20906		4-35	4220-112.0960	-1-72-100		STREAM	DRY	1000	0500	1	2.40	1.65	13.10	1.71
20907		4-35	2947-112.1185	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	3.15	1.55	14.45	2.21
20908		4-35	3140-112.1748	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	2.57	1.51	11.69	1.35
20909		4-35	3302-112.1751	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	2.20	1.53	9.61	1.30
20909		4-35	3302-112.1751	-1-72-101		STREAM	DRY	1000	0500	1	0.66	1.51	13.12	1.41
20910		4-35	3291-112.1993	-1-72-100		STREAM	DRY	1000	0500	5	2.79	1.36	7.07	0.94
20911		4-35	3361-112.2148	-1-72-100	08/02/77	STREAM	DRY	1000	0500	1	2.78	1.43	7.42	1.38
20912		4-35	3179-112.2343	-1-72-100	08/02/77	STREAM	DRY	1000	0500	1	2.04	1.54	9.67	1.16
20913		4-35	3512-112.2392	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	2.21	1.46	5.80	0.91
20914		4-35	3930-112.2177	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	1.40	1.75	7.48	0.99
20915		4-35	4251-112.2382	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	2.86	1.42	13.45	1.11
20916		4-35	4640-112.2277	-1-72-100	08/20/77	STREAM	DRY	1000	0500	1	0.97	1.86	3.70	0.81
20917		4-35	4910-112.2413	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	2.17	1.48	8.67	0.94
20918		4-35	4841-112.2049	-1-72-110		STREAM	DRY	1000	0500	1	1.95	1.72	7.29	1.39
20919		4-35	4824-112.1971	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	1.72	1.69	7.02	1.02
20919		4-35	4824-112.1971	-1-72-101		STREAM	DRY	1000	0500	1	1.83	1.64	7.74	1.03
20920		4-35	4625-112.1979	-1-72-100		STREAM	DRY	1000	0500	1	2.16	1.39		
20921		4-35	4185-112.1819	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	1.00	1.94	5.36	0.97
20922		4-35	4630-112.1484	-1-72-100		STREAM	DRY	1000	0500	1	2.76	1.51	15.34	1.29
20924		4-35	4808-112.1707	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	1.82	1.71	9.50	1.38
20925		4-35	4609-112.1699	-1-72-100	08/21/77	STREAM	DRY	1000	0500	1	2.14	1.25	27.95	1.45
20926		4-35	4203-112.1952	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	2.22	1.58	9.43	1.16
20927		4-35	2653-112.0829	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	3.61	1.45	15.73	1.65
20928		4-35	2676-112.0170	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	3.40	1.59	8.05	2.81
20928		4-35	2344-112.0034	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	2.56	1.36		
20929		4-35	2344-112.0034	-1-72-101		STREAM	DRY	1000	0500	1	2.54	1.52	13.62	1.41
20931		4-35	1490-112.0359	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	3.09	1.44	13.02	1.44
20932		4-35	1432-112.0829	-1-72-100		STREAM	DRY	1000	0500	1	2.85	1.47	12.13	1.40
20933		4-35	1823-112.0829	-1-72-100	08/22/77	STREAM	DRY	1000	0500	1	4.08	1.30	6.79	1.37
20934		4-35	2309-112.1901	-1-72-100	08/23/77	STREAM	DRY	1000	0500	9	3.17	1.37	10.27	1.15
20935		4-35	1760-112.1783	-1-72-100		STREAM	DRY	1000	0500	1	2.35	1.35	5.22	1.38
20935		4-35	2229-112.1735	-1-72-100		STREAM	DRY	1000	0500	1	2.88	1.38	8.95	1.14
20937		4-35	1703-112.2112	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	5.25	1.20	14.19	1.00
20938		4-35	1701-112.2299	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	3.26	1.33	11.05	0.93
20939		4-35	1492-112.2438	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	3.76	1.32	11.96	1.29
20939		4-35	1492-112.2438	-1-72-101		STREAM	DRY	1000	0500	1	3.82	1.32	13.39	1.43
20940		4-35	1170-112.2149	-1-72-100	08/23/77	STREAM	DRY	1000	0500	5	2.16	1.61	5.63	1.41
20941		4-35	0980-112.2255	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	1.68	1.65	6.58	1.35
20943		4-35	0792-112.2164	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	1.76	1.81	8.03	1.57
20944		4-35	0175-112.2451	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	2.90	1.57	13.86	1.75
20945		4-35	0849-112.1814	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	1.68	1.66	7.64	1.26
20947		4-35	0652-112.1691	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	2.88	1.43	11.09	1.11
20949		4-35	0125-112.2143	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	1.48	1.72	3.57	1.22
20949		4-35	0125-112.2143	-1-72-101		STREAM	DRY	1000	0500	1	1.42	1.70	7.14	1.11
20950		4-35	0718-112.1417	-1-72-110	08/23/77	STREAM	DRY	1000	0500	1	2.60	1.52	9.52	1.62
20950		4-35	0718-112.1417	-1-72-110		STREAM	DRY	1000	0500	1	2.64	1.45	10.61	1.16
20951		4-35	1015-112.1422	-1-72-100	08/23/77	STREAM	DRY	1000	0500	1	3.09	1.58	13.98	2.14

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

SITE NUMBER	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY	SAMPLE MO-DA-YR	PARTICLE SOURCE/COND.	SIZE UPPER	PDS. LOWER	POS. CONT	Q, C, X-REF	URANIUM(PPM)	THORIUM(PPM)	ERR	
20952	4-35.1521	-112.0298	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		3.08	1.57	14.46	2.00
20953	4-35.1350	-112.0307	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		1.17	2.13	7.75	1.24
20954	4-35.1411	-112.0571	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		1.87	1.66	7.97	1.52
20955	4-35.1197	-112.0217	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.37	1.40	10.25	0.95
20956	4-35.0874	-112.0070	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		3.64	1.43	17.06	1.71
20957	4-35.0691	-112.0331	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.37	1.56	9.81	1.35
20958	4-35.0824	-112.0565	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.86	1.45	14.24	1.48
20959	4-35.0563	-112.0571	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.74	1.59	12.38	1.71
20959	4-35.0563	-112.0571	-1-72-101		S. REAM	DRY	1000	0500			2.89	1.46	11.06	1.35
20960	4-35.0544	-112.0783	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.73	1.43	13.03	1.23
20961	4-35.0814	-112.0783	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		2.05	1.40		
20962	4-35.0993	-112.0928	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		2.29	1.61	11.40	1.52
20963	4-35.0740	-112.0990	-1-70-100	08/24/77	STREAM	NET	1000	0500	1		2.65	1.47	11.83	1.40
20964	4-35.0415	-112.1019	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		1.64	1.81	7.69	1.36
20966	4-35.0444	-112.0745	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		1.83	1.65	7.45	1.37
20967	4-35.1583	-112.0355	-1-70-100	08/24/77	STREAM	NET	1000	0500	1		2.88	1.39	8.95	1.20
20968	4-35.2045	-112.1260	-1-72-100	08/25/77	STREAM	DRY	1000	0500	1		3.26	1.36	13.03	1.23
20969	4-35.2080	-112.1360	-1-72-100		STREAM	DRY	1000	0500	1		3.50	1.45	14.04	1.85
20969	4-35.2080	-112.1360	-1-72-101		STREAM	DRY	1000	0500			3.43	1.48	15.38	1.73
20971	4-35.1387	-112.1240	-1-72-100	08/25/77	STREAM	DRY	1000	0500	1		3.02	1.57	10.60	2.17
20972	4-35.1282	-112.0855	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1		1.65	1.65	4.57	1.09
20973	4-35.0326	-112.2735	-1-72-100	08/25/77	STREAM	DRY	1000	0500	1		1.87	1.68	8.32	0.97
20975	4-35.0278	-112.2579	-1-72-100		STREAM	DRY	1000	0500	2		1.38	2.00	4.23	1.66
20978	4-35.0501	-112.3245	-1-72-100	08/25/77	STREAM	DRY	1000	0500	1		2.30	1.60	13.38	1.51
20979	4-35.0671	-112.3325	-1-72-100		STREAM	DRY	1000	0500	1		1.52	1.75	3.46	0.82
20979	4-35.0671	-112.3325	-1-72-101		STREAM	DRY	1000	0500			1.58	1.69	7.56	0.79
20980	4-35.0789	-112.3283	-1-72-100	08/25/77	STREAM	DRY	1000	0500	1		1.30	1.81	4.45	0.99
20982	4-35.0144	-112.2856	-1-72-100	08/29/77	STREAM	DRY	1000	0500	2		1.56	1.75	7.48	1.17
20983	4-35.0240	-112.3165	-1-72-100	08/29/77	STREAM	DRY	1000	0500	9		1.40	1.80	6.63	1.26
20984	4-35.0541	-112.3674	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		2.14	1.70	9.35	1.42
20985	4-35.0093	-112.4214	-1-72-100	08/29/77	STREAM	DRY	1000	0500	5		1.19	1.82	3.62	0.89
20986	4-35.0022	-112.4147	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		1.09	1.66	3.31	0.82
20988	4-35.0310	-112.4196	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		1.19	1.86	4.58	0.74
20989	4-35.0416	-112.4329	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		1.32	1.70	4.22	0.75
20989	4-35.0415	-112.4329	-1-72-101		STREAM	DRY	1000	0500			1.38	1.69	5.21	0.81
20990	4-35.0392	-112.4132	-1-72-100	08/29/77	STREAM	DRY	1000	0500	5		1.73	1.53	5.36	0.71
20991	4-35.0579	-112.4280	-1-72-100	08/29/77	STREAM	DRY	1000	0500	5		1.75	1.71	7.82	1.61
20992	4-35.0769	-112.3414	-1-72-100	08/29/77	STREAM	DRY	1000	0500	1		2.35	1.58	10.75	1.20
20994	4-35.1326	-112.2831	-1-72-100	08/30/77	STREAM	DRY	1000	0500	5		2.48	1.59	11.92	1.59
20995	4-35.1588	-112.2747	-1-72-100		STREAM	DRY	1000	0500	1		5.34	1.26	15.72	1.28
20996	4-35.1293	-112.3357	-1-72-100	08/30/77	STREAM	DRY	1000	0500	1		1.95	1.61	7.69	1.44
20997	4-35.1613	-112.2923	-1-72-100	08/30/77	STREAM	DRY	1000	0500	5		3.17	1.40	10.92	1.49
20998	4-35.2189	-112.3020	-1-72-100	08/30/77	STREAM	DRY	1000	0500	1		2.35	1.55	12.46	1.26
20999	4-35.2262	-112.2955	-1-72-100	08/30/77	STREAM	DRY	1000	0500	1		3.12	1.41	12.80	1.20
20999	4-35.2262	-112.2955	-1-72-101		STREAM	DRY	1000	0500			3.29	1.35	12.95	1.21
21042	4-35.7737	-112.0975	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5		2.56	1.49	12.99	1.07
21044	4-35.7778	-112.0356	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5		2.73	1.55	13.97	1.27
21045	4-35.8392	-112.0253	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5		2.81	1.45		
21048	4-35.8196	-112.1059	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5		2.84	1.76	7.19	2.80

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

SITE	DOE	SAMPLE	DATE	SAMPLE	PARTICLE	SIZE	POS.	Q. C.	URANIUM(DNC)	THORIUM(NAA)		
NUMBER	LAT.	LONG.	L TY RPL	MO-DA-YR	UPPER	LOWER	CONT	X-REF	PPM	PPM		
									ERR	ERR		
21049	4-35.8044	-112.0913	-172-101		STREAM	DRY	1000 0500		2.44	1.38	9.79	1.04
21050	4-35.8498	-112.0498	-172-100	09/01/77	STREAM	DRY	1000 0500	5	2.53	1.53	10.16	1.21
21051	4-35.8705	-112.0390	-172-100	09/01/77	STREAM	DRY	1000 0500	5	1.84	1.50	8.54	0.80
21052	4-35.8623	-112.0688	-172-100	09/01/77	STREAM	DRY	1000 0500	5	2.22	1.51	8.30	0.88
21053	4-35.8429	-112.1206	-172-100	09/01/77	STREAM	DRY	1000 0500	5	2.57	1.45	5.86	0.95
21054	4-35.8509	-112.1318	-172-100	09/02/77	STREAM	DRY	1000 0500	5	3.16	1.46	13.82	1.42
21055	4-35.7977	-112.1299	-172-100	09/02/77	STREAM	DRY	1000 0500	5	2.84	1.52	13.74	1.39
21056	4-35.7823	-112.1341	-172-100	09/02/77	STREAM	DRY	1000 0500	5	2.80	1.58	14.78	1.72
21057	4-35.7820	-112.1651	-172-100	09/02/77	STREAM	DRY	1000 0500	5	2.67	1.45	9.62	0.98
21058	4-35.8008	-112.1653	-172-100	09/02/77	STREAM	DRY	1000 0500	5	1.53	1.56	4.13	0.43
21059	4-35.8008	-112.1853	-172-101	09/02/77	STREAM	DRY	1000 0500	5	1.69	1.55	4.15	0.84
21060	4-35.8024	-112.2074	-172-100	09/02/77	STREAM	DRY	1000 0500	5	1.76	1.64	1.95	1.23
21063	4-35.8193	-112.1634	-172-100	09/02/77	STREAM	DRY	1000 0500	5	1.74	1.55	4.54	0.64
21064	4-35.8203	-112.1513	-172-100	09/02/77	STREAM	DRY	1000 0500	5	3.03	1.28	7.99	0.56
21065	4-35.8428	-112.2169	-172-100	09/02/77	STREAM	DRY	1000 0500	5	2.63	1.50	12.91	1.18
21066	4-35.8575	-112.1972	-172-100	09/02/77	STREAM	DRY	1000 0500	5	1.51	1.81	4.95	1.21
21067	4-35.8794	-112.0731	-172-100	09/03/77	STREAM	DRY	1000 0500	5	2.10	1.62	10.29	1.47
21068	4-35.8935	-112.1707	-172-100	09/03/77	STREAM	DRY	1000 0500	5	2.14	1.49	8.30	0.90
21069	4-35.8759	-112.1642	-172-100	09/02/77	STREAM	DRY	1000 0500	5	2.67	1.42	8.78	0.94
21069	4-35.8758	-112.1642	-172-101	09/02/77	STREAM	DRY	1000 0500	5	2.74	1.37	4.36	0.97
21070	4-35.8924	-112.2193	-172-100	09/02/77	STREAM	DRY	1000 0500	5	3.21	1.52	11.33	1.31
21070	4-35.8924	-112.2193	-172-110	09/02/77	STREAM	DRY	1000 0500	5	1.26	1.34	14.52	1.28
21071	4-35.9088	-112.2057	-172-100	09/02/77	STREAM	DRY	1000 0500	5	3.56	1.42	11.18	1.22
21074	4-35.9564	-112.1311	-172-100	09/02/77	STREAM	DRY	1000 0500	5	3.34	1.45	12.77	1.47
21075	4-35.8793	-112.0779	-172-100	09/03/77	STREAM	DRY	1000 0500	5	2.11	1.59	11.56	1.04
21077	4-35.8871	-112.1112	-172-100	09/03/77	STREAM	DRY	1000 0500	5	3.10	1.40	11.11	0.92
21078	4-35.9559	-112.0812	-172-100	09/03/77	STREAM	DRY	1000 0500	5	3.28	1.42	10.59	1.18
21079	4-35.9434	-112.0721	-172-100	09/03/77	STREAM	DRY	1000 0500	5	3.55	1.37	13.83	1.26
21079	4-35.9434	-112.0721	-172-101	09/03/77	STREAM	DRY	1000 0500	5	3.75	1.35	6.92	1.11
21080	4-35.9373	-112.0454	-172-100	09/03/77	STREAM	DRY	1000 0500	5	3.94	1.35	11.81	1.14
21081	4-35.9311	-112.0320	-172-100	09/03/77	STREAM	DRY	1000 0500	9	3.19	1.44	10.58	1.25
21083	4-35.9583	-112.0202	-172-100	09/03/77	STREAM	DRY	1000 0500	9	2.91	1.58	5.09	2.38
21084	4-35.9588	-112.0546	-172-100	09/03/77	STREAM	DRY	1000 0500	9	3.14	1.32		
21085	4-35.9669	-112.0613	-172-100	09/03/77	STREAM	DRY	1000 0500	5	3.45	1.38	9.96	1.02
21086	4-35.9774	-112.0940	-172-100	09/03/77	STREAM	DRY	1000 0500	9	3.52	1.37	5.18	1.69
21088	4-35.9798	-112.1292	-172-100	09/04/77	STREAM	DRY	1000 0500	9	3.26	1.35	5.32	0.70
21089	4-35.9788	-112.1458	-172-100	09/04/77	STREAM	DRY	1000 0500	5	3.31	1.44	10.90	1.41
21089	4-35.9788	-112.1458	-172-101	09/04/77	STREAM	DRY	1000 0500	5	3.51	1.43	11.87	1.16
21091	4-35.9785	-112.1735	-172-100	09/04/77	STREAM	DRY	1000 0500	5	3.33	1.36	6.30	1.13
21093	4-35.9926	-112.2070	-172-100	09/04/77	STREAM	DRY	1000 0500	5	2.91	1.38	7.83	0.96
21094	4-35.9799	-112.2179	-172-100	09/04/77	STREAM	DRY	1000 0500	5	2.68	1.40	8.62	1.02
21096	4-35.9371	-112.2549	-172-100	09/04/77	STREAM	DRY	1000 0500	5	1.71	1.56	4.92	0.74
21097	4-35.9821	-112.2601	-172-100	09/04/77	STREAM	DRY	1000 0500	5	2.94	1.64	15.16	1.67
21098	4-35.9640	-112.2808	-172-100	09/04/77	STREAM	DRY	1000 0500	5	3.31	1.47	14.00	1.37
21099	4-35.9288	-112.2714	-172-100	09/04/77	STREAM	DRY	1000 0500	5	2.80	1.48	10.25	1.03
21099	4-35.9288	-112.2714	-172-101	09/04/77	STREAM	DRY	1000 0500	5	2.88	1.49	10.45	1.17
21100	4-35.9072	-112.2733	-172-100	09/04/77	STREAM	DRY	1000 0500	5	2.96	1.47	13.70	1.34
21205	4-35.4387	-113.7992	-172-100	08/18/77	STREAM	DRY	1000 0500	6	1.46	3.29	51.35	3.89
21205	4-35.4387	-113.7992	-172-110	08/18/77	STREAM	DRY	1000 0500	6	1.30	2.14	23.31	1.57

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

SITE NUMBER	ST	DOC 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	THORIUM(NAA) PPM	ERR
21285		4-35.4448	-113.7311	-172-100		STREAM	DRY	1000	0500	1	1.07	1.91	0.59
21286		4-35.4639	-113.7648	-172-100	08/18/77	STREAM	DRY	1000	0500	1	0.93	1.67	0.69
21289		4-35.4675	-113.7639	-172-101		STREAM	DRY	1000	0500	1	0.88	2.16	0.91
21290		4-35.4773	-113.7675	-172-100	08/18/77	STREAM	DRY	1000	0500	1	0.83	2.32	0.81
21292		4-35.4233	-113.7260	-172-100	08/18/77	STREAM	DRY	1000	0500	5	1.75	1.99	0.95
21293		4-35.3971	-113.7269	-172-100	08/18/77	STREAM	DRY	1000	0500	1	1.33	1.73	0.62
21294		4-35.3971	-113.7271	-172-100	08/18/77	STREAM	DRY	1000	0500	1	0.87	1.98	0.70
21295		4-35.4566	-113.8042	-172-100	08/18/77	STREAM	DRY	1000	0500	1	1.26	1.97	0.74
21296		4-35.4750	-113.8291	-172-100	08/18/77	STREAM	DRY	1000	0500	1	1.30	1.68	0.84
21297		4-35.4691	-113.8487	-172-100	08/18/77	STREAM	DRY	1000	0500	5	1.36	2.46	0.85
21298		4-35.4508	-113.8591	-172-100	08/18/77	STREAM	DRY	1000	0500	1	2.21	1.52	0.95
21299		4-35.4431	-113.8456	-172-101		STREAM	DRY	1000	0500	1	2.08	1.76	0.85
21300		4-35.4315	-113.8337	-172-100	08/18/77	STREAM	DRY	1000	0500	1	2.15	1.95	0.81
21301		4-35.4607	-113.9013	-172-100	08/18/77	STREAM	DRY	1000	0500	1	1.44	1.70	0.85
21302		4-35.3978	-113.8165	-172-100	08/19/77	STREAM	DRY	1000	0500	1	2.09	1.71	0.83
21302		4-35.3978	-113.8165	-172-110		STREAM	DRY	1000	0500	1	1.84	1.72	0.85
21303		4-35.3894	-113.8073	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.51	1.74	0.85
21304		4-35.4115	-113.8093	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.48	1.99	0.85
21305		4-35.4077	-113.7783	-172-100	08/19/77	STREAM	DRY	1000	0500	1	0.78	2.15	0.74
21305		4-35.4015	-113.7715	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.51	1.68	0.85
21307		4-35.3835	-113.7709	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.46	1.67	0.84
21308		4-35.3850	-113.6653	-172-100	08/19/77	STREAM	DRY	1000	0500	9	1.22	1.72	0.86
21309		4-35.4353	-113.6724	-172-101		STREAM	DRY	1000	0500	1	2.31	1.51	0.91
21310		4-35.4317	-113.6723	-172-100	08/19/77	STREAM	DRY	1000	0500	1	2.05	1.65	0.85
21311		4-35.4282	-113.6689	-172-100	08/19/77	STREAM	DRY	1000	0500	5	2.00	1.80	0.92
21312		4-35.4223	-113.6489	-172-100	08/19/77	STREAM	DRY	1000	0500	6	6.05	1.35	0.91
21313		4-35.4071	-113.6418	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.50	2.01	0.83
21314		4-35.3741	-113.6552	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.66	1.66	0.84
21315		4-35.3798	-113.6552	-172-100	08/19/77	STREAM	DRY	1000	0500	1	2.41	1.50	0.97
21317		4-35.3570	-113.7094	-172-110		STREAM	DRY	1000	0500	1	0.80	1.98	0.87
21318		4-35.3526	-113.7016	-172-100	08/20/77	STREAM	DRY	1000	0500	1	0.93	1.96	0.85
21319		4-35.3460	-113.6739	-172-100	08/20/77	STREAM	DRY	1000	0500	1	1.28	1.70	0.83
21319		4-35.3460	-113.6739	-172-101		STREAM	DRY	1000	0500	1	1.30	1.67	0.84
21320		4-35.3493	-113.6487	-172-100	08/19/77	STREAM	DRY	1000	0500	1	1.05	1.88	0.86
21321		4-35.3462	-113.6233	-172-100	08/20/77	STREAM	DRY	1000	0500	2	1.31	2.07	0.73
21322		4-35.3424	-113.5902	-172-100	08/20/77	STREAM	DRY	1000	0500	1	2.24	1.44	0.89
21323		4-35.3460	-113.5903	-172-100	08/20/77	STREAM	DRY	1000	0500	1	1.96	1.50	0.81
21324		4-35.3591	-113.5676	-172-100	08/20/77	STREAM	DRY	1000	0500	1	2.72	1.35	0.91
21325		4-35.3421	-113.5639	-172-100	08/20/77	STREAM	DRY	1000	0500	1	2.31	1.43	0.91
21327		4-35.4000	-113.5094	-172-100	08/20/77	STREAM	DRY	1000	0500	5	1.52	1.65	0.81
21328		4-35.3476	-113.5144	-172-100	08/20/77	STREAM	DRY	1000	0500	1	1.45	1.60	0.87
21329		4-35.3468	-113.5111	-172-101		STREAM	DRY	1000	0500	1	1.74	1.48	0.81
21330		4-35.3468	-113.5089	-172-100	08/20/77	STREAM	DRY	1000	0500	1	2.09	1.45	0.93
21331		4-35.3276	-113.6309	-172-100	08/21/77	STREAM	DRY	1000	0500	1	0.78	1.80	0.84
21331		4-35.3276	-113.6309	-172-110		STREAM	DRY	1000	0500	1	0.68	2.17	0.66
21332		4-35.3288	-113.7063	-172-100	08/21/77	STREAM	DRY	1000	0500	5	0.74	1.96	0.74
21334		4-35.3254	-113.6693	-172-100	08/21/77	STREAM	DRY	1000	0500	1	1.19	1.68	0.87
21335		4-35.3029	-113.6659	-172-100	08/21/77	STREAM	DRY	1000	0500	1	0.81	2.03	0.84
21336		4-35.3130	-113.6596	-172-100	08/21/77	STREAM	DRY	1000	0500	1	1.34	1.91	0.84

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

SITE NUMBER	ST	DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE		POS.	Q. C. X-REF	URANIUM(DNC)		THORIUM(NAA)	
		LAT.	LONG.	L T Y RPL				UPPER	LOWER			PPM	%ERR	PPM	%ERR
21338		4-35,2969	-113.6129	-172-100	08/21/77	STREAM	DRY	1000	0500	1		1.79	1.52	5.99	0.91
21339		4-35,2932	-113.5743	-172-100	08/21/77	STREAM	DRY	1000	0500	5		2.95	1.36	14.65	1.24
21339		4-35,2932	-113.5743	-172-101		STREAM	DRY	1000	0500			3.03	1.36	13.37	1.31
21340		4-35,2932	-113.5721	-172-100	08/21/77	STREAM	DRY	1000	0500	5		1.65	1.55	9.65	0.91
21341		4-35,2929	-113.5457	-172-100	08/21/77	STREAM	DRY	1000	0500	5		3.06	1.39	16.56	1.39
21342		4-35,2676	-113.5428	-172-100	08/21/77	STREAM	DRY	1000	0500	1		2.44	1.47	17.16	1.23
21344		4-35,2617	-113.5987	-172-100	08/21/77	STREAM	DRY	1000	0500	1		2.14	1.32	9.23	1.30
21345		4-35,1865	-113.9080	-172-100	08/22/77	STREAM	DRY	1000	0500	1		3.79	1.32	7.64	1.68
21345		4-35,1865	-113.9080	-172-110		STREAM	DRY	1000	0500	1		3.45	1.29	10.15	0.94
21346		4-35,1819	-113.9122	-172-100	08/22/77	STREAM	DRY	1000	0500	1		3.22	1.46	10.77	2.36
21347		4-35,1787	-113.8934	-172-100	08/22/77	STREAM	DRY	1000	0500	1		2.20	2.00	18.90	3.04
21348		4-35,1547	-113.8805	-172-100	08/22/77	STREAM	DRY	1000	0500	1		1.73	1.79	9.19	1.95
21349		4-35,1561	-113.8959	-172-100	08/22/77	STREAM	DRY	1000	0500	5		1.29	1.99	5.05	1.55
21349		4-35,1561	-113.8959	-172-101		STREAM	DRY	1000	0500			1.46	1.77	7.10	1.27
21351		4-35,1417	-113.9316	-172-100	08/22/77	STREAM	DRY	1000	0500	9		1.88	1.89	6.85	2.26
21353		4-35,1550	-113.9409	-172-100	08/22/77	STREAM	DRY	1000	0500	5		1.96	1.44	7.78	0.70
21354		4-35,1556	-113.9511	-172-100	08/22/77	STREAM	DRY	1000	0500	5		2.68	1.43	15.17	1.31
21355		4-35,1636	-113.9950	-172-100	08/22/77	STREAM	DRY	1000	0500	1		6.12	1.60	14.08	1.66
21356		4-35,1793	-113.9451	-172-100	08/22/77	STREAM	DRY	1000	0500	1		2.93	1.00	13.20	1.35
21357		4-35,1893	-113.9421	-172-100	08/22/77	STREAM	DRY	1000	0500	1		3.10	1.32	11.18	1.16
21358		4-35,1826	-113.9503	-172-100	08/22/77	STREAM	DRY	1000	0500	1		4.29	1.97	99.23	5.95
21359		4-35,2534	-113.6642	-172-100	08/23/77	STREAM	DRY	1000	0500	9		4.13	1.24	14.36	1.04
21359		4-35,2534	-113.6642	-172-101		STREAM	DRY	1000	0500			2.61	1.44	9.10	1.41
21359		4-35,2534	-113.6642	-172-110		STREAM	DRY	1000	0500			3.11	1.33	11.41	1.26
21360		4-35,2547	-113.7280	-172-100	08/23/77	STREAM	DRY	1000	0500	1		3.23	1.33	8.68	1.20
21361		4-35,2680	-113.7362	-172-100	08/23/77	STREAM	DRY	1000	0500	1		4.64	1.30	32.98	2.01
21362		4-35,2613	-113.7476	-172-100	08/23/77	STREAM	DRY	1000	0500	1		1.00	1.90	3.65	0.73
21363		4-35,2751	-113.6990	-172-100	08/23/77	STREAM	DRY	1000	0500	1		1.94	1.76	2.29	0.90
21364		4-35,2253	-113.7128	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.60	1.47	14.38	1.51
21365		4-35,2388	-113.9417	-172-100	08/24/77	STREAM	DRY	1000	0500	1		2.57	1.42	15.04	1.05
21365		4-35,2388	-113.9417	-172-110		STREAM	DRY	1000	0500			1.90	1.72	12.29	1.64
21366		4-35,2164	-113.7059	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.51	1.41	7.55	0.95
21367		4-35,2006	-113.6976	-172-100	08/24/77	STREAM	DRY	1000	0500	1		2.93	1.33	9.45	1.15
21368		4-35,2130	-113.6563	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.52	1.41	11.83	1.18
21369		4-35,2149	-113.6498	-172-100	08/23/77	STREAM	DRY	1000	0500	1		3.02	1.35	16.43	1.30
21369		4-35,2149	-113.6498	-172-101		STREAM	DRY	1000	0500			2.75	1.48	12.95	1.63
21370		4-35,2439	-113.6464	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.06	1.53	13.13	1.35
21371		4-35,1948	-113.6217	-172-100	08/23/77	STREAM	DRY	1000	0500	1		1.68	1.68	12.09	1.27
21372		4-35,1864	-113.6368	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.12	1.55	10.11	1.49
21373		4-35,1900	-113.6347	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.01	1.45	11.39	0.88
21374		4-35,1366	-113.6462	-172-100	08/23/77	STREAM	DRY	1000	0500	1		1.65	1.63	10.40	1.16
21375		4-35,1693	-113.6769	-172-100	08/23/77	STREAM	DRY	1000	0500	1		2.36	1.47	13.53	1.32
21376		4-35,2381	-113.8966	-172-100	08/24/77	STREAM	DRY	1000	0500	1		2.58	1.35	11.71	1.08
21377		4-35,2443	-113.8628	-172-100	08/24/77	STREAM	DRY	1000	0500	1		1.86	1.57	10.50	1.15
21373		4-35,2242	-113.8350	-172-100	08/24/77	STREAM	DRY	1000	0500	1		1.89	1.58	8.48	1.22
21373		4-35,2342	-113.7954	-172-100	08/24/77	STREAM	DRY	1000	0500	1		3.15	1.31	8.17	1.24
21379		4-35,2342	-113.7954	-172-101		STREAM	DRY	1000	0500	1		4.33	1.64	66.82	4.08
21380		4-35,2127	-113.7903	-172-100	08/24/77	STREAM	DRY	1000	0500	1		2.28	1.40	7.90	0.81
21381		4-35,2271	-113.7524	-172-100	08/24/77	STREAM	DRY	1000	0500	5		2.96	1.35	12.97	1.08

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

SITE NUMBER	DOE ST	SAMPLE LAT.	NUMBER LONG.	RPL LY	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	D. C. X-REF	URANIUM(UNC) PPM	THORIUM(UNA) PPH	ERR	
21382	4-35	2205	-113.7258	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1	2.50	1.39	12.97	1.04
21383	4-35	1938	-113.7479	-1-72-100		STREAM	DRY	1000	0500	5	1.85	1.47	23.73	1.76
21384	4-35	1920	-113.7512	-1-72-100	08/24/77	STREAM	DRY	1000	0500	5	2.83	1.89	15.84	2.03
21385	4-35	1928	-113.7523	-1-72-100	08/24/77	STREAM	DRY	1000	0500	5	2.51	1.42	17.85	1.27
21386	4-35	1678	-113.7644	-1-72-100	08/24/77	STREAM	DRY	1000	0501	1	1.85	1.65	19.09	1.34
21387	4-35	1347	-113.8118	-1-72-100	08/24/77	STREAM	DRY	1000	0500	2	1.26	1.88	6.67	1.21
21388	4-35	1418	-113.8175	-1-72-100	08/24/77	STREAM	DRY	1000	0500	2	2.16	1.51	11.54	1.25
21389	4-35	1473	-113.7727	-1-72-100	08/24/77	STREAM	DRY	1000	0500	1	2.53	1.76	13.62	2.79
21389	4-35	1473	-113.7727	-1-72-101		STREAM	DRY	1000	0500		2.42	1.63	20.92	1.98
21399	4-35	5074	-112.2229	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.69	1.59	11.87	1.62
21399	4-35	5074	-112.2229	-1-72-101		STREAM	DRY	1000	0500	1	2.73	1.51	11.77	1.62
21400	4-35	5196	-112.1755	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.86	1.50	15.68	1.30
21401	4-35	8971	-112.2853	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	2.93	1.35	12.30	1.06
21402	4-35	8894	-112.2719	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	1.97	1.46	6.49	0.84
21403	4-35	8886	-112.3229	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	2.74	1.39	10.47	1.09
21404	4-35	9047	-112.3309	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	1.62	1.50	5.30	0.80
21405	4-35	9281	-112.3379	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	1.62	1.58	4.99	0.72
21406	4-35	9299	-112.3402	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	2.50	1.60	10.41	1.36
21407	4-35	9496	-112.3472	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	2.07	1.38	2.63	0.56
21407	4-35	9496	-112.3472	-1-72-110		STREAM	DRY	1000	0500		1.99	1.46	2.30	0.58
21408	4-35	8838	-112.3704	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	1.49	1.52	3.40	0.57
21409	4-35	7526	-112.2266	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	3.13	1.52	13.91	1.53
21409	4-35	7526	-112.2266	-1-72-101		STREAM	DRY	1000	0500	5	2.89	1.42	12.12	1.12
21410	4-35	7584	-112.2731	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.80	1.48	12.55	1.19
21411	4-35	7593	-112.2754	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	3.16	1.47	15.85	1.46
21412	4-35	7924	-112.2991	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	3.18	1.42	15.04	1.27
21413	4-35	7841	-112.3189	-1-72-100	09/04/77	STREAM	DRY	1000	0500	5	3.36	1.40	12.75	1.25
21414	4-35	7715	-112.3099	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.10	1.47	3.13	0.57
21415	4-35	7731	-112.4139	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.98	1.58	12.16	1.20
21416	4-35	7730	-112.4150	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.93	1.42	10.16	1.01
21418	4-35	8026	-112.4088	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.84	1.54	15.43	1.47
21419	4-35	8079	-112.4377	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	1.24	1.63	3.36	0.50
21419	4-35	8079	-112.4377	-1-72-101		STREAM	DRY	1000	0500	5	1.27	1.55	3.29	0.51
21420	4-35	7943	-112.4497	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	1.58	1.61	6.55	0.76
21421	4-35	7847	-112.4948	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.72	1.42	11.84	1.04
21422	4-35	8272	-112.4813	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.45	1.54	13.79	1.16
21423	4-35	8029	-112.4044	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.77	1.60	12.28	1.67
21424	4-35	8184	-112.3914	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	1.58	1.55	4.68	0.59
21426	4-35	8532	-112.3400	-1-72-100	09/05/77	STREAM	DRY	1000	0500	5	2.66	1.52	11.39	1.10
21427	4-35	8333	-112.2710	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.93	1.44	12.75	1.29
21428	4-35	8458	-112.2812	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.15	1.40	14.66	1.30
21429	4-35	8521	-112.2802	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.48	1.49	17.07	1.79
21429	4-35	8521	-112.2802	-1-72-101		STREAM	DRY	1000	0500	5	3.50	1.42	17.39	1.37
21431	4-35	8473	-112.3078	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.14	1.50	11.72	1.52
21431	4-35	8247	-112.3163	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.14	1.51	13.82	1.29
21432	4-35	8209	-112.3328	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.88	1.35	7.61	0.76
21435	4-35	8289	-112.3395	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.83	1.58	11.43	1.63
21434	4-35	8235	-112.4148	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.03	1.48	13.55	1.30
21435	4-35	8226	-112.4147	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	3.03	1.45	14.05	1.25

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

PAGE B-12

SITE	DOE	SAMPLE NUMBER	DATE	SAMPLE	PARTICLE SIZE	POS.	G. C.	URANIUM(DNC)	THORIUM(NAA)					
NUMBER	ST	LAT.	LONG.	L T Y RPL	MO-DA-YR	SOURCE/COND.	UPPER	LOWER	CONT	X-REF	FPM	ZERR	FPM	ERR
21436	4-35	8300-112	4005-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	1.99	1.41	3.06	0.57
21437	4-35	8400-112	3973-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.82	1.65	15.36	1.58
21438	4-35	8525-112	4064-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.83	1.63	12.59	1.36
21439	4-35	8600-112	3800-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.79	1.45	11.00	1.11
21439	4-35	8600-112	3800-1	72-101	09/06/77	STREAM	DRY	1000	0500	5	2.85	1.47	13.08	1.47
21440	4-35	8677-112	4004-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.56	1.69	10.69	1.42
21441	4-35	8933-112	4150-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.71	1.38	9.85	0.87
21442	4-35	9055-112	4207-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	1.77	1.43	2.93	0.47
21443	4-35	9009-112	4283-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.41	1.48	7.33	0.93
21444	4-35	9070-112	4473-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.59	1.45	5.92	0.94
21445	4-35	9016-112	4427-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.47	1.42	4.34	0.84
21446	4-35	9456-112	3891-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	3.00	1.61	11.55	1.41
21447	4-35	9819-112	3632-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.53	1.68	8.78	1.26
21448	4-35	9591-112	3906-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	3.16	1.46	15.73	1.53
21449	4-35	9597-112	4128-1	72-100	09/06/77	STREAM	DRY	1000	0500	5	2.65	1.50	11.42	1.19
21449	4-35	9597-112	4128-1	72-101	09/06/77	STREAM	DRY	1000	0500	5	2.77	1.48	12.48	1.08
21450	4-35	9776-112	4208-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.73	1.44	6.56	0.89
21451	4-35	9820-112	4342-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	1.63	1.62	5.61	0.65
21452	4-35	9801-112	4431-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	3.19	1.50	13.57	1.67
21453	4-35	9826-112	4542-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.71	1.39	11.79	0.91
21454	4-35	9871-112	4543-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.78	1.43	11.44	1.37
21455	4-35	9507-112	4148-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.78	1.44	7.98	1.09
21455	4-35	9507-112	4148-1	72-110	09/07/77	STREAM	DRY	1000	0500	5	2.10	1.52	6.88	0.88
21456	4-35	7782-112	5102-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	3.03	1.50	12.93	1.41
21457	4-35	7709-112	5178-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.76	1.58	13.99	1.68
21458	4-35	8163-112	5630-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.39	1.43	10.71	0.98
21459	4-35	7999-112	5726-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	1.97	1.53	8.26	0.32
21459	4-35	7999-112	5726-1	72-101	09/07/77	STREAM	DRY	1000	0500	5	2.33	1.50	10.49	0.30
21460	4-35	7765-112	5710-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	3.29	1.56	15.35	1.31
21461	4-35	7753-112	5975-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.69	1.51	17.08	1.41
21462	4-35	7781-112	5888-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.36	1.55	10.59	1.17
21463	4-35	7907-112	5923-1	72-100	09/07/77	STREAM	DRY	1000	0500	5	2.81	1.44	12.59	1.20
21464	4-35	8513-112	5050-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.19	1.51	10.77	1.00
21465	4-35	8413-112	5147-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.83	1.41	12.87	1.16
21466	4-35	8472-112	5425-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	1.11	1.63	8.96	1.03
21467	4-35	8468-112	5735-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.07	1.57	9.21	0.96
21467	4-35	8468-112	5735-1	72-110	09/15/77	STREAM	DRY	1000	0500	5	2.69	1.55	14.72	1.34
21468	4-35	8466-112	5912-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.97	1.51	13.71	1.47
21469	4-35	8620-112	5129-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.81	1.56	12.29	2.00
21469	4-35	8620-112	5129-1	72-101	09/15/77	STREAM	DRY	1000	0500	5	3.03	1.39	13.90	1.12
21470	4-35	9143-112	5106-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	1.67	1.51	4.35	0.61
21471	4-35	9151-112	5172-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	3.15	1.69	9.29	1.76
21472	4-35	8934-112	5333-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.41	1.53	10.29	1.02
21473	4-35	8708-112	5640-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.85	1.45	10.64	1.18
21474	4-35	8815-112	6096-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.20	1.48	11.29	1.02
21475	4-35	8983-112	5668-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	1.72	1.56	6.40	0.85
21476	4-35	9364-112	5443-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.79	1.45	8.34	1.07
21477	4-35	9686-112	5671-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.57	1.50	11.30	1.12
21478	4-35	9955-112	5754-1	72-100	09/15/77	STREAM	DRY	1000	0500	5	2.48	1.50	12.33	1.75

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	DATE LTY	RPL MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(MAA) PPM	ERR
21479	4-35	9955-112.5787	-172-100	09/15/77	STREAM	DRY	1000	0500	5	1.08	1.09	2.79	6.46
21479	4-35	9955-112.5787	-172-101	09/15/77	STREAM	DRY	1000	0500	5	3.57	1.21	2.74	0.35
21480	4-35	9617-112.6079	-172-100	09/15/77	STREAM	DRY	1000	0500	5	2.74	1.47	12.61	1.30
21481	4-35	9617-112.6079	-172-100	09/15/77	STREAM	DRY	1000	0500	5	1.67	1.52	6.39	0.61
21482	4-35	9644-112.6124	-172-100	09/15/77	STREAM	DRY	1000	0500	5	3.38	1.53	9.45	1.18
21483	4-35	9995-112.6132	-172-100	09/15/77	STREAM	DRY	1000	0500	5	2.56	1.67	6.44	1.10
21484	4-35	9791-112.6560	-172-100	09/16/77	STREAM	DRY	1000	0500	5	3.10	1.99	14.85	2.12
21485	4-35	9791-112.6548	-172-100	09/16/77	STREAM	DRY	1000	0500	5	3.08	1.47	13.00	1.46
21485	4-35	9792-112.6591	-172-101	09/16/77	STREAM	DRY	1000	0500	5	3.47	1.42	14.34	1.50
21487	4-35	9885-112.6917	-172-100	09/16/77	STREAM	DRY	1000	0500	5	3.26	1.44	15.32	1.31
21488	4-35	9711-112.7312	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.74	1.55	12.14	1.43
21489	4-35	9643-112.7477	-172-100	09/16/77	STREAM	DRY	1000	0500	5	3.37	1.43	15.99	1.79
21489	4-35	9643-112.7477	-172-101	09/16/77	STREAM	DRY	1000	0500	5	3.36	1.45	17.71	1.49
21490	4-35	9576-112.7609	-172-100	09/16/77	STREAM	DRY	1000	0500	5	3.11	1.40	13.29	1.35
21491	4-35	9672-112.6691	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.79	1.57	15.74	1.41
21492	4-35	9095-112.6723	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.43	1.51	12.55	1.08
21493	4-35	9580-112.6812	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.13	1.65	10.48	1.49
21494	4-35	9222-112.7258	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.36	1.69	6.43	0.65
21495	4-35	8193-112.7368	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.35	1.79	11.56	1.47
21496	4-35	9528-112.7309	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.05	1.47	9.14	0.73
21496	4-35	9528-112.7309	-172-110	09/16/77	STREAM	DRY	1000	0500	5	1.96	1.53	9.68	1.04
21497	4-35	8888-112.7328	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.95	1.52	14.62	1.73
21498	4-35	9031-112.7397	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.80	1.39	2.35	0.45
21499	4-35	7969-112.7297	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.26	1.71	4.47	0.68
21499	4-35	7969-112.7297	-172-101	09/16/77	STREAM	DRY	1000	0500	5	0.97	1.80	4.16	0.62
21500	4-35	7636-112.7256	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.93	1.57	20.60	1.80
21501	4-35	0340-112.3868	-172-100	09/01/77	STREAM	DRY	1000	0500	1	1.44	1.78	6.36	1.24
21502	4-35	0679-112.4181	-172-100	09/01/77	STREAM	DRY	1000	0500	1	2.57	1.40	8.13	1.10
21503	4-35	0880-112.3987	-172-100	09/01/77	STREAM	DRY	1000	0500	1	3.56	1.25	6.62	0.93
21504	4-35	1005-112.4011	-172-100	09/01/77	STREAM	DRY	1000	0500	1	1.56	1.44		
21504	4-35	1005-112.4011	-172-110	09/01/77	STREAM	DRY	1000	0500	1	2.12	1.55	5.51	1.04
21505	4-35	1100-112.4462	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.11	1.57	8.89	1.44
21506	4-35	0988-112.4767	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.14	1.55	10.06	1.08
21507	4-35	1378-112.4544	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.14	1.44	9.06	1.04
21508	4-35	1267-112.4630	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.89	1.56	11.51	1.52
21509	4-35	1708-112.4901	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.50	1.25	13.23	1.50
21509	4-35	1708-112.4901	-172-101	09/01/77	STREAM	DRY	1000	0500	5	2.48	1.56	15.50	1.53
21510	4-35	1425-112.4435	-172-100	09/01/77	STREAM	DRY	1000	0500	1	2.42	1.47	9.14	1.20
21511	4-35	1364-112.4258	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.94	1.45	11.46	1.56
21512	4-35	1576-112.3922	-172-100	09/01/77	STREAM	DRY	1000	0500	1	3.16	1.48	10.99	1.64
21513	4-35	1605-112.3515	-172-100	09/01/77	STREAM	DRY	1000	0500	5	1.29	2.21	7.25	1.84
21514	4-35	1632-112.3714	-172-100	09/01/77	STREAM	DRY	1000	0500	5	1.51	1.76	6.61	1.37
21515	4-35	1968-112.3456	-172-100	09/02/77	STREAM	DRY	1000	0500	1	3.37	1.41	15.75	1.46
21516	4-35	1883-112.3795	-172-100	09/02/77	STREAM	DRY	1000	0500	1	1.75	1.89	7.16	2.00
21516	4-35	1883-112.3795	-172-110	09/02/77	STREAM	DRY	1000	0500	1	1.76	1.73	9.67	1.45
21517	4-35	1920-112.3816	-172-100	09/02/77	STREAM	DRY	1000	0500	1	2.70	1.54	8.73	1.45
21518	4-35	1572-112.4207	-172-100	09/02/77	STREAM	DRY	1000	0500	1	2.09	1.64	8.40	1.60
21519	4-35	1955-112.4587	-172-100	09/02/77	STREAM	DRY	1000	0500	1	3.46	1.36	12.38	1.62
21519	4-35	1955-112.4587	-172-101	09/02/77	STREAM	DRY	1000	0500	1	3.47	1.32	10.85	1.16

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	%ERR	THORIUM(NAA) PPM	%ERR
21520		4-35,1984	-112,4423	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		2.65	1.52	8.35	1.01
21521		4-35,2050	-112,4215	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		2.04	1.58	9.94	1.17
21522		4-35,2116	-112,4400	-1-72-100	09/02/77	STREAM DRY	1000	0500	2		1.23	1.95	6.70	1.39
21523		4-35,2250	-112,3922	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		3.43	1.37	12.73	1.61
21524		4-35,2363	-112,3627	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		3.45	1.40	12.02	1.07
21525		4-35,2310	-112,3550	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		2.22	1.63	6.66	1.40
21526		4-35,2640	-112,3038	-1-72-100	09/02/77	STREAM DRY	1000	0500	1		1.93	1.63	8.22	1.42
21527		4-35,2995	-112,2692	-1-72-100	08/03/77	STREAM DRY	1000	0500	1		1.57	1.68	8.69	1.25
21528		4-35,3112	-112,3221	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.16	1.96	5.29	1.29
21528		4-35,3053	-112,3221	-1-72-110		STREAM DRY	1000	0500			1.28	1.66	4.94	1.15
21529		4-35,2941	-112,3549	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.86	1.66	7.62	1.34
21529		4-35,2941	-112,3549	-1-72-101		STREAM DRY	1000	0500			1.97	1.58	10.81	1.17
21530		4-35,2905	-112,3559	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.64	1.64	6.57	1.14
21531		4-35,2689	-112,3525	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.28	1.54	10.42	1.46
21532		4-35,2847	-112,3888	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.24	1.53	9.43	0.99
21533		4-35,2600	-112,4159	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.86	2.09	6.74	2.73
21534		4-35,2515	-112,4487	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.82	1.59	6.78	1.28
21535		4-35,2648	-112,4709	-1-72-100	09/03/77	STREAM DRY	1000	0500	2		2.00	1.77	9.99	1.93
21536		4-35,2939	-112,4473	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.19	1.56	6.17	1.34
21537		4-35,3271	-112,4622	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.46	1.84	6.18	1.43
21538		4-35,3205	-112,4037	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.94	1.64	6.59	1.23
21539		4-35,3721	-112,3947	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.33	1.48	10.00	0.91
21539		4-35,3721	-112,3947	-1-72-101		STREAM DRY	1000	0500			2.37	1.51	9.31	1.33
21540		4-35,3857	-112,3862	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.67	1.67	4.96	1.40
21541		4-35,3916	-112,4400	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.72	1.52		
21542		4-35,3904	-112,4490	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.75	1.56		
21543		4-35,3694	-112,4695	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		1.92	1.83	8.90	1.48
21544		4-35,3463	-112,4989	-1-72-100	09/03/77	STREAM DRY	1000	0500	5		2.10	1.61	6.66	1.70
21545		4-35,3159	-112,4981	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.66	1.54	11.73	1.37
21546		4-35,3292	-112,2735	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.73	1.60	9.66	0.21
21547		4-35,3572	-112,2756	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		2.08	1.48	8.80	0.87
21548		4-35,3614	-112,3010	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.96	1.60	9.17	1.25
21548		4-35,3514	-112,3010	-1-72-110		STREAM DRY	1000	0500			2.52	1.47	12.25	1.29
21549		4-35,3825	-112,2661	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.61	1.58	6.43	1.02
21549		4-35,3825	-112,2661	-1-72-101		STREAM DRY	1000	0500			1.52	1.65	5.11	1.16
21550		4-35,4049	-112,2830	-1-72-100	09/03/77	STREAM DRY	1000	0500	1		2.76	1.49	11.92	1.34
21566		4-35,4273	-112,2976	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		2.57	1.61	10.91	1.67
21589		4-35,4380	-112,3033	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.10	1.78	2.80	0.41
21589		4-35,4380	-112,3033	-1-72-101		STREAM DRY	1000	0500			1.35	1.56	1.73	0.51
21590		4-35,4560	-112,2815	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.29	1.69	4.68	0.57
21591		4-35,4653	-112,2860	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		0.87	1.86	2.42	0.56
21592		4-35,4771	-112,2753	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		2.41	1.48	9.24	1.11
21593		4-35,4955	-112,3197	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.89	1.64	9.95	1.42
21594		4-35,4788	-112,3646	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.08	1.70	2.85	0.50
21595		4-35,4552	-112,3697	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.29	1.62	2.96	0.51
21596		4-35,4292	-112,3559	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.87	1.68	7.00	1.51
21597		4-35,4103	-112,3602	-1-72-100	09/04/77	STREAM DRY	1000	0500	1		1.32	1.71	3.44	0.54
21598		4-35,4194	-112,3030	-1-72-100		STREAM DRY	1000	0500			2.77	1.40	6.86	0.79
21599		4-35,3486	-112,3206	-1-72-100	09/05/77	STREAM DRY	1000	0500	1		2.49	1.50	7.18	1.01

WILLIAMS 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	SAMPLE MO-DA-YR	SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM	%ERR	THORIUM(NAA) PPM	%ERR
21599	4-35	346E-112	320E-1	72-101			STREAM	DRY	1000	0500		2.27	1.55	9.69	1.24
21600	4-35	346W-112	320E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	2.26	1.53	10.20	0.97
21600	4-35	346W-112	355E-1	72-110			STREAM	DRY	1000	0500		2.14	1.46	7.26	0.84
21601	4-35	343E-112	359E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	2.19	1.67	10.59	1.41
21602	4-35	431E-112	401E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	2.54	1.53	9.69	1.28
21603	4-35	431E-112	437E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	3.02	1.45	12.27	1.15
21604	4-35	419E-112	468E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	0.99	1.93	2.29	0.39
21605	4-35	442E-112	463E-1	72-100	09/05/77		STREAM	DRY	1000	0500	5	1.24	1.79	4.64	0.72
21606	4-35	425E-112	497E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	2.12	1.57	11.78	1.27
21607	4-35	448W-112	493E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	0.59	2.11	3.41	0.40
21608	4-35	468E-112	441E-1	72-100			STREAM	DRY	1000	0500	1	1.11	1.72	5.34	0.61
21609	4-35	455E-112	424W-1	72-100	09/05/77		STREAM	DRY	1000	0500	9	2.32	1.62	11.97	1.22
21609	4-35	455E-112	420W-1	72-101			STREAM	DRY	1000	0500		2.90	1.58	12.68	1.39
21610	4-35	465E-112	398E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	1.32	1.63	2.52	0.38
21611	4-35	442E-112	390E-1	72-100	09/05/77		STREAM	DRY	1000	0500	1	1.32	1.63	2.56	0.51
21612	4-35	708E-112	060E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	2.11	1.56	9.73	0.98
21613	4-35	694W-112	052E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	2.04	1.49	6.96	1.05
21614	4-35	738E-112	071E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	1.34	1.62	4.69	0.73
21615	4-35	735E-112	102E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	1.55	1.52	4.68	0.56
21616	4-35	704E-112	118E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	1.95	1.56	8.77	1.04
21617	4-35	698E-112	104E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	1.51	1.56	4.07	0.73
21618	4-35	666E-112	117E-1	72-100	09/06/77		STREAM	DRY	1000	0500	5	2.33	1.53	9.97	1.49
21619	4-35	195E-112	589W-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.61	1.39	13.19	1.26
21619	4-35	195E-112	589W-1	72-101			STREAM	DRY	1000	0500	1	2.45	1.62	14.57	1.33
21620	4-35	195E-112	592E-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.64	1.62	6.46	1.09
21620	4-35	195E-112	592E-1	72-110			STREAM	DRY	1000	0500	1	1.77	1.53	7.60	1.07
21621	4-35	174E-112	593W-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.03	1.99	3.56	1.09
21622	4-35	167E-112	580W-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	0.92	1.90	2.63	0.63
21623	4-35	151E-112	564W-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.76	1.74	7.96	1.17
21624	4-35	142E-112	544W-1	72-100	09/07/77		STREAM	DRY	1000	0500	5	1.17	1.76	4.23	0.75
21625	4-35	177W-112	538E-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.73	1.58	6.09	0.85
21626	4-35	204W-112	538E-1	72-100	09/07/77		STREAM	DRY	1000	0500	5	1.89	1.68	7.86	1.49
21627	4-35	167E-112	515E-1	72-100	09/07/77		STREAM	DRY	1000	0500	9	0.59	2.08	1.06	0.37
21628	4-35	160E-112	509E-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.65	1.72	7.92	0.99
21629	4-35	028W-112	486W-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.41	1.58	4.39	0.65
21629	4-35	028W-112	486W-1	72-101			STREAM	DRY	1000	0500	1	2.05	1.47	4.67	0.64
21630	4-35	015E-112	478E-1	72-100	09/07/77		STREAM	DRY	1000	0500	1	1.16	1.65	2.91	0.49
21631	4-35	234W-112	594E-1	72-100	09/08/77		STREAM	DRY	1000	0500	1	1.81	1.63	9.08	1.23
21631	4-35	234W-112	594E-1	72-110			STREAM	DRY	1000	0500	1	1.65	1.78	7.98	1.75
21632	4-35	232E-112	561E-1	72-100	09/08/77		STREAM	DRY	1000	0500	1	1.66	1.66	7.90	1.02
21633	4-35	252E-112	582E-1	72-100	09/08/77		STREAM	DRY	1000	0500	1	1.65	1.77	9.59	1.31
21634	4-35	268E-112	590E-1	72-100	09/08/77		STREAM	DRY	1000	0500	5	2.50	1.58	13.54	1.36
21635	4-35	183E-112	593E-1	72-100	09/07/77		STREAM	DRY	1000	0500	5	2.86	1.54	15.30	1.42
21636	4-35	279W-112	598E-1	72-100	09/08/77		STREAM	DRY	1000	0500	5	2.63	1.48	13.04	1.40
21637	4-35	294W-112	596E-1	72-100	09/08/77		STREAM	DRY	1000	0500	5	2.35	1.55	9.46	1.35
21638	4-35	310E-112	569W-1	72-100	09/08/77		STREAM	DRY	1000	0500	5	2.86	1.53	12.28	1.50
21639	4-35	320E-112	609E-1	72-100	09/08/77		STREAM	DRY	1000	0500	1	2.63	1.60	12.97	1.36
21639	4-35	320E-112	609E-1	72-101			STREAM	DRY	1000	0500	1	2.48	1.52	12.55	1.09
21640	4-35	341W-112	616E-1	72-100	09/08/77		STREAM	DRY	1000	0500	1	1.95	1.55	10.64	1.01

WILLIAMS 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 UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAA) PPM	ERR
216N1	4-35.3422	-112.5505	-172-100	09/08/77	STREAM	DRY	1000	0500	5	3.94	1.31	13.28	1.28
216N2	4-35.3308	-112.5330	-172-100	09/08/77	STREAM	DRY	1000	0500	5	2.34	1.58	12.62	1.40
216N3	4-35.3246	-112.5199	-172-100	09/08/77	STREAM	DRY	1000	0500	1	1.17	2.16	4.83	1.66
216N4	4-35.3049	-112.5058	-172-100	09/08/77	STREAM	DRY	1000	0500	5	2.55	1.51	13.23	1.34
216N5	4-35.6485	-112.1709	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.33	1.47	11.75	1.12
216N7	4-35.6351	-112.1585	-172-100	09/14/77	STREAM	DRY	1000	0500	5	1.76	1.64	8.62	1.19
216N8	4-35.6395	-112.1752	-172-100	09/14/77	STREAM	DRY	1000	0500	1	2.47	1.42	9.55	0.90
216N9	4-35.6395	-112.1752	-172-110	09/14/77	STREAM	DRY	1000	0500	1	2.17	1.51	9.28	0.93
216N9	4-35.7010	-112.2413	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.96	1.52	15.81	1.57
216N9	4-35.7010	-112.2413	-172-101	09/14/77	STREAM	DRY	1000	0500	5	2.37	1.53	12.89	1.33
216S0	4-35.7157	-112.2172	-172-100	09/14/77	STREAM	DRY	1000	0500	5	1.73	1.50	5.00	0.91
216S1	4-35.7289	-112.2177	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.16	1.41	5.72	0.64
216S2	4-35.7585	-112.1958	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.02	1.54	8.69	1.00
216S3	4-35.6989	-112.1948	-172-100	09/14/77	STREAM	DRY	1000	0500	5	3.73	1.38	15.96	1.78
216S4	4-35.7218	-112.1476	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.40	1.56	12.50	1.34
216S5	4-35.7232	-112.1875	-172-100	09/14/77	STREAM	DRY	1000	0500	5	2.88	1.48	15.54	1.42
216S6	4-35.1083	-112.5273	-172-100	09/15/77	STREAM	DRY	1000	0500	1	1.82	1.76	9.63	0.91
216S7	4-35.1206	-112.5364	-172-100	09/15/77	STREAM	DRY	1000	0500	5	1.73	1.62	8.31	0.83
216S8	4-35.1168	-112.5484	-172-100	09/15/77	STREAM	DRY	1000	0500	1	1.31	1.74	5.95	0.63
216S9	4-35.1023	-112.5580	-172-100	09/15/77	STREAM	DRY	1000	0500	1	1.84	1.58	7.24	0.88
216S9	4-35.1023	-112.5580	-172-101	09/15/77	STREAM	DRY	1000	0500	1	1.90	1.58	9.10	0.85
216S0	4-35.0839	-112.5148	-172-100	09/15/77	STREAM	DRY	1000	0500	1	2.42	1.58	14.47	1.32
216S1	4-35.0839	-112.5083	-172-100	09/15/77	STREAM	DRY	1000	0500	1	1.63	1.65	10.65	0.85
216S2	4-35.0531	-112.5307	-172-100	09/15/77	STREAM	DRY	1000	0500	5	3.27	1.34	12.66	1.10
216S3	4-35.0426	-112.5053	-172-100	09/15/77	STREAM	DRY	1000	0500	5	3.52	1.38	14.35	1.35
216S4	4-35.0046	-112.5112	-172-100	09/15/77	STREAM	DRY	1000	0500	1	0.65	2.03	1.12	0.35
216S5	4-35.0077	-112.5485	-172-100	09/15/77	STREAM	DRY	1000	0500	1	0.62	1.96	1.43	0.31
216S6	4-35.0077	-112.5485	-172-100	09/16/77	STREAM	DRY	1000	0500	1	2.10	1.49	7.56	1.31
216S6	4-35.2898	-112.6275	-172-110	09/16/77	STREAM	DRY	1000	0500	1	2.12	1.52	7.94	1.01
216S7	4-35.2805	-112.6418	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.53	1.63	7.77	1.05
216S8	4-35.2559	-112.6675	-172-100	09/16/77	STREAM	DRY	1000	0500	1	1.96	1.54	7.29	1.27
216S9	4-35.2705	-112.6535	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.79	1.81	7.59	1.84
216S9	4-35.2705	-112.6535	-172-101	09/16/77	STREAM	DRY	1000	0500	1	1.69	1.67	9.50	1.33
216T0	4-35.2873	-112.6770	-172-100	09/16/77	STREAM	DRY	1000	0500	1	2.05	1.11	1.62	1.17
216T1	4-35.3202	-112.7095	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.47	1.79	6.84	1.33
216T2	4-35.3262	-112.7328	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.05	1.57	11.16	1.32
216T3	4-35.3526	-112.7146	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.20	1.56	13.23	1.35
216T4	4-35.3628	-112.6961	-172-100	09/16/77	STREAM	DRY	1000	0500	5	2.05	1.55	6.96	1.30
216T5	4-35.3562	-112.6542	-172-100	09/16/77	STREAM	DRY	1000	0500	5	1.65	1.55	7.32	0.90
216T6	4-35.3263	-112.6602	-172-100	09/16/77	STREAM	DRY	1000	0500	1	2.09	1.59	7.44	1.15
216T7	4-35.3084	-112.6886	-172-100	09/16/77	STREAM	DRY	1000	0500	1	1.85	1.63	7.68	1.03
216T8	4-35.2711	-112.6910	-172-100	09/16/77	STREAM	DRY	1000	0500	1	1.80	1.70	9.90	1.39
216T9	4-35.2294	-112.6934	-172-100	09/17/77	STREAM	DRY	1000	0500	1	2.25	1.69	11.19	1.88
216T9	4-35.2294	-112.6934	-172-101	09/17/77	STREAM	DRY	1000	0500	1	2.24	1.69	9.98	1.79
216S0	4-35.1699	-112.6933	-172-100	09/17/77	STREAM	DRY	1000	0500	1	1.35	1.62	6.08	0.87
216S1	4-35.1554	-112.6973	-172-100	09/17/77	STREAM	DRY	1000	0500	1	1.00	1.94	5.03	0.96
216S2	4-35.1631	-112.7155	-172-100	09/17/77	STREAM	DRY	1000	0500	1	1.56	1.60	5.84	1.00
216S3	4-35.2020	-112.7202	-172-100	09/17/77	STREAM	DRY	1000	0500	1	1.18	2.25	5.26	1.89
216S4	4-35.2038	-112.7192	-172-100	09/17/77	STREAM	DRY	1000	0500	1	1.95	1.87	6.78	1.63

WILLIAMS 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	SOURCE/COND.	PARTICLE SIZE		POS. CONT.	Q. C. X-REF	URANIUM(DMC)		THORIUM(NAA)	
							UPPER	LOWER			PPM	%ERR	PPM	%ERR
21685	4-35	1819	-112.7363	-172-100	09/17/77	STREAM	DRY	1000	0500	1	0.99	1.95	4.39	0.88
21686	4-35	1281	-112.9524	-172-100	09/18/77	STREAM	DRY	1000	0500	1	1.00	1.93	4.30	0.86
21687	4-35	1245	-112.9561	-172-100	09/18/77	STREAM	DRY	1000	0500	1	1.95	1.52	7.49	1.01
21688	4-35	1331	-112.9822	-172-100	09/18/77	STREAM	DRY	1000	0500	5	2.36	1.42	10.09	0.88
21689	4-35	1132	-112.9268	-172-100	09/18/77	STREAM	DRY	1000	0500	1	1.60	1.57	7.27	0.97
21689	4-35	1132	-112.9268	-172-101		STREAM	DRY	1000	0500	5	1.65	1.61	8.67	1.09
21690	4-35	0959	-112.9374	-172-100	09/18/77	STREAM	DRY	1000	0500	5	2.20	1.48	9.56	1.42
21691	4-35	0708	-112.9301	-172-100	09/18/77	STREAM	DRY	1000	0500	5	2.06	1.61	15.17	1.45
21692	4-35	0764	-112.9194	-172-100	09/18/77	STREAM	DRY	1000	0500	5	1.24	1.62	4.53	0.62
21693	4-35	0672	-112.9312	-172-100	09/18/77	STREAM	DRY	1000	0500	5	1.81	1.57	6.99	1.06
21694	4-35	0483	-112.9286	-172-100	09/18/77	STREAM	DRY	1000	0500	5	1.77	1.61	4.89	1.05
21695	4-35	0391	-112.9404	-172-100	09/18/77	STREAM	DRY	1000	0500	5	2.05	1.53	10.50	1.28
21696	4-35	0194	-112.9323	-172-100	09/18/77	STREAM	DRY	1000	0500	1	2.56	1.45	12.08	1.39
21697	4-35	0194	-112.9334	-172-100	09/18/77	STREAM	DRY	1000	0500	1	2.98	1.44	14.24	1.33
21698	4-35	0460	-112.9582	-172-100	09/18/77	STREAM	DRY	1000	0500	5	2.73	1.44	11.02	0.98
21699	4-35	1005	-112.8783	-172-100	09/19/77	STREAM	DRY	1000	0500	9	2.17	1.59	9.70	1.53
21699	4-35	1005	-112.8783	-172-101		STREAM	DRY	1000	0500		2.34	1.60	3.01	1.61
21700	4-35	0793	-112.8493	-172-100	09/19/77	STREAM	DRY	1000	0500	1	1.18	1.69	4.79	0.58
21700	4-35	0793	-112.8493	-172-110		STREAM	DRY	1000	0500		1.35	1.67	6.84	0.82
21701	4-35	6007	-112.4980	-172-100	10/15/77	STREAM	DRY	1000	0500	5	2.70	1.50	12.59	1.50
21702	4-35	6212	-112.4509	-172-100	10/15/77	STREAM	DRY	1000	0500	5	3.06	1.48	15.68	1.39
21703	4-35	5433	-112.5455	-172-100	10/15/77	STREAM	DRY	1000	0500	5	1.02	1.83	5.05	0.60
21704	4-35	5536	-112.5203	-172-100	10/15/77	STREAM	DRY	1000	0500	5	1.67	1.65	5.44	0.84
21705	4-35	5476	-112.4970	-172-100	10/15/77	STREAM	DRY	1000	0500	5	2.78	1.47	12.13	1.50
21705	4-35	5897	-112.4393	-172-100	10/15/77	STREAM	DRY	1000	0500	5	1.65	1.54	7.01	0.67
21707	4-35	5159	-112.4303	-172-100		STREAM	DRY	1000	0500	5	1.74	1.56	9.16	0.80
21708	4-35	5954	-112.5620	-172-100	10/16/77	STREAM	DRY	1000	0500	5	1.68	1.73	7.51	0.87
21709	4-35	6382	-112.6114	-172-100	10/16/77	STREAM	DRY	1000	0500	5	1.19	1.83	8.40	0.72
21709	4-35	6382	-112.6114	-172-101		STREAM	DRY	1000	0500		1.14	1.84	3.48	0.84
21710	4-35	7300	-112.4684	-172-100	10/16/77	STREAM	DRY	1000	0500	5	1.92	1.59	6.31	1.08
21711	4-35	7214	-112.4395	-172-100	10/16/77	STREAM	DRY	1000	0500	5	2.95	1.44	12.29	1.26
21712	4-35	7249	-112.4429	-172-100	10/16/77	STREAM	DRY	1000	0500	5	3.07	1.51	14.35	1.57
21713	4-35	7119	-112.3895	-172-100	10/16/77	STREAM	DRY	1000	0500	5	3.03	1.44	11.61	1.36
21714	4-35	7067	-112.3829	-172-100	10/16/77	STREAM	DRY	1000	0500	5	3.01	1.47	11.48	1.37
21715	4-35	5603	-112.6948	-172-100		STREAM	DRY	1000	0500	5	2.10	1.65	12.49	1.50
21716	4-35	5635	-112.7246	-172-100	10/16/77	STREAM	DRY	1000	0500	5	2.81	1.56	16.21	1.99
21717	4-35	6487	-112.8126	-172-100	10/17/77	STREAM	DRY	1000	0500	5	3.04	1.51	15.97	1.93
21718	4-35	6574	-112.8316	-171-100		LAKE	WET	1000	0500	5	3.05	1.52	17.83	1.48
21719	4-35	6837	-112.8211	-172-100	10/17/77	STREAM	DRY	1000	0500	5	2.59	1.59	16.07	1.37
21719	4-35	6837	-112.8211	-172-101		STREAM	DRY	1000	0500		2.74	1.73	15.29	2.69
21720	4-35	7422	-112.7672	-172-100	10/17/77	STREAM	DRY	1000	0500	5	2.87	1.54	13.94	1.20
21721	4-35	6793	-112.7558	-172-100	10/17/77	STREAM	DRY	1000	0500	5	3.03	1.52	16.02	1.55
21722	4-35	6008	-112.6989	-172-100	10/19/77	STREAM	DRY	1000	0500	5	2.36	1.56	12.73	1.29
21723	4-35	6370	-112.6865	-172-100	10/19/77	STREAM	DRY	1000	0500	5	1.16	1.78	6.15	0.78
21724	4-35	6406	-112.6865	-172-100	10/19/77	STREAM	DRY	1000	0500	5	2.36	1.61	13.34	1.39
21725	4-35	6818	-112.6636	-172-100	10/19/77	STREAM	DRY	1000	0500	5	2.71	1.51	5.12	0.54
21726	4-35	6868	-112.6654	-172-100	10/19/77	STREAM	DRY	1000	0500	5	2.92	1.55	15.72	1.79
21727	4-35	7394	-112.7113	-172-100		STREAM	DRY	1000	0500	5	3.12	1.43	16.73	1.33
21728	4-35	7078	-112.6504	-172-100	10/19/77	STREAM	DRY	1000	0500	5	2.56	1.54	16.01	1.36

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

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SITE NUMBER	DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE		POS.	D. C. X-REF	URANIUM(10NC) PPM		THOR(UMINAA) ERR	
	-----	-----	-----	-----			UPPER	LOWER						
21729	4-35,7137-112,6173-1-72-100	10/19/77	STREAM	DRY	1000	0500	5				2.48	1.53	11.99	1.11
21729	4-35,7137-112,6173-1-72-101		STREAM	DRY	1000	0500					2.69	1.62	14.61	1.65
21730	4-35,7139-112,6030-1-72-100	10/19/77	STREAM	DRY	1000	0500	5				2.73	1.56	14.34	1.64
21731	4-35,6474-112,5884-1-72-100	10/19/77	STREAM	DRY	1000	0500	5				2.26	1.60	15.54	1.45
21732	4-35,5851-112,6347-1-72-100	10/19/77	STREAM	DRY	1000	0500	5				2.79	1.51	14.00	1.31
21733	4-35,6302-112,7250-1-72-100	10/20/77	STREAM	DRY	1000	0500	5				3.26	1.47	16.39	1.34
21734	4-35,6490-112,7927-1-72-100	10/20/77	STREAM	DRY	1000	0500	5				3.74	1.40	16.76	1.42
21735	4-35,5942-112,7794-1-72-100	10/20/77	STREAM	DRY	1000	0500	5				2.68	1.74	13.24	2.51
21736	4-35,5241-112,7017-1-72-100	10/20/77	STREAM	DRY	1000	0500	5				3.09	1.42	13.37	1.25
21737	4-35,5592-112,6567-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				2.68	1.60	12.18	1.50
21738	4-35,5446-112,2874-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				1.70	1.52	3.89	0.61
21739	4-35,5393-112,2741-1-72-100		STREAM	DRY	1000	0500	5				2.26	1.53	8.50	0.97
21739	4-35,5393-112,2741-1-72-101	10/29/77	STREAM	DRY	1000	0500	5				2.44	1.49	10.87	1.05
21740	4-35,5516-112,3119-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				1.35	1.62	3.20	0.61
21741	4-35,5552-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				2.63	1.52	13.65	1.35
21742	4-35,5994-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				2.80	1.45	11.70	1.20
21743	4-35,5883-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				2.65	1.52	13.73	1.18
21744	4-35,6281-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				3.19	1.43	14.63	1.36
21745	4-35,6395-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				3.30	1.48	15.17	1.40
21746	4-35,7246-112,3167-1-72-100	10/29/77	STREAM	DRY	1000	0500	5				2.78	1.31	5.57	0.80
21747	4-35,7056-112,3167-1-72-100	10/30/77	STREAM	DRY	1000	0500	5				2.18	1.39	5.54	0.63
21747	4-35,7056-112,3167-1-72-110		STREAM	DRY	1000	0500					2.43	1.37	4.97	0.76
21748	4-35,6702-112,3347-1-72-100	10/30/77	STREAM	DRY	1000	0500	5				3.06	1.49	11.47	1.32
21748	4-35,6702-112,3380-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				2.96	1.42	13.07	1.21
21749	4-35,6702-112,3380-1-72-101		STREAM	DRY	1000	0500					2.25	1.68	13.73	
21750	4-35,7460-112,8756-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				0.69	1.91	3.64	0.37
21751	4-35,7272-112,8574-1-72-100		STREAM	DRY	1000	0500	5				0.71	2.05	3.56	0.43
21752	4-35,7137-112,8660-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				0.89	1.85	4.31	0.68
21753	4-35,7243-112,8784-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				0.99	1.91	5.90	0.72
21754	4-35,7018-112,8784-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				2.25	1.62	13.38	
21755	4-35,6791-112,8906-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				2.42	1.54	10.99	1.30
21756	4-35,6482-112,9021-1-72-100	10/31/77	STREAM	DRY	1000	0500	5				2.02	1.60	9.81	1.28
21756	4-35,6482-112,9021-1-72-110		STREAM	DRY	1000	0500					2.21	1.52	13.02	1.10
21757	4-35,6332-112,9414-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.15	1.49	6.22	0.76
21758	4-35,6247-112,9550-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				3.19	1.48	15.95	1.36
21759	4-35,6131-113,0138-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.40	1.47	10.98	1.07
21759	4-35,6131-113,0138-1-72-101		STREAM	DRY	1000	0500					2.01	1.49	11.89	1.10
21760	4-35,7036-112,9376-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.67	1.57	9.64	1.23
21761	4-35,6744-112,9590-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				3.99	1.54	14.14	2.46
21762	4-35,6645-112,9544-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.67	1.53	10.77	1.10
21763	4-35,6621-112,9834-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				3.09	1.49	13.17	1.45
21764	4-35,6175-112,9091-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				1.63	1.57	7.47	0.68
21765	4-35,5830-112,9226-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.40	1.48	10.95	0.96
21767	4-35,5525-112,9108-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				3.01	1.45	16.59	1.38
21768	4-35,5356-112,8894-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				2.17	1.56	13.22	1.50
21769	4-35,5270-112,8705-1-72-100	11/01/77	STREAM	DRY	1000	0500	5				1.96	1.82	11.97	1.85
21769	4-35,5270-112,8705-1-72-101		STREAM	DRY	1000	0500					1.87	1.67	11.22	1.35
21770	4-35,5873-112,8763-1-72-100	11/02/77	STREAM	DRY	1000	0500	5				2.90	1.55	15.20	1.78
21771	4-35,5176-112,8968-1-72-100	11/02/77	STREAM	DRY	1000	0500	5				3.34	1.42	14.00	1.27

WILLIAMS 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 UPPER	SIZE LOWER	POS. CONT.	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(NA) PPM	ERR	
21772		4-35.5810	-112.9369	-172-100	11/02/77	STREAM	DRY	1000	0500	5	2.09	1.62	10.36	1.48
21773		4-35.5696	-112.9686	-172-100	11/02/77	STREAM	DRY	1000	0500	5	2.01	1.53	7.58	0.83
21774		4-35.5625	-112.9625	-172-100	11/02/77	STREAM	DRY	1000	0500	5	1.01	1.81	3.19	0.58
21775		4-35.5355	-112.9569	-172-100		STREAM	DRY	1000	0500	5	3.13	1.56	14.42	1.33
21776		4-35.5320	-112.9611	-172-100	11/02/77	STREAM	DRY	1000	0500	5	2.68	1.50	9.29	1.09
21879		4-35.0183	-113.0527	-172-100	08/24/77	STREAM	DRY	1000	0500	5	1.90	1.99	19.98	2.43
21879		4-35.0183	-113.0527	-172-101		STREAM	DRY	1000	0500	5	1.78	1.83	21.68	1.53
21883		4-35.0238	-113.0135	-172-100	08/24/77	STREAM	DRY	1000	0500	5	1.53	1.80	6.10	0.71
21884		4-35.0409	-113.0151	-172-100	08/24/77	STREAM	DRY	1000	0500	5	0.83	1.99	3.92	0.56
21885		4-35.0714	-113.0184	-172-100	08/24/77	STREAM	DRY	1000	0500	5	2.30	1.40	10.35	0.84
21886		4-35.2952	-113.9580	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.50	1.61	9.31	0.85
21887		4-35.3731	-113.9070	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.35	1.65	7.56	0.89
21888		4-35.3320	-113.9341	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.65	1.53	9.57	0.83
21889		4-35.2993	-113.8999	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.08	1.62	10.11	1.08
21889		4-35.2993	-113.8999	-172-101		STREAM	DRY	1000	0500	5	2.43	1.51	15.87	1.42
21890		4-35.4676	-113.5985	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.47	1.60	9.16	0.76
21891		4-35.4849	-113.5870	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.54	1.73	8.50	0.79
21892		4-35.4429	-113.6143	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.25	1.72	5.20	0.87
21893		4-35.4345	-113.5865	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.32	1.84	4.97	0.70
21894		4-35.3913	-113.5807	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.42	1.62	7.41	0.76
21895		4-35.3894	-113.5840	-172-100	08/25/77	STREAM	DRY	1000	0500	5	2.35	1.68	11.49	1.15
21896		4-35.4411	-113.5724	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.40	1.60	4.30	0.65
21897		4-35.4412	-113.5658	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.69	1.57	8.10	0.88
21898		4-35.4411	-113.5672	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.87	1.47	10.83	0.92
21899		4-35.4338	-113.5325	-172-100	08/25/77	STREAM	DRY	1000	0500	5	1.88	1.59	8.05	1.19
21899		4-35.4338	-113.5325	-172-101		STREAM	DRY	1000	0500	5	1.39	1.66	9.08	0.92
21900		4-35.7853	-112.1054	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.93	1.50	11.69	1.42
21901		4-35.0701	-112.8567	-172-100	09/19/77	STREAM	DRY	1000	0500	5	1.80	1.61	6.14	0.88
21902		4-35.0595	-112.9058	-172-100	09/19/77	STREAM	DRY	1000	0500	1	3.04	1.31	13.76	1.11
21903		4-35.0657	-112.9016	-172-100	09/19/77	STREAM	DRY	1000	0500	5	3.15	1.36	12.73	1.07
21904		4-35.0370	-112.9020	-172-100	09/19/77	STREAM	DRY	1000	0500	5	2.74	1.45	13.07	1.18
21905		4-35.0413	-112.8550	-172-100	09/19/77	STREAM	DRY	1000	0500	5	1.83	1.48	7.94	0.80
21906		4-35.0298	-112.8383	-172-100	09/19/77	STREAM	DRY	1000	0500	5	1.99	1.50	7.81	0.79
21907		4-35.0127	-112.8401	-172-100	09/19/77	STREAM	DRY	1000	0500	5	2.13	1.48	9.27	0.93
21908		4-35.0161	-112.7909	-172-100	09/19/77	STREAM	DRY	1000	0500	1	1.81	1.54	9.10	0.80
21909		4-35.0363	-112.7561	-172-100	09/19/77	STREAM	DRY	1000	0500	1	1.06	1.76	3.57	0.57
21909		4-35.0363	-112.7561	-172-101		STREAM	DRY	1000	0500	5	1.16	1.70	3.78	0.59
21910		4-35.0649	-112.7886	-172-100	09/19/77	STREAM	DRY	1000	0500	5	1.75	1.67	7.02	0.95
21911		4-35.0572	-112.8159	-172-100	09/19/77	STREAM	DRY	1000	0500	5	2.52	1.50	13.57	1.12
21912		4-35.0855	-112.7946	-172-100	09/20/77	STREAM	DRY	1000	0500	5	0.83	1.99	3.06	0.58
21913		4-35.0971	-112.8212	-172-100	09/20/77	STREAM	DRY	1000	0500	5	1.25	1.68	4.13	0.66
21914		4-35.1024	-112.8103	-172-100	09/20/77	STREAM	DRY	1000	0500	5	0.97	1.77	3.17	0.58
21915		4-35.1154	-112.7875	-172-110		STREAM	DRY	1000	0500	5	0.82	1.83	4.05	0.57
21916		4-35.0911	-112.7223	-172-100	09/20/77	STREAM	DRY	1000	0500	5	0.90	1.85	2.49	0.46
21917		4-35.0076	-112.6942	-172-100	09/20/77	STREAM	DRY	1000	0500	5	2.14	1.55	13.35	1.10
21918		4-35.0253	-112.7165	-172-100	09/20/77	STREAM	DRY	1000	0500	5	2.54	1.50	13.29	1.66
21919		4-35.0578	-112.7172	-172-100	09/20/77	STREAM	DRY	1000	0500	5	1.16	1.67	4.18	0.54
21919		4-35.0578	-112.7172	-172-101		STREAM	DRY	1000	0500	5	1.24	1.65	5.25	0.57
21920		4-35.1354	-112.7134	-172-100	09/21/77	STREAM	DRY	1000	0500	5	1.71	1.65	7.09	1.13

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

SITE NUMBER	DOE SAMPLE NUMBER				DATE		SAMPLE		PARTICLE SIZE		POS. CONT	Q. C. X-REF	URANIUM(DMC)		THORIUM(NAA)	
	LAT.	LONG.	L	T	YR	MO-DA-YR	SOURCE/COND.	UPPER	LOWER	PPM			JERR	PPM	ERR	
21921	4-35,1183	-112,7064	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	5		0.83	2.03	4.52	0.54
21922	4-35,1243	-112,6548	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	5		0.71	1.95	2.13	0.46
21923	4-35,1014	-112,6940	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		1.28	1.60	4.45	0.71
21924	4-35,0926	-112,6774	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		1.27	1.58	5.22	0.50
21925	4-35,0879	-112,6268	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		0.96	1.80	3.10	0.49
21926	4-35,0834	-112,6223	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	5		0.73	1.87	2.58	0.37
21927	4-35,0735	-112,6188	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		0.69	2.05	2.58	0.48
21928	4-35,0591	-112,6197	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		0.86	1.93	3.18	0.61
21929	4-35,0314	-112,5983	-1	72	-100	09/21/77	STREAM	DRY	1000	0500	1		1.32	1.65	6.47	0.74
21929	4-35,0314	-112,5983	-1	72	-101	09/21/77	STREAM	DRY	1000	0500	1		1.28	1.71	5.67	0.65
21930	4-35,0048	-112,5649	-1	72	-100	09/22/77	STREAM	DRY	1000	0500	1		0.55	2.25	1.91	0.45
21931	4-35,1826	-112,6817	-1	72	-100	09/22/77	STREAM	DRY	1000	0500	5		1.48	1.82	8.01	1.23
21932	4-35,2025	-112,6962	-1	72	-100	09/22/77	STREAM	DRY	1000	0500	1		2.24	1.48	12.48	1.11
21933	4-35,1532	-112,6643	-1	72	-100	09/22/77	STREAM	DRY	1000	0500	1		0.75	1.97	3.22	0.48
21934	4-35,2320	-112,9945	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		2.57	1.49	12.61	1.52
21935	4-35,2315	-112,9692	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		1.16	1.66	4.99	0.63
21936	4-35,2266	-112,9427	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		2.87	1.47	15.95	1.30
21937	4-35,2358	-112,9308	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		0.78	1.95	3.57	0.37
21938	4-35,2209	-112,9579	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		1.16	1.81	10.43	0.95
21939	4-35,2197	-112,9239	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		0.98	1.85	5.00	0.58
21939	4-35,2197	-112,9239	-1	72	-101	09/29/77	STREAM	DRY	1000	0500	5		1.28	1.83	6.67	0.62
21940	4-35,1999	-112,9728	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		0.83	1.97	4.26	0.62
21941	4-35,2008	-112,9157	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		0.93	1.72	4.26	0.51
21942	4-35,1793	-112,9833	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		1.91	1.43	5.50	0.67
21943	4-35,1808	-112,9844	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		2.80	1.52	13.50	1.32
21944	4-35,1739	-112,9678	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		2.08	1.61	9.44	0.99
21945	4-35,2019	-112,9037	-1	72	-100	09/29/77	STREAM	DRY	1000	0500	5		1.36	1.53	4.01	0.62
21946	4-35,4185	-112,3111	-1	72	-100	09/30/77	STREAM	DRY	1000	0500	5		1.01	1.72	5.26	0.52
21947	4-35,4399	-112,3104	-1	72	-100	09/30/77	STREAM	DRY	1000	0500	5		1.71	1.66	5.61	0.65
21948	4-35,4510	-112,5008	-1	72	-100	09/30/77	STREAM	DRY	1000	0500	5		1.54	1.61	3.86	0.70
21949	4-35,4762	-112,5078	-1	72	-100	09/30/77	STREAM	DRY	1000	0500	5		1.40	1.68	8.32	0.86
21949	4-35,4762	-112,5078	-1	72	-101	09/30/77	STREAM	DRY	1000	0500	5		1.33	1.64	6.93	0.68
21950	4-35,4762	-112,5630	-1	72	-100	09/30/77	STREAM	DRY	1000	0500	5		2.50	1.46	11.26	1.12
21985	4-35,3918	-112,5514	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	1		3.61	1.21	11.66	1.58
21986	4-35,4243	-112,5708	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.10	1.53	10.69	1.14
21987	4-35,4212	-112,5784	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.46	1.39	9.40	0.78
21988	4-35,4281	-112,6050	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.12	1.55	9.64	0.99
21989	4-35,4413	-112,6262	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		3.56	1.30	12.66	1.03
21989	4-35,4413	-112,6262	-1	72	-101	10/14/77	STREAM	DRY	1000	0500	5		3.50	1.37	14.92	1.51
21990	4-35,4852	-112,5819	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.31	1.58	16.14	1.29
21991	4-35,4825	-112,5818	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		3.62	1.47	13.24	1.34
21992	4-35,4698	-112,5816	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.79	1.51	10.73	1.25
21993	4-35,4744	-112,6478	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		3.05	1.46	15.52	1.28
21994	4-35,4510	-112,6462	-1	72	-100	10/14/77	STREAM	DRY	1000	0500	5		2.97	1.47	18.27	1.37
21995	4-35,4409	-112,3789	-1	72	-100	10/15/77	STREAM	DRY	1000	0500	5		1.39	1.55	6.61	0.72
21996	4-35,5615	-112,3859	-1	72	-100	10/15/77	STREAM	DRY	1000	0500	5		2.43	1.50	13.18	1.18
21997	4-35,5177	-112,3637	-1	72	-100	10/15/77	STREAM	DRY	1000	0500	5		3.37	1.43	16.72	1.38
21998	4-35,6445	-112,3807	-1	72	-100	10/15/77	STREAM	DRY	1000	0500	5		3.27	1.42	18.44	1.42
21999	4-35,6457	-112,3553	-1	72	-100	10/15/77	STREAM	DRY	1000	0500	5		2.68	1.48	10.76	1.31

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY RPL	SAMPLE MO-DA-YR	SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAAI) PPM	ERR	
21999	4-35	6457	-112.3553	-172-101		09/05/77	STREAM	DRY	1000	0500		2.90	1.46	13.39	1.30
22000	4-35	6420	-112.4381	-172-100	10/15/77	09/05/77	STREAM	DRY	1000	0500	5	2.25	1.64	14.41	1.29
22001	4-35	6737	-113.8144	-172-100	09/07/77	09/05/77	STREAM	DRY	1000	0500	5	3.21	1.47	17.99	1.54
22002	4-35	6737	-113.8543	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	3.12	1.44	18.51	1.56
22003	4-35	6927	-113.8494	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	1.93	1.56	12.85	1.08
22004	4-35	6016	-113.8564	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	1.93	1.69	6.22	1.18
22005	4-35	6573	-113.9367	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	2.31	1.60	9.65	1.15
22006	4-35	6591	-113.9357	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	2.63	1.82	13.69	1.67
22007	4-35	6666	-113.9349	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	2.04	1.59	9.68	1.44
22008	4-35	6725	-113.9395	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	2.23	1.44	7.57	0.99
22009	4-35	6242	-113.9997	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	1.54	1.60	7.26	0.85
22010	4-35	6242	-113.9937	-172-101		09/05/77	STREAM	DRY	1000	0500	5	1.58	1.62	9.18	1.03
22011	4-35	6426	-113.9816	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	2.55	1.58	13.10	1.27
22012	4-35	6791	-113.9996	-172-100	09/05/77	09/05/77	STREAM	DRY	1000	0500	5	1.55	1.69	12.32	1.03
22013	4-35	6266	-113.8640	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	2.22	1.55	11.58	1.34
22014	4-35	6589	-113.8696	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	2.53	1.64	14.65	1.89
22015	4-35	6588	-113.8352	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	1.22	1.77	6.35	0.85
22016	4-35	6932	-113.8287	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	1.09	1.73	4.65	0.60
22017	4-35	6954	-113.8509	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	0.91	2.16	5.18	0.71
22018	4-35	6549	-113.8483	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	2.35	1.62	17.63	2.02
22019	4-35	6930	-113.9140	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	1.50	1.65	6.78	0.72
22020	4-35	6993	-113.9194	-172-100	09/04/77	09/04/77	STREAM	DRY	1000	0500	5	1.30	1.62	3.11	0.53
22021	4-35	6993	-113.9194	-172-101		09/04/77	STREAM	DRY	1000	0500	5	1.19	1.63	2.82	0.59
22022	4-35	6957	-113.9518	-172-100	09/03/77	09/03/77	STREAM	DRY	1000	0500	5	2.35	1.48	12.12	1.15
22023	4-35	6931	-113.7963	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	2.69	1.51	12.42	1.43
22024	4-35	6473	-113.8644	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	3.40	1.56	21.73	2.55
22025	4-35	6201	-113.9088	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	3.46	1.37	15.87	1.51
22026	4-35	6192	-113.9099	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	3.21	1.38	16.71	1.59
22027	4-35	6311	-113.8649	-172-100	09/07/77	09/07/77	STREAM	DRY	1000	0500	5	3.33	1.61	19.01	2.28
22028	4-35	7771	-113.8221	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	9	3.90	1.32	20.10	1.74
22029	4-35	7771	-113.8210	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.68	1.37	19.67	1.81
22030	4-35	7990	-113.8996	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.74	1.46	21.01	1.97
22031	4-35	8121	-113.7912	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	2.84	1.40	6.39	0.90
22032	4-35	8121	-113.7912	-172-101		09/15/77	STREAM	DRY	1000	0500	5	2.69	1.48	13.88	1.30
22033	4-35	8101	-113.7613	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	2.92	1.52	12.48	2.01
22034	4-35	8092	-113.7601	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	2.49	1.53	13.65	1.29
22035	4-35	7844	-113.8555	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.40	1.39	20.99	1.62
22036	4-35	7900	-113.8491	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.57	1.38	21.70	1.89
22037	4-35	8212	-113.8613	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.39	1.40	17.30	1.71
22038	4-35	8195	-113.8601	-170-100	09/15/77	09/15/77	STREAM	WET	1000	0500	5	3.66	1.42	18.74	1.82
22039	4-35	7911	-113.9400	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	2.69	1.57	15.93	1.42
22040	4-35	7894	-113.9263	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.32	1.36	16.22	1.30
22041	4-35	7972	-113.8981	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	2.96	1.49	19.26	1.68
22042	4-35	7990	-113.8981	-172-100	09/15/77	09/15/77	STREAM	DRY	1000	0500	5	3.75	1.42	21.35	2.00
22043	4-35	7990	-113.8981	-172-101		09/15/77	STREAM	DRY	1000	0500	5	3.78	1.47	22.06	2.03
22044	4-35	8755	-113.0060	-172-100	09/16/77	09/16/77	STREAM	DRY	1000	0500	5	1.24	1.63	7.08	0.63
22045	4-35	8673	-113.0125	-172-100	09/16/77	09/16/77	STREAM	DRY	1000	0500	5	1.26	1.63	7.96	1.08
22046	4-35	8291	-113.0026	-172-100	09/16/77	09/16/77	STREAM	DRY	1000	0500	5	2.48	1.44	12.40	0.99
22047	4-35	8062	-113.1061	-172-100	09/16/77	09/16/77	STREAM	DRY	1000	0500	5	0.70	2.01	4.62	0.51

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

PAGE B-22

SITE NUMBER	-----DOE ST LAT. LONG. L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE UPPER LOWER	POS. CONT	D. C. X-REF	URANIUM(10C) PPM	THORIUM(10C) PPM	THORIUM(10C) ERR		
22124	4-35,7926-113,1102-1	-72-100	09/16/77	STREAM	DRY	1000	0500	1.90	1.40	3.76	0.47
22125	4-35,7772-113,1104-1	-72-100	09/16/77	STREAM	DRY	1000	0500	0.77	1.85	3.02	0.38
22126	4-35,7762-113,1175-1	-72-100	09/16/77	STREAM	DRY	1000	0500	2.64	1.52	10.13	1.09
22127	4-35,7711-113,1008-1	-72-100	09/16/77	STREAM	DRY	1000	0500	0.76	1.89	2.41	0.40
22128	4-35,7760-113,0788-1	-72-100	09/16/77	STREAM	DRY	1000	0500	1.41	1.70	4.95	0.58
22129	4-35,7619-113,0596-1	-72-100	09/16/77	STREAM	DRY	1000	0500	1.31	1.61	7.04	0.63
22129	4-35,7619-113,0596-1	-72-101	09/16/77	STREAM	DRY	1000	0500	1.44	1.67	8.86	0.90
22130	4-35,7693-113,0520-1	-72-100	09/16/77	STREAM	DRY	1000	0500	1.32	1.61	6.87	0.60
22131	4-35,7484-113,0604-1	-72-100	09/16/77	STREAM	DRY	1000	0500	1.09	1.76	6.20	0.62
22132	4-35,7509-113,0693-1	-72-100	09/16/77	STREAM	DRY	1000	0500	0.99	1.92	6.59	0.60
22133	4-35,7355-113,1044-1	-72-100	09/17/77	STREAM	DRY	1000	0500	2.29	1.48	11.41	1.03
22134	4-35,7440-113,1057-1	-72-100	09/17/77	STREAM	DRY	1000	0500	2.86	1.49	15.73	1.31
22135	4-35,7350-113,1075-1	-72-100	09/17/77	STREAM	DRY	1000	0500	3.20	1.39	14.10	1.20
22136	4-35,7267-113,1129-1	-72-100	09/17/77	STREAM	DRY	1000	0500	2.87	1.43	12.83	1.09
22137	4-35,6984-113,1342-1	-72-100	09/17/77	STREAM	DRY	1000	0500	3.18	1.39	13.17	1.21
22138	4-35,7190-113,1436-1	-72-100	09/17/77	STREAM	DRY	1000	0500	1.76	1.59	3.98	0.65
22139	4-35,7145-113,1424-1	-72-100	09/17/77	STREAM	DRY	1000	0500	3.59	1.32	11.21	1.00
22139	4-35,7145-113,1424-1	-72-101	09/17/77	STREAM	DRY	1000	0500	3.49	1.31	11.98	0.97
22140	4-35,6693-113,1489-1	-72-100	09/17/77	STREAM	DRY	1000	0500	3.01	1.45	14.84	1.35
22141	4-35,6686-113,2373-1	-72-100	09/17/77	STREAM	DRY	1000	0500	0.77	1.93	1.43	0.37
22142	4-35,6987-113,2204-1	-72-100	09/17/77	STREAM	DRY	1000	0500	0.95	1.97	3.00	0.50
22143	4-35,6857-113,2366-1	-72-100	09/17/77	STREAM	DRY	1000	0500	0.83	2.07	2.25	0.61
22144	4-35,6508-113,2235-1	-72-100	09/17/77	STREAM	DRY	1000	0500	1.73	1.95	4.37	0.68
22145	4-35,6940-113,2257-1	-72-100	09/17/77	STREAM	DRY	1000	0500	1.03	1.74	4.08	0.51
22146	4-35,7332-113,0533-1	-72-100	09/18/77	STREAM	DRY	1000	0500	0.69	1.98	3.68	0.42
22147	4-35,6975-113,0336-1	-72-100	09/18/77	STREAM	DRY	1000	0500	1.67	1.61	9.28	0.86
22148	4-35,6765-113,0419-1	-72-100	09/18/77	STREAM	DRY	1000	0500	1.09	1.80	7.69	0.61
22149	4-35,6783-113,0484-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.92	1.68	22.25	1.94
22149	4-35,6783-113,0484-1	-72-101	09/18/77	STREAM	DRY	1000	0500	2.92	1.68	21.31	2.12
22150	4-35,6776-113,0862-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.85	1.46	5.39	0.70
22151	4-35,6842-113,0686-1	-72-100	09/18/77	STREAM	DRY	1000	0500	3.33	1.47	14.00	1.32
22152	4-35,6584-113,0492-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.53	1.68	20.41	1.98
22153	4-35,6493-113,0589-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.62	1.59	22.24	1.63
22154	4-35,6590-113,0680-1	-72-100	09/18/77	STREAM	DRY	1000	0500	3.78	1.38	15.00	1.30
22155	4-35,6307-113,0916-1	-72-100	09/18/77	STREAM	DRY	1000	0500	3.15	1.41	13.02	1.13
22156	4-35,6175-113,1254-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.55	1.53	11.53	1.25
22157	4-35,6082-113,1406-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.33	1.56	10.78	1.02
22158	4-35,5985-113,1746-1	-72-100	09/18/77	STREAM	DRY	1000	0500	1.46	1.82	8.47	1.24
22158	4-35,6191-113,0835-1	-72-100	09/18/77	STREAM	DRY	1000	0500	2.97	1.67	24.06	1.89
22159	4-35,6191-113,0835-1	-72-101	09/18/77	STREAM	DRY	1000	0500	2.92	1.64	25.75	1.91
22160	4-35,6175-113,0713-1	-72-100	09/18/77	STREAM	DRY	1000	0500	3.01	1.46	13.54	1.33
22161	4-35,5416-113,0815-1	-72-100	09/19/77	STREAM	DRY	1000	0500	3.05	1.61	26.46	1.91
22162	4-35,5704-113,0823-1	-72-100	09/19/77	STREAM	DRY	1000	0500	2.15	1.66	17.65	1.43
22163	4-35,5886-113,0739-1	-72-100	09/19/77	STREAM	DRY	1000	0500	2.51	1.61	18.96	1.50
22164	4-35,5791-113,1542-1	-72-100	09/19/77	STREAM	DRY	1000	0500	2.20	1.59	10.85	1.13
22165	4-35,5535-113,1237-1	-72-100	09/19/77	STREAM	DRY	1000	0500	1.97	1.53	6.23	0.75
22166	4-35,5262-113,1352-1	-72-100	09/19/77	STREAM	DRY	1000	0500	2.39	1.58	11.98	1.12
22167	4-35,5400-113,1212-1	-72-100	09/19/77	STREAM	DRY	1000	0500	1.10	1.74	5.35	0.81
22168	4-35,5177-112,9993-1	-72-100	09/19/77	STREAM	DRY	1000	0500	2.32	1.59	9.81	1.07

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	DATE L T Y RPL	MO-DA-YR	SOURCE/COND.	SAMPLE	PARTICLE SIZE UPPER LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(MAA) PPM	ERR
22169	4-35	5326	-113.2335	-172-100	09/19/77	STREAM	DRY	1000 0500	5	2.95	1.56	14.55	1.49
22168	4-35	5326	-113.2335	-172-101	09/20/77	STREAM	DRY	1000 0500	5	2.99	1.61	15.77	1.85
22170	4-35	5018	-113.6394	-172-100	09/20/77	STREAM	DRY	1000 0500	5	1.26	1.81	7.66	0.97
22171	4-35	5018	-113.6394	-172-100	09/20/77	STREAM	DRY	1000 0500	5	1.49	1.69	8.70	0.87
22172	4-35	5019	-113.6394	-172-100	09/20/77	STREAM	DRY	1000 0500	5	1.09	1.77	5.10	0.53
22173	4-35	5037	-113.6758	-172-100	09/20/77	STREAM	DRY	1000 0500	5	1.80	1.53	8.86	0.96
22174	4-35	5192	-113.7480	-172-100	09/20/77	STREAM	DRY	1000 0500	5	0.83	1.96	3.01	0.65
22175	4-35	4650	-113.1710	-172-100	09/20/77	STREAM	DRY	1000 0500	5	1.34	1.66	5.22	0.74
22176	4-35	4634	-113.1688	-172-100	09/21/77	STREAM	DRY	1000 0500	5	1.72	1.58	5.80	0.72
22177	4-35	4777	-113.1262	-172-100	09/21/77	STREAM	DRY	1000 0500	5	1.68	1.65	8.10	1.01
22178	4-35	4666	-113.1476	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.36	1.62	14.16	1.47
22179	4-35	4421	-113.1526	-172-100	09/21/77	STREAM	DRY	1000 0500	5	1.03	1.68	4.99	0.54
22179	4-35	4421	-113.1506	-172-101	09/21/77	STREAM	DRY	1000 0500	5	1.12	1.97	12.35	1.02
22180	4-35	4416	-113.1286	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.43	1.57	12.35	1.17
22181	4-35	4353	-113.1261	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.91	1.49	17.19	1.51
22182	4-35	4119	-113.1266	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.87	1.54	16.61	1.43
22183	4-35	4067	-113.1661	-172-100	09/21/77	STREAM	DRY	1000 0500	1	3.00	1.54	19.69	1.65
22184	4-35	4005	-113.1616	-172-100	09/21/77	STREAM	DRY	1000 0500	5	1.01	1.78	4.19	0.57
22185	4-35	4228	-113.1689	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.25	1.56	13.88	1.13
22186	4-35	4162	-113.1873	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.45	1.50	14.43	1.17
22187	4-35	3966	-113.2231	-172-100	09/21/77	STREAM	DRY	1000 0500	5	3.14	1.60	14.18	1.57
22188	4-35	4156	-113.2225	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.71	1.43	11.44	1.02
22189	4-35	3854	-113.1975	-172-100	09/21/77	STREAM	DRY	1000 0500	5	2.69	1.64	13.13	1.54
22189	4-35	3854	-113.1875	-172-101	09/21/77	STREAM	DRY	1000 0500	5	2.59	1.64	10.52	1.62
22191	4-35	0335	-113.0347	-172-100	10/13/77	STREAM	DRY	1000 0500	5	2.02	1.53	7.30	0.94
22192	4-35	0032	-113.0371	-172-100	10/13/77	STREAM	DRY	1000 0500	5	2.52	1.53	12.26	1.81
22193	4-35	0125	-113.0220	-172-100	10/13/77	STREAM	DRY	1000 0500	5	2.53	1.49	12.73	1.63
22194	4-35	1000	-113.1240	-172-100	10/13/77	STREAM	DRY	1000 0500	5	2.54	1.53	13.18	1.45
22195	4-35	1456	-112.9287	-172-100	10/14/77	STREAM	DRY	1000 0500	5	3.43	1.43	16.78	1.49
22196	4-35	1456	-112.9552	-172-100	10/14/77	STREAM	DRY	1000 0500	5	1.42	1.65	3.79	0.49
22197	4-35	1468	-112.9112	-172-100	10/14/77	STREAM	DRY	1000 0500	5	2.58	1.47	14.45	1.16
22198	4-35	1735	-112.9370	-172-100	10/14/77	STREAM	DRY	1000 0500	5	2.48	1.54	12.98	1.21
22199	4-35	1821	-112.9065	-172-100	10/14/77	STREAM	DRY	1000 0500	5	1.59	1.61	6.73	0.90
22199	4-35	1821	-112.9065	-172-101	10/14/77	STREAM	DRY	1000 0500	5	1.43	1.65	7.06	0.85
22200	4-35	1807	-112.8768	-172-100	10/14/77	STREAM	DRY	1000 0500	5	2.70	1.41	8.51	1.00
22530	4-35	0504	-113.1249	-170-100	03/24/78	STREAM	WET	1000 0500	9	1.61	1.51	6.73	0.87
22601	4-35	7572	-112.7321	-172-100	09/16/77	STREAM	DRY	1000 0500	5	1.83	1.66	9.14	1.15
22602	4-35	7755	-112.7126	-172-100	09/16/77	STREAM	DRY	1000 0500	5	1.80	1.67	8.45	0.79
22603	4-35	9772	-112.7913	-172-100	09/17/77	STREAM	DRY	1000 0500	5	1.14	1.91	5.25	0.75
22604	4-35	9946	-112.8316	-172-100	09/17/77	STREAM	DRY	1000 0500	5	0.86	1.88	4.30	0.47
22605	4-35	9631	-112.8286	-172-100	09/17/77	STREAM	DRY	1000 0500	5	1.13	1.71	5.69	0.56
22606	4-35	9417	-112.8581	-172-100	09/17/77	STREAM	DRY	1000 0500	5	0.96	1.69	3.75	0.39
22607	4-35	9112	-112.8607	-172-100	09/17/77	STREAM	DRY	1000 0500	5	3.23	1.42	14.36	1.31
22608	4-35	8770	-112.8588	-172-100	09/17/77	STREAM	DRY	1000 0500	5	2.73	1.43	14.58	1.26
22609	4-35	8681	-112.8519	-172-100	09/17/77	STREAM	DRY	1000 0500	1	1.70	1.73	9.49	1.21
22609	4-35	8681	-112.8519	-172-101	09/17/77	STREAM	DRY	1000 0500	5	2.37	1.51	13.45	1.09
22610	4-35	8520	-112.8438	-172-100	09/17/77	STREAM	DRY	1000 0500	5	2.43	1.63	11.81	1.12
22611	4-35	8404	-112.8325	-172-100	09/17/77	STREAM	DRY	1000 0500	5	1.41	1.57	3.51	0.56
22612	4-35	8778	-112.8023	-172-100	09/17/77	STREAM	DRY	1000 0500	5	2.01	1.58	12.75	1.04

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY	DOE RPL	MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	%ERR	THORIUM(NAA) PPM	%ERR
22613	4-35	9398	-112.8158	-172-100	09/17/77	STREAM	DRY	1000	0500	5			2.93	1.49	12.78	1.19
22614	4-35	9260	-112.7790	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.97	1.65	2.68	0.40
22615	4-35	9214	-112.7822	-172-100	09/18/77	STREAM	DRY	1000	0500	5			3.60	1.35	15.34	1.24
22616	4-35	9252	-112.7735	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.65	1.56	6.80	0.72
22617	4-35	9125	-112.7787	-172-100	09/18/77	STREAM	DRY	1000	0500	5			2.10	1.45	7.19	0.63
22618	4-35	8842	-112.8120	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.37	1.61	5.20	0.53
22619	4-35	8247	-112.8564	-172-100	09/18/77	STREAM	DRY	1000	0500	5			2.33	1.45	9.64	0.90
22619	4-35	8247	-112.8564	-172-101		STREAM	DRY	1000	0500				2.35	1.52	10.01	0.95
22620	4-35	7654	-112.8429	-172-100	09/18/77	STREAM	DRY	1000	0500	5			3.90	1.21	3.58	0.49
22621	4-35	7655	-112.8407	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.35	1.77	7.75	0.69
22622	4-35	7765	-112.8244	-172-100	09/18/77	STREAM	DRY	1000	0500	5			2.47	1.45	11.44	1.14
22623	4-35	7732	-112.8039	-172-100		STREAM	DRY	1000	0500	5			3.10	1.42	11.54	1.02
22624	4-35	7634	-112.7997	-172-100	09/18/77	STREAM	DRY	1000	0500	5			3.11	1.43	16.35	1.62
22625	4-35	7932	-112.7971	-172-100	09/18/77	STREAM	DRY	1000	0500	5			2.87	1.46	13.43	1.08
22626	4-35	7953	-112.7794	-172-100	09/18/77	STREAM	DRY	1000	0500	5			2.91	1.48	14.87	1.35
22627	4-35	8233	-112.7512	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.74	1.53	5.84	0.67
22628	4-35	8231	-112.7889	-172-100	09/18/77	STREAM	DRY	1000	0500	5			1.40	1.06	6.04	0.91
22629	4-35	8416	-112.7517	-172-100	09/18/77	STREAM	DRY	1000	0500	5			3.21	1.48	14.65	1.28
22629	4-35	8416	-112.7517	-172-101		STREAM	DRY	1000	0500				3.13	1.41	13.71	1.27
22630	4-35	8434	-112.8803	-172-100	09/18/77	STREAM	DRY	1000	0500	5			3.34	1.59	17.79	1.50
22631	4-35	8145	-112.8774	-172-100	09/19/77	STREAM	DRY	1000	0500	5			2.73	1.45	14.09	1.22
22632	4-35	9086	-112.9094	-172-100	09/19/77	STREAM	DRY	1000	0500	5			2.34	1.60	12.81	1.13
22632	4-35	9086	-112.9094	-172-110		STREAM	DRY	1000	0500				2.59	1.67	11.83	1.40
22633	4-35	9211	-112.9219	-172-100	09/19/77	STREAM	DRY	1000	0500	5			2.64	1.48	12.53	1.29
22634	4-35	9453	-112.9280	-172-100	09/19/77	STREAM	DRY	1000	0500	5			3.77	1.37	16.50	1.40
22635	4-35	9597	-112.9329	-172-100	09/19/77	STREAM	DRY	1000	0500	5			3.66	1.44	18.53	1.45
22636	4-35	9937	-112.9436	-172-100	09/19/77	STREAM	DRY	1000	0500	5			3.98	1.41	16.63	1.42
22637	4-35	9599	-112.9738	-172-100	09/19/77	STREAM	DRY	1000	0500	5			4.35	1.30	16.51	1.24
22638	4-35	9356	-112.9699	-172-100	09/19/77	STREAM	DRY	1000	0500	5			4.22	1.43	16.08	1.93
22639	4-35	9177	-112.9639	-172-100	09/19/77	STREAM	DRY	1000	0500	5			1.69	1.59	8.05	0.74
22639	4-35	9177	-112.9639	-172-101		STREAM	DRY	1000	0500				2.42	1.41	13.61	0.93
22640	4-35	9691	-112.8898	-172-100	09/19/77	STREAM	DRY	1000	0500	5			3.79	1.45	14.76	1.33
22641	4-35	9630	-112.8907	-172-100	09/19/77	STREAM	DRY	1000	0500	5			3.63	1.48	13.53	2.13
22642	4-35	9703	-112.8865	-172-100	09/19/77	STREAM	DRY	1000	0500	5			1.84	1.59	9.30	0.96
22643	4-35	8513	-112.9036	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.43	1.74	5.86	0.71
22644	4-35	8426	-112.9056	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.45	1.64	5.41	0.71
22645	4-35	8105	-112.8893	-172-100	09/20/77	STREAM	DRY	1000	0500	5			3.11	1.37	13.33	1.47
22646	4-35	7995	-112.9167	-172-100	09/20/77	STREAM	DRY	1000	0500	5			3.28	1.44	16.33	1.67
22647	4-35	7684	-112.8861	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.60	1.67	9.60	0.99
22648	4-35	7622	-112.8804	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.54	1.63	6.76	0.67
22649	4-35	7541	-112.9333	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.84	1.62	11.21	1.03
22649	4-35	7541	-112.9333	-172-101		STREAM	DRY	1000	0500				2.72	1.36	10.64	1.16
22650	4-35	7787	-112.9737	-172-100		STREAM	DRY	1000	0500	5			1.60	1.62	7.01	0.66
22651	4-35	7957	-112.9830	-172-100	09/20/77	STREAM	DRY	1000	0500	5			1.55	1.54	6.91	0.68
22652	4-35	8213	-112.9582	-172-100	09/20/77	STREAM	DRY	1000	0500	5			3.93	1.39	15.89	1.68
22653	4-35	8453	-112.9256	-172-100	09/20/77	STREAM	DRY	1000	0500	5			3.88	1.44	14.64	1.43
22654	4-35	8562	-112.9192	-172-100	09/20/77	STREAM	DRY	1000	0500	5			3.00	1.39	12.74	1.25
22655	4-35	8776	-112.9363	-172-100	09/20/77	STREAM	DRY	1000	0500	5			5.13	1.30	16.72	1.49
22701	4-35	2251	-113.3327	-172-100	10/27/77	STREAM	DRY	1000	0500	1			1.87	1.60	15.13	1.13

WILLIAMS 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 Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAA) PPM	ERR	
22702		4-35, 2379	-113, 3682	-172-100	10/27/77	STREAM	DRY	1000 0500	1		3.04	1.54	35.98	2.34
22703		4-35, 2154	-113, 3653	-172-100	10/27/77	STREAM	DRY	1000 0500	7		1.95	1.52	6.19	0.83
22704		4-35, 1429	-113, 3391	-172-100	10/28/77	STREAM	DRY	1000 0500	1		3.35	1.34	9.92	1.48
22704		4-35, 1429	-113, 3391	-172-110		STREAM	DRY	1000 0500			3.53	1.31	14.21	1.28
22705		4-35, 1314	-113, 3278	-172-100	10/28/77	STREAM	DRY	1000 0500	5		2.40	1.48	8.50	1.28
22706		4-35, 1306	-113, 3256	-172-100	10/28/77	STREAM	DRY	1000 0500	1		2.46	1.51	15.51	1.42
22707		4-35, 1157	-113, 3427	-172-100	10/28/77	STREAM	DRY	1000 0500	1		2.38	1.43	10.27	1.09
22708		4-35, 0992	-113, 3642	-172-100	10/28/77	STREAM	DRY	1000 0500	1		2.70	1.53	15.52	2.11
22709		4-35, 1680	-113, 3453	-172-100	10/28/77	STREAM	DRY	1000 0500	1		2.36	1.52	12.93	1.58
22709		4-35, 1680	-113, 3453	-172-101		STREAM	DRY	1000 0500			2.20	1.55	16.70	1.43
22710		4-35, 1688	-113, 3080	-172-100	10/28/77	STREAM	DRY	1000 0500	1		2.15	1.47	13.79	1.03
22711		4-35, 0869	-113, 2553	-172-100	10/29/77	STREAM	DRY	1000 0500	1		1.59	1.64	7.94	1.29
22712		4-35, 0865	-113, 3177	-172-100	10/29/77	STREAM	DRY	1000 0500	1		2.70	1.35	7.26	0.75
22713		4-35, 0966	-113, 3125	-172-100	10/29/77	STREAM	DRY	1000 0500	1		2.60	1.36	10.97	0.90
22714		4-35, 0983	-113, 3137	-170-100	10/29/77	STREAM	WET	1000 0500	1		2.00	1.50	10.67	1.20
22715		4-35, 1285	-113, 2904	-172-100	10/29/77	STREAM	DRY	1000 0500	1		1.41	1.61	8.74	0.78
22716		4-35, 1423	-113, 2776	-172-100	10/29/77	STREAM	DRY	1000 0500	1		1.58	1.47	7.45	0.67
22717		4-35, 1389	-113, 2666	-172-100	10/29/77	STREAM	DRY	1000 0500	1		1.67	1.63	9.94	0.92
22718		4-35, 1294	-113, 2422	-172-100	10/29/77	STREAM	DRY	1000 0500	1		2.22	1.41	8.30	0.79
22719		4-35, 1164	-113, 2144	-172-100	10/30/77	STREAM	DRY	1000 0500	1		1.46	1.68	6.06	0.96
22719		4-35, 1164	-113, 2144	-172-101		STREAM	DRY	1000 0500			1.43	1.63	7.92	0.94
22720		4-35, 1387	-113, 1789	-172-100	10/30/77	STREAM	DRY	1000 0500	5		2.49	1.53	12.72	1.15
22721		4-35, 1134	-113, 1814	-172-100	10/30/77	STREAM	DRY	1000 0500	1		2.08	1.47	10.14	1.04
22722		4-35, 0362	-113, 1618	-172-100	10/30/77	STREAM	DRY	1000 0500	1		2.04	1.57	8.46	1.29
22723		4-35, 0557	-113, 1316	-172-100	10/30/77	STREAM	DRY	1000 0500	5		1.80	1.48	6.52	0.95
22724		4-35, 0598	-113, 1536	-172-100	10/30/77	STREAM	DRY	1000 0500	1		3.44	1.47	14.69	1.73
22725		4-35, 0560	-113, 1645	-172-100	10/30/77	STREAM	DRY	1000 0500	1		3.10	1.49	14.14	1.51
22726		4-35, 0998	-113, 1620	-172-100	10/30/77	STREAM	DRY	1000 0500	1		2.54	1.59	10.16	1.37
22727		4-35, 0870	-113, 1467	-172-100	10/30/77	STREAM	DRY	1000 0500	1		1.74	1.50	7.72	0.81
22728		4-35, 0545	-113, 2489	-172-100	10/31/77	STREAM	DRY	1000 0500	1		3.86	1.38	19.23	1.82
22729		4-35, 0807	-113, 2430	-172-100	10/31/77	STREAM	DRY	1000 0500	5		1.68	1.75	10.84	1.35
22729		4-35, 0807	-113, 2430	-172-101		STREAM	DRY	1000 0500			1.84	1.64	9.53	1.19
22730		4-35, 0811	-113, 2222	-172-100	10/31/77	STREAM	DRY	1000 0500	5		1.28	1.97	6.51	1.51
22731		4-35, 1106	-113, 2419	-172-100	10/31/77	STREAM	DRY	1000 0500	1		1.69	1.59	7.17	1.18
22732		4-35, 2303	-113, 2669	-172-100	10/31/77	STREAM	DRY	1000 0500	5		3.82	1.41	20.01	2.01
22733		4-35, 2005	-113, 2990	-172-100	11/01/77	STREAM	DRY	1000 0500	1		3.11	1.36	14.16	1.35
22734		4-35, 2104	-113, 3004	-172-100	11/01/77	STREAM	DRY	1000 0500	1		3.15	1.43	16.40	1.89
22735		4-35, 0611	-113, 3729	-172-100	11/01/77	STREAM	DP /	1000 0500	5		3.13	1.36	13.45	1.31
22736		4-35, 0473	-113, 3419	-172-100	11/01/77	STREAM	FLY	1000 0500	1		1.94	1.57	13.45	1.16
22737		4-35, 0172	-113, 4078	-172-100	11/01/77	STREAM	DRY	1000 0500	1		2.95	1.41	14.97	1.40
22738		4-35, 0054	-113, 4108	-172-100	11/01/77	STREAM	DRY	1000 0500	1		2.93	1.43	17.19	1.53
22739		4-35, 1987	-113, 3001	-172-100	11/01/77	STREAM	DRY	1000 0500	1		2.46	1.45	12.87	1.17
22739		4-35, 1987	-113, 3001	-172-101		STREAM	DRY	1000 0500			1.76	1.53	8.50	0.79
22740		4-35, 0415	-113, 4005	-172-100	11/02/77	STREAM	DRY	1000 0500	1		2.15	1.50	7.94	1.15
22740		4-35, 0415	-113, 4005	-172-110		STREAM	DRY	1000 0500			1.68	1.66	5.65	1.35
22741		4-35, 0406	-113, 4074	-172-100	11/02/77	STREAM	DRY	1000 0500	1		1.50	1.61	6.73	0.86
22742		4-35, 0528	-113, 4308	-172-100	11/02/77	STREAM	DRY	1000 0500	1		1.96	1.55	8.09	1.18
22743		4-35, 0590	-113, 4343	-170-100	11/02/77	STREAM	WET	1000 0500	1		1.78	2.06	20.84	2.46
22744		4-35, 0525	-113, 4461	-172-100	11/02/77	STREAM	DRY	1000 0500	1		2.10	1.67	13.23	1.84

WILLIAMS 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	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(PPM) ZERR	THORIUM(PPM) NAAI ZERR		
22745	4	-35.0737	-113.4676	-1-72-100	11/01/77	STREAM	DRY	1000	0500	1	1.81	1.87	11.81	2.03
22746	4	-35.0764	-113.4694	-1-72-100	11/02/77	STREAM	DRY	1000	0500	1	2.32	1.57	11.26	1.95
22747	4	-35.1295	-113.4726	-1-72-100	11/02/77	STREAM	DRY	1000	0500	1	2.66	1.52	12.11	1.91
22748	4	-35.1286	-113.4693	-1-72-100	11/02/77	STREAM	DRY	1000	0500	1	2.31	1.43	9.02	0.84
22749	4	-35.1205	-113.4712	-1-70-100	11/02/77	STREAM	WET	1000	0500	1	2.77	1.36	11.71	1.07
22749	4	-35.1205	-113.4712	-1-70-101		STREAM	WET	1000	0500	1	2.50	1.37	12.51	1.14
22750	4	-35.1236	-113.4516	-1-70-100	11/02/77	STREAM	WET	1000	0500	1	2.41	1.38	10.28	0.91
22751	4	-35.1319	-113.4386	-1-72-100	11/02/77	STREAM	DRY	1000	0500	1	2.34	1.54	16.33	1.45
22752	4	-35.0007	-113.4632	-1-72-100	11/03/77	STREAM	DRY	1000	0500	1	2.71	1.36	14.29	1.27
22753	4	-35.0057	-113.4404	-1-72-100	11/03/77	STREAM	DRY	1000	0500	1	2.73	1.40	12.10	1.25
22754	4	-35.0031	-113.4337	-1-70-100	11/03/77	STREAM	DRY	1000	0500	1	2.37	1.43	13.45	1.08
22755	4	-35.1016	-113.3753	-1-72-100	11/03/77	STREAM	DRY	1000	0500	1	2.79	1.44	11.00	1.24
22941	4	-35.6151	-112.0887	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	3.06	1.50	17.34	1.68
22942	4	-35.5008	-112.2448	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5	2.44	1.47	8.10	0.93
22943	4	-35.5290	-112.2287	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	1.91	1.61	6.34	0.93
22944	4	-35.5518	-112.2015	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.39	1.57	15.92	1.48
22945	4	-35.5748	-112.2393	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.40	1.52	10.53	1.01
22946	4	-35.5218	-112.2323	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.79	1.51	14.18	1.45
22947	4	-35.6443	-112.2349	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.56	1.45	9.86	1.10
22948	4	-35.6133	-112.1759	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.85	1.51	16.62	1.32
22950	4	-35.6024	-112.1868	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.76	1.52	12.31	1.30
22951	4	-35.5565	-112.1795	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.73	1.54	15.41	1.31
22952	4	-35.5375	-112.1869	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5	2.93	1.51	15.65	1.34
22953	4	-35.5734	-112.1532	-1-72-100	09/01/77	STREAM	DRY	1000	0500	1	2.34	1.53	12.78	1.14
22954	4	-35.5634	-112.1450	-1-72-100	09/01/77	STREAM	DRY	1000	0500	5	2.70	1.63	13.75	1.31
22955	4	-35.6333	-112.0813	-1-72-100	09/05/77	STREAM	DRY	1000	0500	1	2.74	1.58	13.40	1.29
22956	4	-35.6412	-112.0835	-1-72-100	09/02/77	STREAM	DRY	1000	0500	5	2.88	1.62	12.58	2.24
22957	4	-35.6052	-112.0753	-1-72-100		STREAM	DRY	1000	0500	1	2.03	1.52	17.77	1.53
22958	4	-35.6427	-112.1178	-1-72-100	09/02/77	STREAM	DRY	1000	0500	3	1.76	1.42	12.89	1.34
22959	4	-35.6139	-112.0114	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	2.71	1.71	15.72	2.30
22959	4	-35.6139	-112.0114	-1-72-101		STREAM	DRY	1000	0500	1	2.62	1.52	17.43	1.39
22960	4	-35.5902	-112.0409	-1-72-100	09/02/77	STREAM	DRY	1000	0500	9	2.88	1.57	15.30	1.64
22961	4	-35.5724	-112.0186	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	2.88	1.56	14.90	1.50
22961	4	-35.5724	-112.0186	-1-72-110		STREAM	DRY	1000	0500	1	2.85	1.50	13.66	1.31
22962	4	-35.5113	-112.0310	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	1.84	1.77	9.51	1.22
22963	4	-35.5037	-112.0343	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	3.41	1.40	18.55	1.53
22964	4	-35.5212	-112.0395	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	2.86	1.57	16.07	1.47
22965	4	-35.5419	-112.1020	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	2.60	1.49	12.77	1.21
22966	4	-35.5779	-112.1136	-1-72-100	09/02/77	STREAM	DRY	1000	0500	1	2.35	1.53	10.11	1.00
22967	4	-35.6558	-112.0605	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.71	1.59	15.03	1.36
22968	4	-35.6800	-112.0818	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.89	1.46	14.48	1.16
22969	4	-35.6796	-112.0244	-1-72-100	09/06/77	STREAM	DRY	1000	0500	5	2.77	1.49	15.93	1.36
22969	4	-35.6796	-112.0244	-1-72-101		STREAM	DRY	1000	0500	1	2.63	1.43	13.15	1.07
23004	4	-35.8793	-113.9929	-1-70-100	08/24/77	STREAM	WET	1000	0500	1	4.71	1.16		
23005	4	-35.8285	-113.9700	-1-70-100	08/24/77	STREAM	WET	1000	0500	1	4.44	1.32	21.77	1.60
23006	4	-35.8833	-113.9880	-1-70-100	08/25/77	STREAM	WET	1000	0500	1	4.38	1.22		
23010	4	-35.6184	-113.7050	-1-70-100	08/30/77	STREAM	WET	1000	0500	1	3.40	1.40	12.01	2.22
23011	4	-35.6510	-113.6984	-1-72-100	08/30/77	STREAM	WET	1000	0500	1	2.05	1.52	10.34	1.20
23012	4	-35.6244	-113.8001	-1-70-100	08/31/77	STREAM	WET	1000	0500	1	3.16	1.36	10.74	0.81

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.		L T	RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(ONC)		THORIUM(NAI)	
			PPM	ZERR									PPM	ERR		
23015		4-35,5501	-113.6178	-1-72-100			09/01/77	STREAM	DRY	1000	0500	1	2.20	1.53	8.65	1.05
23017		4-35,5185	-113.6018	-1-70-100			09/01/77	STREAM	WET	1000	0500	1	1.77	1.69	8.73	0.80
23018		4-35,7492	-113.5622	-1-72-100			09/02/77	STREAM	DRY	1000	0500	1	39.49	1.04		
23019		4-35,5587	-113.4217	-1-70-100			09/02/77	STREAM	WET	1000	0500	1	2.91	1.53	23.18	1.52
23020		4-35,6705	-113.4207	-1-72-100			09/02/77	STREAM	DRY	1000	0500	1	3.53	1.28	11.28	0.81
23021		4-35,9339	-113.1760	-1-70-100			09/03/77	STREAM	WET	1000	0500	1	3.19	1.33		
23027		4-35,7141	-113.5778	-1-70-100			09/14/77	STREAM	WET	1000	0500	1	0.73	1.84	2.15	0.44
23028		4-35,7818	-113.3515	-1-70-100			09/14/77	STREAM	WET	1000	0500	1	2.72	1.38	13.24	1.03
23030		4-35,9690	-113.9387	-1-70-100			09/15/77	STREAM	WET	1000	0500	1	1.02	1.58	2.18	0.28
23031		4-35,7772	-113.9692	-1-72-100			09/15/77	STREAM	DRY	1000	0500	1	2.29	1.56	10.72	1.14
23033		4-35,5781	-113.9118	-1-72-100			09/15/77	STREAM	DRY	1000	0500	1	7.49	1.15	22.14	1.48
23034		4-35,5684	-113.7673	-1-72-100			09/16/77	STREAM	DRY	1000	0500	1	15.90	1.13	33.96	2.17
23035		4-35,5115	-113.7290	-1-72-100			09/16/77	STREAM	DRY	1000	0500	1	11.57	1.11	22.25	1.62
23037		4-35,3732	-113.6266	-1-72-100			09/16/77	STREAM	DRY	1000	0500	1	5.43	1.19	9.57	0.67
23038		4-35,4414	-113.6865	-1-70-100			09/17/77	STREAM	WET	1000	0500	1	2.46	1.54	17.54	1.78
23039		4-35,4322	-113.6470	-1-70-100			09/17/77	STREAM	WET	1000	0500	1	3.29	1.38	10.58	1.21
23042		4-35,3327	-113.8219	-1-72-100			09/18/77	STREAM	DRY	1000	0500	1	2.21	1.41	8.20	0.97
23052		4-35,3500	-113.7367	-1-70-100			09/19/77	STREAM	WET	1000	0500	1	1.72	1.52	7.05	0.75
23054		4-35,2003	-112.2776	-1-72-100			09/26/77	STREAM	DRY	1000	0500	1	4.02	1.28	10.34	0.97
23055		4-35,3018	-112.0350	-1-72-100			09/27/77	STREAM	DRY	1000	0500	1	3.37	1.36	11.70	1.09
23056		4-35,4332	-112.9554	-1-72-100			09/27/77	STREAM	DRY	1000	0500	1	2.10	2.22	8.65	1.19
23057		4-35,1890	-112.0445	-1-72-100			09/27/77	STREAM	DRY	1000	0500	1	3.29	1.38	10.58	1.21
23058		4-35,2308	-112.2033	-1-70-100			09/28/77	STREAM	WET	1000	0500	1	2.42	1.33	4.98	0.66
23059		4-35,4052	-112.3380	-1-72-100			09/29/77	STREAM	DRY	1000	0500	1	2.27	1.59	4.22	0.71
23060		4-35,4812	-112.4705	-1-72-100			09/29/77	STREAM	DRY	1000	0500	1	2.85	1.50	11.22	0.99
23061		4-35,2212	-112.2592	-1-72-100			09/30/77	STREAM	DRY	1000	0500	1	3.06	1.39	15.90	1.11
23064		4-35,1693	-112.2243	-1-72-100			09/30/77	STREAM	DRY	1000	0500	1	3.29	1.38	9.65	1.11
23065		4-35,1315	-112.1162	-1-72-100			09/30/77	STREAM	DRY	1000	0500	1	1.69	2.07	5.33	1.77
23066		4-35,0858	-112.1814	-1-70-100			09/30/77	STREAM	WET	1000	0500	1	8.23	1.19	7.39	1.34
23067		4-35,1341	-112.0201	-1-72-100			10/01/77	STREAM	DRY	1000	0500	1	2.09	1.79	10.50	1.19
23068		4-35,1580	-112.0793	-1-70-100			10/01/77	STREAM	WET	1000	0500	1	6.15	1.19	9.22	0.92
23076		4-35,0459	-112.2061	-1-72-100			10/16/77	STREAM	DRY	1000	0500	1	1.90	1.53	9.10	1.01
23078		4-35,5636	-112.5845	-1-70-100			10/18/77	STREAM	WET	1000	0500	1	3.07	1.29	9.11	0.75
23081		4-35,6415	-112.6865	-1-70-100			10/19/77	STREAM	WET	1000	0500	1	3.03	1.40	17.05	1.27
23087		4-35,0087	-112.5420	-1-72-100			10/23/77	STREAM	DRY	1000	0500	1	1.27	1.76	7.09	0.60
23101		4-35,0646	-112.9246	-1-72-100			11/02/77	STREAM	DRY	1000	0500	1	3.35	1.36	21.72	1.37
23107		4-35,1986	-113.3012	-1-70-100			11/26/77	STREAM	WET	1000	0500	1	3.24	1.40	16.71	1.42
23108		4-35,2178	-113.3380	-1-70-100			11/26/77	STREAM	WET	1000	0500	1	2.00	1.54	12.54	1.24
23120		4-35,1443	-112.6576	-1-72-100			11/30/77	STREAM	DRY	1000	0500	1	1.83	1.59	8.29	0.79
23126		4-35,1893	-113.4590	-1-70-100			12/15/77	STREAM	WET	1000	0500	1	1.89	1.52	12.13	1.01
23127		4-35,2135	-113.4180	-1-70-100			12/15/77	STREAM	WET	1000	0500	1	2.96	1.34	11.64	0.93
23132		4-35,1369	-113.9512	-1-72-100			12/16/77	STREAM	DRY	1000	0500	1	2.83	1.68	7.97	3.15
23133		4-35,1086	-113.9250	-1-72-100			12/16/77	STREAM	DRY	1000	0500	1	28.36	1.45	413.00	23.15
23136		4-35,1136	-113.3185	-1-72-100			12/17/77	STREAM	DRY	1000	0500	1	3.28	1.35	15.11	1.26
23138		4-35,1252	-113.3243	-1-70-100			12/17/77	STREAM	WET	1000	0500	1	3.80	1.28	14.23	0.98
23139		4-35,1253	-113.4571	-1-70-100			12/19/77	STREAM	WET	1000	0500	1	6.25	1.20	19.39	1.18
23140		4-35,1600	-113.4964	-1-70-100			12/19/77	STREAM	WET	1000	0500	1	5.05	1.19	15.97	1.26
23142		4-35,0951	-113.5239	-1-70-100			12/19/77	STREAM	WET	1000	0500	1	2.71	1.40	19.59	1.27
23147		4-35,7292	-113.8668	-1-72-100			12/21/77	STREAM	DRY	1000	0500	1	2.73	1.55	11.67	0.98

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

SITE NUMBER	DOE LAT.	SAMPLE LONG.	NUMBER L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT.	O. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAA) PPM	ERR	
23148	4-35,4537	-113.6532	-170-100	12/02/77	STREAM	WET	1000	0500	1	2.60	1.37	10.55	1.19
23149	4-35,3913	-113.5818	-170-100	12/21/77	STREAM	WET	1000	0500	1	1.35	1.55	5.65	0.67
23150	4-35,2988	-113.5338	-170-100	12/22/77	STREAM	WET	1000	0500	1	10.14	1.71	39.71	2.40
23151	4-35,2647	-113.5379	-172-100	12/22/77	STREAM	DRY	1000	0500	1	15.15	1.09	14.49	1.23
23153	4-35,1980	-113.5581	-172-100	12/22/77	STREAM	DRY	1000	0500	1	10.48	1.11	14.20	1.16
23154	4-35,0703	-113.5837	-170-100	12/23/77	STREAM	WET	1000	0500	1	23.73	1.04	6.28	0.70
23158	4-35,3430	-113.5638	-172-100	12/24/77	STREAM	DRY	1000	0500	1	6.65	1.28	13.05	1.12
23159	4-35,0803	-112.4391	-172-100	12/25/77	STREAM	DRY	1000	0500	1	2.14	1.47	8.35	0.86
23161	4-35,0594	-113.5450	-172-100	01/07/78	STREAM	DRY	1000	0500	1	1.66	1.46	5.83	0.56
23162	4-35,1021	-113.4893	-170-100	01/07/78	STREAM	WET	1000	0500	1	3.46	1.35	15.95	1.23
23163	4-35,1156	-113.5303	-170-100	01/07/78	STREAM	WET	1000	0500	1	2.29	1.43	14.20	1.10
23167	4-35,5073	-113.6759	-172-100	01/08/78	STREAM	DRY	1000	0500	1	3.75	1.31	25.29	1.63
23168	4-35,5007	-113.6800	-170-100	01/08/78	STREAM	WET	1000	0500	1	17.48	1.08	33.70	2.09
23169	4-35,4923	-113.7008	-170-100	01/08/78	STREAM	WET	1000	0500	1	7.36	1.58	43.15	7.92
23170	4-35,7633	-113.9476	-172-100	01/08/78	STREAM	DRY	1000	0500	1	3.15	1.41	15.22	1.15
23171	4-35,8370	-113.0981	-172-100	01/09/77	STREAM	DRY	1000	0500	1	2.89	1.38	10.28	0.87
23172	4-35,8224	-113.1608	-170-100	01/09/77	STREAM	WET	1000	0500	1	2.97	1.37	6.94	0.64
23174	4-35,0251	-113.8343	-172-100	01/11/78	STREAM	DRY	1000	0500	1	2.24	1.45	8.81	1.04
23177	4-35,0710	-113.8370	-170-100	01/12/78	STREAM	WET	1000	0500	1	4.41	1.33	21.66	1.38
38488	4-35,4578	-113.4199	-172-100	09/15/77	STREAM	DRY	1000	0500	1	1.94	1.57	6.52	1.06
38501	4-35,1596	-113.8236	-172-100	08/24/77	STREAM	DRY	1000	0500	1	1.84	1.51	9.72	1.03
38502	4-35,1558	-113.8334	-172-100	08/24/77	STREAM	DRY	1000	0500	5	2.62	1.64	9.56	2.49
38503	4-35,1718	-113.8449	-172-100	08/24/77	STREAM	DRY	1000	0500	1	2.06	1.94	20.89	2.66
38504	4-35,1795	-113.8605	-172-100	08/24/77	STREAM	DRY	1000	0500	1	2.32	1.65	13.62	2.02
38505	4-35,1794	-113.8649	-172-100	08/24/77	STREAM	DRY	1000	0500	1	1.96	1.56	11.25	1.40
38506	4-35,2735	-113.8485	-172-100	08/24/77	STREAM	DRY	1000	0500	1	2.88	1.36	14.57	1.26
38506	4-35,2735	-113.8485	-172-110		STREAM	DRY	1000	0500	1	2.37	1.40	8.60	0.85
38507	4-35,3221	-113.8535	-172-100	09/25/77	STREAM	DRY	1000	0500	1	1.05	1.75	2.39	0.65
38508	4-35,3531	-113.7995	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.09	1.63	10.08	1.19
38509	4-35,3431	-113.8036	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.31	1.92	13.60	1.25
38509	4-35,3431	-113.8036	-172-101		STREAM	DRY	1000	0500	1	1.32	1.92	13.60	1.25
38510	4-35,3300	-113.8240	-172-100	08/24/77	STREAM	DRY	1000	0500	1	0.94	1.83	3.25	0.63
38511	4-35,3174	-113.8225	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.13	1.81	7.23	0.92
38512	4-35,3094	-113.8189	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.00	1.73		
38513	4-35,3058	-113.8188	-172-100	08/25/77	STREAM	DRY	1000	0500	1	0.87	2.21	3.84	1.10
38514	4-35,2919	-113.7941	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.25	1.68	4.40	1.02
38515	4-35,2846	-113.7983	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.81	1.59	8.99	0.81
38516	4-35,2981	-113.8009	-172-100	08/25/77	STREAM	DRY	1000	0500	1	2.29	1.41	8.99	1.12
38517	4-35,2775	-113.7958	-172-100	08/25/77	STREAM	DRY	1000	0500	1	2.05	1.45	7.67	1.01
38518	4-35,2674	-113.8043	-172-100	08/25/77	STREAM	DRY	1000	0500	1	3.51	1.32	9.56	1.31
38519	4-35,2789	-113.8465	-172-100	08/25/77	STREAM	DRY	1000	0500	1	1.99	1.81	24.89	2.07
38519	4-35,2789	-113.8465	-172-101		STREAM	DRY	1000	0500	1	2.48	1.39	11.60	0.93
38520	4-35,1112	-113.8154	-172-100	09/01/77	STREAM	DRY	1000	0500	1	1.79	1.65	10.34	1.47
38520	4-35,1112	-113.8154	-172-110		STREAM	DRY	1000	0500	1	2.66	1.52	14.17	1.98
38521	4-35,0922	-113.8180	-172-100	09/01/77	STREAM	DRY	1000	0500	5	8.12	1.34	82.63	4.92
38522	4-35,0893	-113.8267	-170-100	09/01/77	STREAM	WET	1000	0500	1	3.27	1.37	20.02	1.57
38523	4-35,0878	-113.8518	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.35	1.81	7.33	2.75
38524	4-35,0868	-113.8529	-172-100	09/01/77	STREAM	DRY	1000	0500	5	1.97	1.49	9.99	1.00
38525	4-35,0881	-113.8398	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.01	1.45	7.57	0.83

WILLIAMS 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.	DATE TY RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOADER	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM	THORIUM(NAA) PPM	ERR	
38526		4-35.0694	-113.8655	-172-100	09/01/77	STREAM	DRY	1000	0500	1	2.22	1.49	10.23	1.06
38527		4-35.0714	-113.8668	-172-100	09/01/77	STREAM	DRY	1000	0500	1	4.33	2.06	115.10	6.29
38528		4-35.0744	-113.8448	-172-100	09/01/77	STREAM	DRY	1000	0500	1	2.30	1.43	11.53	0.94
38529		4-35.0764	-113.8372	-172-100	09/01/77	STREAM	DRY	1000	0500	5	2.91	1.36	17.32	1.29
38529		4-35.0764	-113.8372	-172-101		STREAM	DRY	1000	0500		2.48	1.71	17.79	2.52
38530		4-35.0553	-113.8156	-172-100	09/02/77	STREAM	DRY	1000	0500	1	1.08	1.62	5.58	0.83
38530		4-35.0553	-113.8156	-172-110		STREAM	DRY	1000	0500		1.42	1.83	6.94	1.41
38531		4-35.0373	-113.8512	-172-100	09/02/77	STREAM	DRY	1000	0500	1	1.74	1.75	10.18	1.52
38532		4-35.0281	-113.8574	-172-100	09/02/77	STREAM	DRY	1000	0500	5	1.80	1.57	8.20	0.95
38533		4-35.0302	-113.8949	-172-100	09/02/77	STREAM	DRY	1000	0500	5	1.44	1.81	9.64	1.25
38534		4-35.0294	-113.8827	-172-100	09/02/77	STREAM	DRY	1000	0500	1	3.57	1.43	10.96	2.38
38535		4-35.0339	-113.7656	-172-100	09/02/77	STREAM	DRY	1000	0500	5	1.91	1.63	9.95	1.48
38536		4-35.0753	-113.7692	-172-100	09/03/77	STREAM	DRY	1000	0500	5	2.02	1.54	7.57	1.22
38536		4-35.0753	-113.7692	-172-110		STREAM	DRY	1000	0500		2.36	1.47	11.38	1.08
38537		4-35.0759	-113.7407	-172-100	09/03/77	STREAM	DRY	1000	0500	1	1.96	1.69	22.44	1.71
38538		4-35.0743	-113.7330	-172-100	09/15/77	STREAM	DRY	1000	0500	5	1.87	1.48	6.28	0.69
38539		4-35.0603	-113.7128	-172-100	09/03/77	STREAM	DRY	1000	0500	5	1.83	1.55	11.56	0.94
38540		4-35.0511	-113.7607	-172-100	09/03/77	STREAM	DRY	1000	0500	5	1.85	1.50	10.20	0.79
38541		4-35.1196	-113.7235	-172-100	09/03/77	STREAM	DRY	1000	0500	5	1.02	1.74	6.04	0.59
38542		4-35.1095	-113.7714	-172-100	09/03/77	STREAM	DRY	1000	0500	1	1.55	1.78	17.50	1.20
38543		4-35.1450	-113.7167	-172-100	09/03/77	STREAM	DRY	1000	0500	5	1.19	1.83	7.68	0.98
38544		4-35.0956	-113.6857	-172-100	09/04/77	STREAM	DRY	1000	0500	1	1.00	2.00	7.68	0.91
38545		4-35.0794	-113.6673	-172-100	09/04/77	STREAM	DRY	1000	0500	1	1.33	2.23	6.05	2.10
38546		4-35.0747	-113.6343	-172-100	09/04/77	STREAM	DRY	1000	0500	5	1.84	1.76	13.47	1.59
38547		4-35.0764	-113.6365	-172-100	09/04/77	STREAM	DRY	1000	0500	5	1.25	2.18	11.46	1.79
38548		4-35.0638	-113.6350	-172-101	09/04/77	STREAM	DRY	1000	0500	1	2.85	1.38	10.99	1.43
38549		4-35.0620	-113.6361	-172-100	09/04/77	STREAM	DRY	1000	0500	1	2.16	1.56	14.74	1.24
38549		4-35.0620	-113.6361	-172-101		STREAM	DRY	1000	0500	1	2.36	1.44	17.66	1.17
38550		4-35.0914	-113.6513	-172-100	09/04/77	STREAM	DRY	1000	0500	5	0.90	2.11	6.10	1.14
38551		4-35.0066	-113.6551	-172-100	09/04/77	STREAM	DRY	1000	0500	1	3.21	1.30	13.81	0.97
38552		4-35.0195	-113.6424	-172-100	09/04/77	STREAM	DRY	1000	0500	1	3.36	1.59	39.48	2.39
38553		4-35.0177	-113.6412	-172-100	09/04/77	STREAM	DRY	1000	0500	1	2.66	1.43	13.31	1.49
38554		4-35.0107	-113.7155	-172-100	09/04/77	STREAM	DRY	1000	0500	1	2.23	1.38	9.05	0.87
38555		4-35.0234	-113.7104	-172-100	09/04/77	STREAM	DRY	1000	0500	1	2.78	1.51	16.54	2.15
38556		4-35.0811	-113.5498	-172-100	09/05/77	STREAM	DRY	1000	0500	5	2.27	1.42	10.43	1.05
38556		4-35.1080	-113.5498	-172-110		STREAM	DRY	1000	0500		2.74	1.33	11.16	1.04
38557		4-35.0807	-113.5183	-172-100	09/05/77	STREAM	DRY	1000	0500	5	3.19	1.37	20.50	1.58
38558		4-35.0840	-113.5441	-172-100	09/03/77	STREAM	DRY	1000	0500	5	3.98	2.12	109.60	6.18
38559		4-35.0631	-113.5418	-172-100	09/05/77	STREAM	DRY	1000	0500	1	2.66	1.36	13.08	1.04
38559		4-35.0631	-113.5418	-172-101		STREAM	DRY	1000	0500		2.35	1.40	8.02	0.77
38560		4-35.1168	-113.5205	-172-100	09/05/77	STREAM	DRY	1000	0500	5	2.67	1.39	13.63	1.25
38561		4-35.1084	-113.5312	-172-100	09/05/77	STREAM	DRY	1000	0500	5	3.15	1.37	11.50	1.72
38562		4-35.1102	-113.5301	-172-100	09/05/77	STREAM	DRY	1000	0500	1	2.60	1.45	20.37	1.55
38563		4-35.1206	-113.5341	-172-100	09/03/77	STREAM	DRY	1000	0500	5	2.13	1.48	8.19	1.34
38564		4-35.0739	-113.5871	-172-100	09/05/77	STREAM	DRY	1000	0500	5	2.00	1.62	11.64	1.72
38565		4-35.0618	-113.5043	-172-100	09/05/77	STREAM	DRY	1000	0500	5	2.05	1.47	10.34	1.07
38565		4-35.1620	-113.5559	-172-100	09/06/77	STREAM	DRY	1000	0500	1	2.53	1.46	21.17	1.44
38566		4-35.1620	-113.5559	-172-110		STREAM	DRY	1000	0500		2.47	1.53	18.48	1.78
38567		4-35.1650	-113.5417	-172-100	09/06/77	STREAM	DRY	1000	0500	1	2.64	1.47	21.28	1.56

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

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SITE NUMBER	ST LAT.	DOE LONG.	SAMPLE L T Y RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(UNC, PPM	THORIUM(UNC, PPM	THORIUM(NAA) ERR	
39568	4-35, 1781-113.5158	-172-100	09/06/77	STREAM	DRY	1000	0500	5		2.69	1.40	12.18	1.30
39569	4-35, 1691-113.5166	-170-100	09/06/77	STREAM	WET	1000	0500	4		1.68	1.57	12.56	0.99
39569	4-35, 1691-113.5166	-170-101	09/06/77	STREAM	WET	1000	0500			2.04	1.59	19.05	1.31
39570	4-35, 1349-113.5594	-172-100	09/06/77	STREAM	DRY	1000	0500	1		2.33	1.49	12.63	1.50
39571	4-35, 1399-113.5322	-172-100	09/06/77	STREAM	DRY	1000	0500	5		2.02	1.58	9.61	1.51
39572	4-35, 1435-113.5367	-172-100	09/06/77	STREAM	DRY	1000	0500	5		1.93	1.60	15.55	1.43
39573	4-35, 1681-113.5660	-172-100	09/06/77	STREAM	DRY	1000	0500	6		2.11	1.72	30.17	1.83
39574	4-35, 1859-113.5784	-172-100	09/06/77	STREAM	DRY	1000	0500	1		7.13	1.14	18.71	1.42
39575	4-35, 1970-113.5614	-172-100	09/06/77	STREAM	DRY	1000	0500	1		3.56	1.26	11.85	1.10
39576	4-35, 2115-113.5607	-172-100	09/06/77	STREAM	DRY	1000	0500	1		1.87	1.55	11.89	1.13
39577	4-35, 2321-113.5635	-172-100	09/06/77	STREAM	DRY	1000	0500	1		2.08	1.45	12.55	0.91
39578	4-35, 2352-113.5451	-172-100	09/06/77	STREAM	DRY	1000	0500	1		2.48	1.40	12.34	1.02
39579	4-35, 0451-113.5851	-172-100	09/07/77	STREAM	DRY	1000	0500	5		2.14	1.40	11.13	0.85
39579	4-35, 0451-113.5851	-172-101		STREAM	DRY	1000	0500			1.70	1.61	11.27	0.96
39580	4-35, 0452-113.5807	-172-100	09/07/77	STREAM	DRY	1000	0500	5		2.08	1.43	13.89	0.92
39581	4-35, 0421-113.5543	-172-100	09/07/77	STREAM	DRY	1000	0500	5		1.68	1.57	13.02	0.96
39582	4-35, 0558-113.5460	-172-100	09/07/77	STREAM	DRY	1000	0500	5		1.43	1.61	9.05	0.91
39583	4-35, 3706-113.7418	-172-100	09/08/77	STREAM	JRY	1000	0500	1		1.01	1.66	3.30	0.51
39583	4-35, 3706-113.7418	-172-110		STREAM	DRY	1000	0500			1.08	1.88	3.22	0.50
39584	4-35, 2275-113.6129	-172-100	09/08/77	STREAM	DRY	1000	0500	1		5.18	1.24	27.80	1.82
39585	4-35, 2178-113.6027	-172-100	09/08/77	STREAM	DRY	1000	0500	1		1.77	1.47	10.28	0.77
39586	4-35, 4448-113.6485	-172-100	09/08/77	STREAM	DRY	1000	0500	1		2.26	1.40	8.50	1.03
39587	4-35, 4420-113.6528	-172-100	09/08/77	STREAM	DRY	1000	0500	1		2.00	1.43	6.85	0.96
39589	4-35, 4849-113.6278	-172-100	09/08/77	STREAM	JRY	1000	0500	1		1.88	1.91	31.55	2.05
39589	4-35, 4873-113.6584	-172-101		STREAM	DRY	1000	0500			1.04	1.79	3.06	0.47
39590	4-35, 3656-113.6448	-172-100	09/09/77	STREAM	DRY	1000	0500	1		1.47	1.54	7.51	0.80
39591	4-35, 4877-113.4978	-172-100	09/15/77	STREAM	DRY	1000	0500	1		1.40	1.60	7.44	0.73
39592	4-35, 4694-113.4829	-172-100	09/15/77	STREAM	DRY	1000	0500	1		1.51	1.55	7.44	0.64
39593	4-35, 4581-113.4773	-172-100	09/15/77	STREAM	DRY	1000	0500	1		0.73	1.97	3.22	0.52
39594	4-35, 4732-113.4261	-172-100		STREAM	DRY	1000	0500	1		1.60	1.92	11.27	0.96
39595	4-35, 4737-113.3894	-172-100	09/15/77	STREAM	DRY	1000	0500	1		2.34	1.51	11.87	1.22
39596	4-35, 4430-113.3907	-172-100	09/15/77	STREAM	DRY	1000	0500	5		1.93	1.54	12.15	1.08
39597	4-35, 4365-113.3993	-172-100	09/15/77	STREAM	DRY	1000	0500	1		1.77	1.49	8.85	0.87
39599	4-35, 4132-113.4823	-172-100	09/16/77	STREAM	DRY	1000	0500	1		2.70	1.50	13.40	1.28
39599	4-35, 4132-113.4823	-172-101		STREAM	DRY	1000	0500			2.87	1.58	16.17	1.84
39599	4-35, 4132-113.4823	-172-110		STREAM	DRY	1000	0500			2.74	1.52	13.07	1.39
39603	4-35, 4138-113.4493	-172-100	09/16/77	STREAM	DRY	1000	0500	1		1.74	1.69	15.40	1.47
39604	4-35, 3824-113.4451	-172-100	09/16/77	STREAM	DRY	1000	0500	1		0.92	2.74	5.89	0.89
39605	4-35, 3842-113.4440	-172-100	09/16/77	STREAM	DRY	1000	0500	1		1.34	1.64	6.66	0.77
39606	4-35, 3672-113.4864	-172-100	09/16/77	STREAM	DRY	1000	0500	1		1.77	1.42	6.18	0.60
39607	4-35, 3436-113.4494	-172-100	09/16/77	STREAM	DRY	1000	0500	1		2.97	1.43	17.82	1.81
39608	4-35, 3372-113.4943	-172-100	09/16/77	STREAM	DRY	1000	0500	1		2.83	1.37	13.15	1.23
39609	4-35, 3220-113.4916	-172-100	09/16/77	STREAM	DRY	1000	0500	1		1.79	1.40	7.33	0.67
39609	4-35, 3220-113.4916	-172-101		STR. AM	DRY	1000	0500			1.67	1.53	6.77	0.78
39610	4-35, 3229-113.4885	-172-100	09/16/77	STR. AM	JRY	1000	0500	1		3.04	1.31	10.21	0.84
39611	4-35, 4762-113.3368	-172-100	09/17/77	STREAM	DRY	1000	0500	1		1.46	1.56	5.48	0.60
39612	4-35, 4987-113.3108	-172-100	09/17/77	STREAM	DRY	1000	0500	1		0.63	1.94	2.71	0.35
39613	4-35, 4914-113.3139	-172-100	09/17/77	STREAM	DRY	1000	0500	1		1.35	1.70	5.32	1.00
39614	4-35, 4680-113.3132	-172-100	09/17/77	STREAM	DRY	1000	0500	1		2.92	1.41	15.58	1.19

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

PAGE B-31

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE UPPER	SIZE LOWER	POS. CONT	D. C. X-REF	URANIUM(ONC) PPM	THORIUM(MAA) PPM	ERR	
38615		4-35	4725-113.3585	-172-100	09/17/77	STREAM	DRY	1000	0500	1	2.29	1.45	10.85	0.86
38616		4-35	3974-113.3718	-172-100	09/17/77	STREAM	DRY	1000	0500	1	3.08	1.38	11.67	1.34
38617		4-35	3881-113.3847	-172-100	09/17/77	STREAM	DRY	1000	0500	1	3.29	1.39	17.09	1.37
38618		4-35	4455-113.3883	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.86	1.49	16.84	1.52
38619		4-35	4173-113.3217	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.28	1.35	16.73	1.31
38620		4-35	4173-113.3217	-172-101		STREAM	DRY	1000	0500	1	3.53	1.38	19.09	1.52
38621		4-35	4189-113.3316	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.01	1.39	14.96	1.34
38622		4-35	3861-113.3032	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.49	1.38	21.00	1.69
38623		4-35	3609-113.3003	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.11	1.35	17.29	1.37
38624		4-35	3458-113.3845	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.55	1.37	18.75	1.50
38625		4-35	3290-113.3664	-172-100	09/10/77	STREAM	DRY	1000	0500	1	3.96	1.30	17.06	1.94
38626		4-35	3321-113.3415	-172-100	09/18/77	STREAM	DRY	1000	0500	1	3.00	1.52	19.01	2.03
38627		4-35	3060-113.3922	-172-100	09/18/77	STREAM	DRY	1000	0500	1	2.53	1.43	13.93	1.38
38628		4-35	3142-113.4320	-172-100	09/18/77	STREAM	DRY	1000	0500	1	2.88	1.38	11.62	1.58
38629		4-35	4813-113.2276	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.62	1.34	7.38	0.81
38630		4-35	4813-113.2276	-172-101		STREAM	DRY	1000	0500	1	2.82	1.42	9.03	1.10
38631		4-35	4813-113.2276	-172-111		STREAM	DRY	1000	0500	1	2.64	1.34	7.48	0.73
38632		4-35	4813-113.2276	-172-111		STREAM	DRY	1000	0500	1	2.90	1.30	6.82	0.75
38633		4-35	4794-113.2309	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.55	1.36	8.67	0.81
38634		4-35	4814-113.2673	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.71	1.43	11.14	1.29
38635		4-35	3830-113.2882	-172-100	09/19/77	STREAM	DRY	1000	0500	5	3.01	1.48	15.54	2.18
38636		4-35	2912-113.3621	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.64	1.43	9.59	1.72
38637		4-35	2515-113.3664	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.33	1.46	10.47	1.41
38638		4-35	2523-113.3686	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.62	1.38	13.01	1.10
38639		4-35	2725-113.3545	-172-100	09/19/77	STREAM	DRY	1000	0500	1	2.81	1.41	14.85	1.16
38640		4-35	2938-113.2742	-172-100	09/19/77	STREAM	DRY	1000	0500	5	2.80	1.38	12.88	1.06
38641		4-35	2322-113.4735	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.38	1.34	10.29	0.86
38642		4-35	2520-113.4741	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.08	1.45	11.39	0.95
38643		4-35	2555-113.4808	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.24	1.43	16.01	1.00
38644		4-35	2609-113.4348	-172-100	09/20/77	STREAM	DRY	1000	0500	1	1.60	1.49	6.95	0.72
38645		4-35	2637-113.4316	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.36	1.55	12.68	1.50
38646		4-35	2663-113.3943	-172-100	09/20/77	STREAM	DRY	1000	0500	1	1.77	1.59	8.51	0.98
38647		4-35	2645-113.3962	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.68	1.48	7.20	1.97
38648		4-35	2115-113.4707	-172-100	09/20/77	STREAM	DRY	1000	0500	1	2.96	1.36	11.87	1.19
38649		4-35	2157-113.4411	-172-100	09/21/77	STREAM	DRY	1000	0500	1	1.91	1.55	10.25	1.06
38650		4-35	2157-113.4411	-172-111		STREAM	DRY	1000	0500	1	2.03	1.50	10.84	0.96
38651		4-35	2340-113.4307	-172-100	09/21/77	STREAM	DRY	1000	0500	1	1.92	1.52	9.28	0.98
38652		4-35	2333-113.4186	-172-100	09/21/77	STREAM	DRY	1000	0500	1	1.75	1.60	8.36	1.04
38653		4-35	2098-113.4245	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.50	1.47	13.39	1.47
38654		4-35	2098-113.4245	-172-101		STREAM	DRY	1000	0500	1	2.38	1.51	13.34	1.60
38655		4-35	2089-113.4212	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.84	1.37	12.67	1.17
38656		4-35	1969-113.4312	-172-100	09/21/77	STREAM	DRY	1000	0500	1	1.53	1.52	11.41	0.86
38657		4-35	1482-113.4380	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.10	1.48	11.83	1.27
38658		4-35	1632-113.4538	-172-100	09/21/77	STREAM	DRY	1000	0500	1	3.39	1.35	17.52	1.61
38659		4-35	1731-113.4519	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.12	1.42	12.89	1.05
38660		4-35	1796-113.4456	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.40	1.42	14.05	1.19
38661		4-35	1909-113.4217	-172-100	09/21/77	STREAM	DRY	1000	0500	1	2.96	1.37	19.46	1.24
38662		4-35	1750-113.4937	-172-100	09/21/77	STREAM	DRY	1000	0500	1	1.78	1.52	11.09	0.98
38663		4-35	4564-113.2071	-172-100	09/22/77	STREAM	DRY	1000	0500	5	2.95	1.39	13.26	1.18

WILLIAMS 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 UPPER	SIZE LOWER	POS. CONT	Q. C. X-REF	URANIUM(ONC) PPM	THORIUM(NAA) PPM	
38658		4-35	4564-113	2071-1	72-110	STREAM	DRY	1000	0500		3.13	1.40	
38659		4-35	3367-113	2919-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.44	1.40
38660		4-35	3200-113	2694-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.19	1.42
38661		4-35	3121-113	2686-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.99	1.41
38662		4-35	2918-113	2378-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.21	1.50
38663		4-35	2912-113	2224-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.44	1.52
38664		4-35	2819-113	1892-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.83	1.34
38665		4-35	2859-113	1662-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	2.47	1.38
38666		4-35	2960-113	1533-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	2.79	1.52
38667		4-35	2613-113	1767-1	72-100	09/22/77	STREAM	DRY	1000	0500	9	3.13	1.51
38668		4-35	0466-113	9874-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	3.03	1.33
38668		4-35	0466-113	9874-1	72-110	STREAM	DRY	1000	0500		2.95	1.37	
38669		4-35	0395-113	9861-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	2.11	1.47
38670		4-35	0346-113	9651-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	1.53	1.60
38671		4-35	0284-113	9615-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	2.48	1.48
38672		4-35	0223-113	9526-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	1.41	1.68
38673		4-35	0163-113	9392-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	1.45	1.79
38674		4-35	0103-113	9269-1	72-100	09/29/77	STREAM	DRY	1000	0500	5	1.88	1.46
38675		4-35	0057-113	9301-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	2.41	1.44
38676		4-35	0193-113	9996-1	72-100	09/29/77	STREAM	DRY	1000	0500	1	1.50	1.56
38677		4-35	3066-113	1678-1	72-100	09/30/77	STREAM	DRY	1000	0500	1	2.44	1.52
38678		4-35	3427-113	1655-1	72-100	09/30/77	STREAM	DRY	1000	0500	9	3.03	1.43
38679		4-35	2206-113	1853-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.19	1.53
38680		4-35	1995-113	1584-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.27	1.44
38681		4-35	1696-113	1631-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.52	1.30
38682		4-35	1672-113	1540-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.60	1.47
38683		4-35	1674-113	1950-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	2.99	1.45
38684		4-35	1564-113	1957-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	2.20	1.64
38685		4-35	2139-113	2082-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.52	1.45
38686		4-35	2471-113	1663-1	72-100	10/01/77	STREAM	DRY	1000	0500	5	3.89	1.40
38687		4-35	2294-113	1471-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.77	1.44
38688		4-35	3423-113	2359-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	2.96	1.47
38689		4-35	3563-113	1890-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.56	1.46
38690		4-35	3302-113	2059-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	3.65	1.44
38691		4-35	3225-113	1837-1	72-100	10/01/77	STREAM	DRY	1000	0500	5	3.88	1.41
38692		4-35	2520-113	1950-1	72-100	10/01/77	STREAM	DRY	1000	0500	1	2.18	1.54
38693		4-35	1400-113	1042-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	2.93	1.56
38694		4-35	1518-113	1034-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	2.76	1.64
38695		4-35	1654-113	0938-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	2.24	1.64
38696		4-35	1686-113	1192-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	3.67	1.41
38697		4-35	1595-113	0706-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	2.60	1.46
38698		4-35	1538-113	0870-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	1.68	1.69
38699		4-35	1599-113	0211-1	72-100	10/02/77	STREAM	DRY	1000	0500	1	2.76	1.52
38700		4-35	1583-113	0399-1	72-100	10/02/77	STREAM	DRY	1000	0500	5	3.44	1.33
39158		4-35	3847-113	9470-1	72-100	09/20/77	STREAM	DRY	1000	0500	5	1.24	1.88
39159		4-35	4007-113	9564-1	72-100	09/20/77	STREAM	DRY	1000	0500	1	1.11	1.78
39160		4-35	4144-113	9503-1	72-100	09/20/77	STREAM	DRY	1000	0500	5	1.55	1.60
39161		4-35	4373-113	9346-1	72-100	09/20/77	STREAM	DRY	1000	0500	1	1.54	1.50
39161		4-35	4373-113	9346-1	72-110	STREAM	DRY	1000	0500		1.43	1.72	

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

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SITE NUMBER	DOE SAMPLE LAT. LONG. L TY RPL	DATE MO-DA-YR	SAMPLE SOURCE/COND.	PARTICLE SIZE UPPER LOHER CONT	POS. CONT	O. C. X-REF	URANIUM(DNC) PPM	THORIUM(MAA) PPM		
							ERR	ERR		
39162	4-35.4673-113.9963-1-72-100	09/20/77	STREAM	DRY 1000 0500	5		1.48	1.61	6.78	0.78
39163	4-35.4271-113.9089-1-72-100	09/20/77	STREAM	DRY 1000 0500	1		1.29	1.81	15.09	1.06
39164	4-35.4280-113.9100-1-72-100	09/20/77	STREAM	DRY 1000 0500	5		1.36	2.04	20.74	1.51
39165	4-35.4161-113.9173-1-72-100	09/20/77	STREAM	DRY 1000 0500	1		1.45	1.70	9.96	0.97
39166	4-35.3964-113.9133-1-72-100	09/20/77	STREAM	DRY 1000 0500	5		1.59	1.69	13.75	1.19
39167	4-35.3810-113.9161-1-72-100	09/20/77	STREAM	DRY 1000 0500	1		2.96	1.59	37.13	2.31
39168	4-35.1190-113.9034-1-72-100	09/20/77	STREAM	DRY 1000 0500	5		2.14	1.41	11.14	0.89
39169	4-35.0831-113.9712-1-72-100	09/20/77	STREAM	DRY 1000 0500	5		2.32	1.40	11.80	0.98
39170	4-35.0807-113.9601-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		2.31	1.55	15.81	1.46
39171	4-35.0807-113.9601-1-72-110			DRY 1000 0500	1		5.15	1.23	13.05	1.73
39171	4-35.0806-113.9623-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		2.18	1.58	15.18	1.49
39172	4-35.1058-113.9654-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		2.34	1.44	15.66	1.20
39173	4-35.1016-113.9521-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		2.64	1.54	21.54	1.78
39174	4-35.1075-113.9326-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		1.75	1.59	11.79	1.17
39175	4-35.1075-113.9326-1-72-100	09/21/77	STREAM	DRY 1000 0500	1		2.98			
39176	4-35.1241-113.9640-1-72-100	09/21/77	STREAM	DRY 1000 0500	5		2.58	1.44	17.65	1.35
39301	4-35.1600-113.0421-1-72-100	10/02/77	STREAM	DRY 1000 0500	5		2.58	1.44	12.50	1.31
39302	4-35.1769-113.0019-1-72-100	10/02/77	STREAM	DRY 1000 0500	1		2.64	1.43	10.56	1.38
39303	4-35.1601-113.0788-1-72-100	10/02/77	STREAM	DRY 1000 0500	1		2.81	1.39	12.40	1.05
39304	4-35.1793-113.0744-1-72-100	10/02/77	STREAM	DRY 1000 0500	1		2.89	1.40	13.73	1.34
39305	4-35.1810-113.0758-1-72-100	10/02/77	STREAM	DRY 1000 0500	1		3.08	1.41	12.04	1.29
39305	4-35.1910-113.0758-1-72-110			DRY 1000 0500	1		3.06	1.43	14.58	1.26
39306	4-35.0899-113.8782-1-72-100	10/03/77	STREAM	DRY 1000 0500	9		1.76	1.46		
39307	4-35.1092-113.8998-1-72-100	10/03/77	STREAM	DRY 1000 0500	7		1.98	1.53	13.32	1.63
39308	4-35.2310-113.0571-1-72-100	10/03/77	STREAM	DRY 1000 0500	1		1.77	1.68	18.64	1.26
39309	4-35.2301-113.0010-1-72-100	10/03/77	STREAM	DRY 1000 0500	1		0.85	2.22	2.87	1.08
39310	4-35.2428-113.0002-1-72-100	10/03/77	STREAM	DRY 1000 0500	1		0.67	2.21	3.82	0.42
39311	4-35.2243-113.0261-1-72-100	10/03/77	STREAM	DRY 1000 0500	5		1.63	1.57	4.67	0.86
39312	4-35.2360-113.0814-1-72-100	10/03/77	STREAM	DRY 1000 0500	5		3.27	1.29		
39313	4-35.2351-113.0824-1-72-100	10/03/77	STREAM	DRY 1000 0500	5		3.17	1.51	16.87	1.70
39314	4-35.1140-113.0421-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		3.68	1.38	15.74	1.48
39315	4-35.1092-113.0617-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		2.03	1.63	11.36	1.24
39316	4-35.0622-113.0123-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		3.18	1.43	16.47	1.28
39317	4-35.0513-113.0197-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		2.59	1.51	13.14	1.34
39318	4-35.0480-113.0547-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		2.59	1.39		
39319	4-35.0294-113.0749-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		2.82	1.46	13.32	1.83
39320	4-35.0889-113.0292-1-72-100	10/04/77	STREAM	DRY 1000 0500	5		3.01	1.47	14.68	1.23
39321	4-35.2828-112.8649-1-72-100	10/05/77	STREAM	DRY 1000 0500	5		2.08	1.71	11.60	1.39
39322	4-35.2730-112.8658-1-72-100	10/05/77	STREAM	DRY 1000 0500	5		2.05	1.88	11.26	2.00
39323	4-35.2350-112.8682-1-72-100	10/05/77	STREAM	DRY 1000 0500	1		2.35	1.53	12.67	1.37
39324	4-35.2124-112.8127-1-72-100	10/05/77	STREAM	DRY 1000 0500	1		1.13	1.58	4.37	0.44
39325	4-35.1986-112.8289-1-72-100	10/05/77	STREAM	DRY 1000 0500	1		1.46	1.71	9.96	0.93
39326	4-35.1632-112.7809-1-72-100	10/05/77	STREAM	DRY 1000 0500	1		3.59	1.31	5.81	0.81
39327	4-35.1693-112.7997-1-72-100	10/05/77	STREAM	DRY 1000 0500	1		1.60	1.60	5.15	0.76
39328	4-35.1695-112.7865-1-72-100	10/05/77	STREAM	DRY 1000 0500	5		2.59	1.63	13.22	1.44
39329	4-35.1871-112.8111-1-72-100	10/05/77	STREAM	DRY 1000 0500	5		2.52	1.63	11.38	1.58
39330	4-35.0691-113.0899-1-72-100	10/13/77	STREAM	DRY 1000 0500	5		1.89	1.80	9.05	1.69
39331	4-35.0760-113.1069-1-72-100	10/13/77	STREAM	DRY 1000 0500	5		1.75	1.88	9.00	1.83
39332	4-35.0324-113.1233-1-72-100	10/13/77	STREAM	DRY 1000 0500	5		3.72	1.52	12.31	2.59

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

SITE NUMBER	DOE SAMPLE NUMBER				DATE		SAMPLE		PARTICLE SIZE		POS. UPPER LOWER	Q. C. X-REF	URANIUM(PPM)		THORIUM(PPM)	
	ST	LAT.	LONG.	L T Y RPL	MO-DA-YR	SOURCE/COND.	UPPER	LOWER	PPM	ERR			PPM	ERR		
39333	4-35	0479-113	1128-1	72-100	10/13/77	STREAM	DRY	1000	0500	5			1.81	1.64	6.37	1.16
39544	4-35	0165-112	7657-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			1.70	1.67	11.84	1.08
39545	4-35	0697-112	7054-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			1.06	1.80	4.59	0.59
39546	4-35	0572-112	6953-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			1.27	1.76	3.54	0.88
39549	4-35	0441-112	6621-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			0.71	2.20	2.98	0.69
39549	4-35	0441-112	6621-1	72-101		STREAM	DRY	1000	0500				0.74	2.19	3.39	0.62
39901	4-35	2096-112	8731-1	72-100	10/14/77	STREAM	DRY	1000	0500	5			1.47	1.72	6.10	1.24
39902	4-35	2237-112	8943-1	72-100	10/14/77	STREAM	DRY	1000	0500	5			1.03	2.16	4.38	1.35
39903	4-35	3191-112	9064-1	72-100	10/15/77	STREAM	DRY	1000	0500	9			2.64	1.59	10.70	2.02
39904	4-35	2769-112	9549-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.78	1.84	18.63	1.83
39906	4-35	2795-112	9583-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			1.40	1.83	6.13	1.22
39907	4-35	2713-112	9614-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.58	1.55	15.17	1.42
39908	4-35	2586-112	9665-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.86	1.57	15.56	1.70
39909	4-35	2744-112	9944-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			1.41	1.63	5.84	0.83
39910	4-35	2865-112	9716-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.40	1.62	15.03	1.47
39911	4-35	2881-112	9848-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.46	1.54	5.88	0.33
39912	4-35	2868-112	9947-1	72-100	10/15/77	STREAM	DRY	1000	0500	5			2.76	1.48	14.39	1.36
39913	4-35	3976-112	9600-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			2.18	1.56	10.21	1.09
39914	4-35	4341-112	9884-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			0.91	1.95	5.18	0.58
39915	4-35	4431-112	9909-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			2.92	1.46	13.39	1.39
39916	4-35	4451-112	9755-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			1.81	1.94	3.89	0.57
39917	4-35	4789-113	0061-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			2.56	1.59	10.83	1.26
39918	4-35	4668-113	0267-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			1.25	1.78	8.61	0.86
39919	4-35	4679-113	1182-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			2.00	1.67	11.50	1.13
39920	4-35	4752-113	1173-1	72-100	10/16/77	STREAM	DRY	1000	0500	5			1.41	1.66	6.38	0.69
39921	4-35	3792-112	8704-1	72-100	10/17/77	STREAM	DRY	1000	0500	5			1.87	1.62	4.59	0.79
39922	4-35	4476-112	8784-1	72-100	10/17/77	STREAM	DRY	1000	0500	5			2.67	1.50	11.76	1.13
39923	4-35	4056-112	9867-1	72-100	10/17/77	STREAM	DRY	1000	0500	5			1.10	1.97	4.48	0.67
39924	4-35	4866-112	9203-1	72-100	10/17/77	STREAM	DRY	1000	0500	5			1.22	1.82	4.57	0.69
39925	4-35	4228-112	9055-1	72-100	10/17/77	STREAM	DRY	1000	0500	5			1.76	1.84	7.12	1.04
39926	4-35	3485-112	9874-1	72-100	10/18/77	STREAM	DRY	1000	0500	9			1.34	1.90	6.40	1.02
39927	4-35	3630-112	9779-1	72-100	10/18/77	STREAM	DRY	1000	0500	5			1.84	1.79	9.59	1.47
39928	4-35	2718-113	0911-1	72-100	10/18/77	STREAM	DRY	1000	0500	5			3.13	1.52	17.47	1.61
39929	4-35	2753-113	1000-1	72-100	10/18/77	STREAM	DRY	1000	0500	5			2.14	1.57	12.96	1.16
39930	4-35	2851-113	0562-1	72-100	10/18/77	STREAM	DRY	1000	0500	5			0.83	1.52	4.28	0.82
39931	4-35	2840-113	1178-1	72-100	10/18/77	STREAM	DRY	1000	0500	5			0.96	1.87	5.34	0.59
39932	4-35	2856-113	0289-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			1.00	1.89	5.27	0.75
39933	4-35	2764-113	0231-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			1.67	1.57	6.07	0.88
39934	4-35	2809-113	0385-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			0.82	2.17	5.07	0.33
39935	4-35	3056-113	0139-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			1.92	1.53	8.94	0.93
39936	4-35	3142-113	0394-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			3.54	1.42	18.70	1.65
39937	4-35	2536-113	0543-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			3.23	1.45	15.63	1.35
39938	4-35	3574-113	0999-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			1.76	1.69	8.00	1.09
39939	4-35	3656-113	0913-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			1.09	1.80	3.43	0.50
39940	4-35	3714-113	0716-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			2.21	1.49	6.30	1.23
39941	4-35	3732-113	0695-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			2.32	1.47	6.24	0.70
39942	4-35	3450-113	0831-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			2.09	1.54	11.36	1.01
39943	4-35	3114-113	0448-1	72-100	10/19/77	STREAM	DRY	1000	0500	5			2.47	1.59	8.05	1.46
39944	4-35	3114-113	0459-1	72-100		STREAM	DRY	1000	0500	5			1.56	1.60	3.55	0.67

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

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SITE NUMBER	ST	DOE SAMPLE NUMBER-----				DATE MO-DA-YR	SOURCE/COND.	PARTICLE SIZE		POS. CONT.	Q. C. X-REF	URANIUM(DNC)		THORIUM(NAA)	
		LAT.	LONG.	L	TY RPL			UPPER	LOWER			PPM	%ERR	PPM	%ERR
39945		4-35.3110	-113.1229	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	1.07	1.76	3.13	0.67
39946		4-35.4555	-113.1079	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	1.83	1.62	11.40	1.22
39947		4-35.3807	-112.9981	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	2.90	1.41	11.79	1.38
39948		4-35.3985	-113.0129	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	2.17	1.83	13.91	1.91
39949		4-35.4372	-113.0700	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	2.77	1.49	14.02	1.19
39950		4-35.3986	-113.0602	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	3.06	1.47	12.96	1.40
39951		4-35.4220	-113.1170	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	3.48	1.48	16.27	2.05
39952		4-35.3964	-113.0895	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	1	1.95	1.52	6.72	0.85
39953		4-35.3823	-113.0951	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	2.55	1.57	11.14	1.14
39954		4-35.3875	-113.0754	-1	-72-100	10/20/77	STREAM	DRY	1000	0500	5	2.64	1.52	13.57	1.48
39955		4-35.2954	-112.8630	-1	-72-100	10/21/77	STREAM	DRY	1000	0500	5	2.29	1.81	14.42	2.18
39956		4-35.2563	-112.8332	-1	-72-100	10/21/77	STREAM	DRY	1000	0500	5	2.93	1.64	11.87	2.44
39957		4-35.3065	-112.8456	-1	-72-100	10/21/77	STREAM	DRY	1000	0500	5	2.93	1.50	15.49	1.48
39958		4-35.3012	-112.8378	-1	-72-100	10/21/77	STREAM	DRY	1000	0500	5	2.99	1.44	14.49	1.24
39959		4-35.3233	-112.8669	-1	-72-100	10/21/77	STREAM	DRY	1000	0500	9	2.67	1.52	12.96	1.40
40103		4-35.4089	-112.6222	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	5	2.81	1.50	10.94	1.35
40104		4-35.4151	-112.6290	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	5	2.95	1.45	13.00	1.24
40105		4-35.3894	-112.6933	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	1	1.90	1.51	7.50	0.77
40105		4-35.3854	-112.6933	-1	-72-110		STREAM	DRY	1000	0500		2.03	1.53	6.75	0.85
40106		4-35.3965	-112.6693	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	1	4.87	1.24	15.61	1.32
40107		4-35.3966	-112.6627	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	5	3.46	1.41	11.74	2.06
40108		4-35.4198	-112.7459	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	1	4.75	1.34	15.13	2.20
40109		4-35.3781	-112.8219	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	5	2.18	1.62	9.90	1.45
40110		4-35.4218	-112.7943	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	1	2.85	1.58	7.34	1.70
40111		4-35.4386	-112.6911	-1	-72-100	10/18/77	STREAM	DRY	1000	0500	1	7.41	1.20	20.36	1.86
40116		4-35.4641	-112.8018	-1	-72-100	10/19/77	STREAM	DRY	1000	0500	1	2.27	1.60	10.03	1.22
40116		4-35.4641	-112.8018	-1	-72-110		STREAM	DRY	1000	0500		3.54	1.51	15.46	1.91
40117		4-35.4581	-112.8233	-1	-72-100	10/19/77	STREAM	DRY	1000	0500	1	2.84	1.53	15.20	1.85
40118		4-35.3395	-112.8112	-1	-72-100	10/19/77	STREAM	DRY	1000	0500	5	2.96	1.48	16.27	1.43
40119		4-35.3347	-112.7715	-1	-72-100	10/19/77	STREAM	DRY	1000	0500	5	3.11	1.40	13.93	1.31

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

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SITE NUMBER	ST	-----DOE LAT,	SAMPLE NUMBER----- LONG.	DATE MO-DA-YR	SAMPLE SOURCE	TEMP C.	PH METR	SPEC COND UMHO/CM	AKTOTL MG/LITER	AKPHEN POS. MG/LITER	URANIUM(DNC) PPB	Q. C. X-REF
22530	4-35,0504-	113.1249-	1-22-200	03/24/78	STREAM	17.0	8.6	146.	57.	9	0.07	21.65
43535	4-35,9554-	113.3081-	1-22-200	07/18/78	STREAM	25.5	7.9	890.	289.	1	2.09	2.49
43538	4-35,7456-	113.4252-	1-22-200	07/18/78	STREAM	26.5	8.0	969.	341.	1	2.15	2.36
43540	4-35,7725-	113.5233-	1-22-200	07/18/78	STREAM	26.5	7.9	629.	247.	1	5.41	1.64
43542	4-35,4048-	113.6456-	1-22-200	07/19/78	STREAM		8.1	740.	186.	1	1.32	3.00

WILLIAMS 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	AKTOLL MG/LITER
23002		4-35, 9414	-113.5265	-1-21-200	08/16/77	SPRING	18.7				8.3	501.	167.
23003		4-35, 6250	-113.8498	-1-23-200	08/23/77	WELL	33.9	400.0	FARM/LIVESTOCK	IRON	7.9	1135.	184.
23004		4-35, 8793	-113.9929	-1-21-200	08/24/77	SPRING	20.8				7.9	872.	321.
23005		4-35, 8285	-113.9700	-1-21-200	08/24/77	SPRING	18.9				7.5	683.	355.
23006		4-35, 0833	-113.8890	-1-21-200	08/25/77	SPRING	9.8				6.3	203.	44.
23007		4-35, 4964	-113.5565	-1-23-200	08/25/77	WELL	23.6	397.0	FARM/LIVESTOCK	IRON	8.1	452.	143.
23008		4-35, 4576	-113.6005	-1-23-200	08/25/77	WELL	19.8	280.0	FARM/LIVESTOCK	IRON	8.0	701.	146.
23009		4-35, 1574	-113.9563	-1-23-200	08/25/77	WELL	20.4		FARM/LIVESTOCK	IRON	7.5	847.	239.
23010		4-35, 6184	-113.7050	-1-21-200	08/30/77	SPRING	17.6				7.3	683.	306.
23012		4-35, 6244	-113.8001	-1-21-200	08/31/77	SPRING	19.8				7.5	1018.	387.
23013		4-35, 6454	-113.7898	-1-23-200	08/31/77	WELL	18.8	480.0	FARM/LIVESTOCK	IRON	7.4	766.	379.
23014		4-35, 6080	-113.7625	-1-23-200	09/01/77	WELL	16.7		FARM/LIVESTOCK	IRON	7.4	1855.	323.
23016		4-35, 5066	-113.6285	-1-23-200		WELL	17.7		FARM/LIVESTOCK	ROCK	7.2	2078.	822.
23017		4-35, 5185	-113.4018	-1-21-200	09/01/77	SPRING	13.8				8.1	641.	255.
23019		4-35, 5587	-113.4217	-1-21-200	09/02/77	SPRING	17.5				8.1	624.	182.
23021		4-35, 9339	-113.1760	-1-21-200	09/03/77	SPRING	13.5				8.2	481.	201.
23022		4-35, 7680	-113.0741	-1-23-200	09/04/77	WELL	14.0	150.0	FARM/LIVESTOCK IRRIGATION	IRON	7.9	440.	177.
23023		4-35, 7055	-113.0350	-1-23-200	09/04/77	WELL	14.5	490.0	FARM/LIVESTOCK DOMESTIC	IRON	7.9	247.	118.
23024		4-35, 7835	-113.1133	-1-23-200	09/04/77	WELL	12.9		FARM/LIVESTOCK	IRON	7.6	1082.	265.
23025		4-35, 7968	-113.6753	-1-21-200	09/13/77	SPRING	22.9				7.6	619.	268.
23026		4-35, 6212	-113.8989	-1-23-200	09/13/77	WELL	20.1		FARM/LIVESTOCK	IRON	7.6	685.	367.
23027		4-35, 7141	-113.5778	-1-21-200	09/14/77	SPRING	21.3				7.9	360.	140.
23028		4-35, 7618	-113.3615	-1-21-200	09/14/77	SPRING	28.6				7.7	1000.	336.
23029		4-35, 5925	-113.4393	-1-21-200	09/14/77	SPRING	20.4				7.9	669.	237.
23030		4-35, 9690	-113.9387	-1-21-200	09/15/77	SPRING	15.6				8.1	727.	323.
23032		4-35, 7741	-113.9845	-1-23-200	09/15/77	WELL	20.7	94.0	DOMESTIC FARM/LIVESTOCK	IRON	7.4	1550.	312.
23036		4-35, 3589	-113.7007	-1-23-200	09/16/77	WELL	24.8	1072.0	MUNICIPAL	IRON	7.7	522.	190.
23038		4-35, 4414	-113.6825	-1-21-200	09/17/77	SPRING	18.0				7.5	901.	307.
23039		4-35, 4322	-113.6470	-1-21-200	09/17/77	SPRING	19.9				7.4	722.	289.
23040		4-35, 4043	-113.6472	-1-23-200	09/17/77	WELL	19.2	90.0	FARM/LIVESTOCK	IRON	7.6	604.	269.
23041		4-35, 3706	-113.6548	-1-23-200	09/17/77	WELL	18.8		MUNICIPAL	IRON	7.5	765.	301.
23043		4-35, 2782	-113.8014	-1-23-200	09/18/77	WELL	19.3		FARM/LIVESTOCK	IRON	7.0	2405.	762.
23044		4-35, 1904	-113.9334	-1-23-200	09/18/77	WELL	19.8	85.0	FARM/LIVESTOCK	IRON	7.4	961.	370.
23045		4-35, 1772	-113.8835	-1-23-200	09/19/77	WELL	20.8	315.0	DOMESTIC FARM/LIVESTOCK	IRON	6.5	1103.	122.
23046		4-35, 1571	-113.8532	-1-21-200	09/19/77	SPRING	15.1				7.1	1168.	308.
23047		4-35, 1261	-113.7939	-1-23-200	09/19/77	WELL	19.7	260.0	DOMESTIC FARM/LIVESTOCK	IRON	7.4	1712.	114.
23048		4-35, 1805	-113.6948	-1-23-200	09/19/77	WELL	25.8	1000.0	FARM/LIVESTOCK	IRON	7.7	403.	161.
23049		4-35, 2122	-113.6541	-1-23-200	09/19/77	WELL	19.9		FARM/LIVESTOCK	IRON	8.0	688.	804.
23050		4-35, 2476	-113.6421	-1-23-200	09/19/77	WELL	29.1	570.0	FARM/LIVESTOCK	IRON	7.7	458.	317.
23051		4-35, 2785	-113.7486	-1-23-200	09/19/77	WELL	20.5		FARM/LIVESTOCK	IRON	7.6	1245.	778.
23052		4-35, 3500	-113.7367	-1-21-200	09/19/77	SPRING	18.4				7.4	821.	585.
23053		4-35, 3502	-113.7654	-1-21-200	09/19/77	SPRING	21.1				7.0	1446.	850.
23058		4-35, 2308	-112.2033	-1-21-200	09/28/77	SPRING	12.3				7.0	159.	47.
23062		4-35, 2061	-112.4776	-1-23-200	09/30/77	WELL	23.9	1700.0	MUNICIPAL	IRON	7.6	610.	161.

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

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER L	DATE TY RPL	MO-DA-YR SOURCE	TEMP C.	WELL DEPTH	WELL TYPE	WELL CASING	PH METR	SPEC COND UMHO/CM	AKTOTL MG/LITER
23063		4-35, 2013	-112.1754	-1-23-200	09/30/77	WELL	11.6	18.0	DOMESTIC	OTHER	7.0	111.	32.
23066		4-35, 0858	-112.1814	-1-21-200	09/30/77	SPRING	12.9				7.1	344.	182.
23068		4-35, 1580	-112.0793	-1-21-200	10/01/77	SPRING	10.0				7.5	140.	54.
23069		4-35, 0373	-112.6291	-1-23-200	10/01/77	WELL	18.3	152.0	FARM/LIVESTOCK	IRON	8.0	401.	168.
23070		4-35, 0459	-112.6661	-1-23-200	10/01/77	WELL	17.1	565.0	IRRIGATION	IRON	7.8	556.	209.
23071		4-35, 0266	-112.9894	-1-23-200	10/02/77	WELL	17.4			OTHER	7.3	771.	369.
23072		4-35, 0695	-112.7789	-1-23-200	10/02/77	WELL	19.6		FARM/LIVESTOCK	IRON	7.8	434.	186.
23073		4-35, 1127	-112.7864	-1-23-200	10/02/77	WELL	18.3		FARM/LIVESTOCK	IRON	7.5	523.	249.
23077		4-35, 9502	-112.5235	-1-21-200	10/17/77	SPRING	16.4				7.8	1943.	131.
23078		4-35, 5636	-112.5845	-1-21-200	10/18/77	SPRING	15.3				8.2	619.	185.
23079		4-35, 6244	-112.5210	-1-23-200	10/18/77	WELL	13.0	55.0	FARM/LIVESTOCK	GALVANIZED	8.1	654.	159.
23080		4-35, 7424	-112.8744	-1-23-200	10/19/77	WELL	12.8	110.0	FARM/LIVESTOCK	IRON	7.2	2775.	157.
23081		4-35, 6415	-112.6865	-1-21-200	10/19/77	SPRING	12.5				7.5	621.	303.
23082		4-35, 2642	-112.9579	-1-23-200	10/20/77	WELL	16.1	500.0	FARM/LIVESTOCK	IRON	7.6	573.	129.
23083		4-35, 4081	-113.1880	-1-23-200	10/21/77	WELL	19.3		FARM/LIVESTOCK	IRON	7.8	383.	157.
23084		4-35, 3736	-113.2995	-1-23-200	10/21/77	WELL	21.9		DOMESTIC	IRON	7.5	505.	233.
23085		4-35, 2972	-113.0313	-1-23-200	10/21/77	WELL	23.4	1004.0	IRRIGATION	IRON	7.6	397.	203.
23086		4-35, 2147	-113.0511	-1-23-200	10/22/77	WELL	21.0		FARM/LIVESTOCK	IRON	7.8	357.	154.
23088		4-35, 9581	-112.3950	-1-23-200	10/27/77	WELL	16.8		FARM/LIVESTOCK	IRON	7.2	1407.	191.
23089		4-35, 8062	-112.4355	-1-23-200	10/28/77	WELL	19.0		FARM/LIVESTOCK	IRON	8.0	514.	231.
23090		4-35, 5571	-112.5965	-1-23-200	10/28/77	WELL	14.8		FARM/LIVESTOCK	IRON	7.6	612.	161.
23091		4-35, 6244	-112.6199	-1-23-200	10/28/77	WELL	13.0		FARM/LIVESTOCK	IRON	7.7	642.	181.
23092		4-35, 0765	-112.6661	-1-23-200	10/29/77	WELL	17.5		FARM/LIVESTOCK	IRON	7.9	349.	159.
23093		4-35, 1939	-112.9002	-1-23-200	10/31/77	WELL	17.1		FARM/LIVESTOCK	IRON	7.7	838.	153.
23094		4-35, 1646	-112.7491	-1-23-200	10/31/77	WELL	18.4	220.0	FARM/LIVESTOCK	IRON	8.1	250.	128.
23095		4-35, 1587	-112.7841	-1-23-200	10/31/77	WELL	18.9	119.0	FARM/LIVESTOCK	IRON	7.9	2149.	149.
23096		4-35, 1894	-112.8397	-1-23-200	10/31/77	WELL	18.2	250.0	DOMESTIC	IRON	7.9	371.	166.
23097		4-35, 0569	-112.7161	-1-23-200	11/01/77	WELL	16.3		FARM/LIVESTOCK	IRON	7.5	397.	210.
23098		4-35, 1468	-112.9123	-1-23-200	11/01/77	WELL	19.6		DOMESTIC	IRON	7.6	431.	179.
23098		4-35, 1468	-112.9123	-1-08-201		WELL			FARM/LIVESTOCK				
23099		4-35, 0174	-112.7646	-1-23-200	11/01/77	WELL	18.5		FARM/LIVESTOCK	IRON	8.0	409.	207.
23099		4-35, 0174	-112.7646	-1-08-201		WELL							
23100		4-35, 2382	-112.9496	-1-23-200	11/02/77	WELL	16.1	280.0	FARM/LIVESTOCK	IRON	7.5	442.	132.
23102		4-35, 0469	-112.9582	-1-23-200	11/02/77	WELL	13.6		FARM/LIVESTOCK	IRON	7.7	635.	284.
23103		4-35, 1577	-113.0750	-1-23-200	11/02/77	WELL	11.9		DOMESTIC	IRON	7.8	437.	203.
23104		4-35, 0474	-112.6885	-1-23-200	11/03/77	WELL	15.4		DOMESTIC	IRON	7.2	1005.	377.
23105		4-35, 0593	-112.6701	-1-23-200	11/03/77	WELL	20.1	750.0	IRRIGATION	IRON	8.0	364.	164.
23106		4-35, 1166	-112.9971	-1-23-200	11/26/77	WELL	21.4	1000.0	FARM/LIVESTOCK	IRON	7.8	408.	187.
23107		4-35, 1986	-113.3012	-1-21-200	11/26/77	SPRING	8.6				7.6	619.	261.
23108		4-35, 6178	-113.3380	-1-21-200	11/26/77	SPRING	10.9				7.5	1021.	341.
23109		4-35, 1993	-113.3605	-1-23-200	11/26/77	WELL	21.2	580.0		IRON	7.8	381.	154.
23109		4-35, 1993	-113.3605	-1-08-201		WELL							
23110		4-35, 0943	-112.9231	-1-08-201	11/27/77	WELL	20.7		FARM/LIVESTOCK	IRON	7.6	482.	267.
23110		4-35, 0943	-112.9231	-1-08-201		WELL							
23111		4-35, 0949	-113.1885	-1-23-200	11/27/77	WELL	17.9		FARM/LIVESTOCK	IRON	8.1	277.	115.
23112		4-35, 0558	-113.1272	-1-23-200	11/27/77	WELL	13.0		FARM/LIVESTOCK	OTHER	7.2	210.	86.

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 TABLE B-3, WATER ANALYSIS: SPRING AND WELL SITES

SITE NUMBER	ST	DOE LAT.	SAMPLE LONG.	NUMBER LTY	DATE MO-DA-YR	TEMP C.	WELL DEPTH	WELL TYPE	WELL CASING	PH METR	SPEC COND UMHO/CM	AKTOTL MG/LITER
23113		4-35,2840	-113.1200	-1-23-200	11/28/77	WELL	15.3	FARM/LIVESTOCK	IRON	8.0	461.	219.
23114		4-35,3279	-113.1343	-1-23-200	11/28/77	WELL	14.1	FARM/LIVESTOCK	IRON	8.1	384.	148.
23115		4-35,4122	-113.1575	-1-23-200	11/28/77	WELL	20.0	FARM/LIVESTOCK	IRON	8.1	407.	168.
23116		4-35,3459	-112.9753	-1-23-200	11/28/77	WELL	18.2	FARM/LIVESTOCK	IRON	8.0	446.	166.
23117		4-35,1787	-113.3544	-1-23-200	11/29/77	WELL	17.7	FARM/LIVESTOCK	IRON	7.9	360.	149.
23118		4-35,3000	-113.0291	-1-23-200	11/30/77	WELL	23.0	DOMESTIC	IRON	7.7	440.	203.
23119		4-35,3906	-113.0006	-1-23-200	11/30/77	WELL	20.2	DOMESTIC	IRON	8.1	452.	232.
23119		4-35,3906	-113.0006	-1-08-201		WELL						
23121		4-35,1593	-113.3341	-1-23-200	12/01/77	WELL	10.8	FARM/LIVESTOCK	IRON	7.7	340.	163.
23121		4-35,1593	-113.3341	-1-08-201		WELL						
23122		4-35,0743	-113.2012	-1-23-200	12/01/77	WELL	18.0	FARM/LIVESTOCK	IRON	8.2	287.	162.
23122		4-35,0743	-113.2012	-1-08-201		WELL						
23123		4-35,0883	-113.1763	-1-23-200	12/01/77	WELL	17.1	FARM/LIVESTOCK	IRON	8.3	303.	187.
23123		4-35,0883	-113.1763	-1-08-201		WELL						
23124		4-35,1199	-113.2221	-1-23-200	12/01/77	WELL	18.5	FARM/LIVESTOCK	IRON	8.1	868.	133.
23125		4-35,0927	-113.2806	-1-23-200	12/01/77	WELL	19.3	FARM/LIVESTOCK	IRON	8.1	349.	181.
23126		4-35,1893	-113.4530	-1-21-200	12/15/77	SPRING	10.0			7.1	565.	262.
23127		4-35,2135	-113.4180	-1-21-200	12/15/77	SPRING	14.1			8.0	569.	232.
23128		4-35,1473	-113.4391	-1-23-200	12/15/77	WELL	16.0	FARM/LIVESTOCK	IRON	7.4	788.	386.
23129		4-35,1305	-113.4232	-1-23-200	12/15/77	WELL	19.4	FARM/LIVESTOCK	IRON	7.5	402.	185.
23130		4-35,2648	-113.9855	-1-23-200	12/16/77	WELL	29.3	MUNICIPAL	IRON	8.0	358.	155.
23131		4-35,2547	-113.9577	-1-23-200	12/16/77	WELL	28.4	MUNICIPAL	IRON	8.0	310.	135.
23134		4-35,1044	-113.9829	-1-21-200	12/16/77	SPRING	19.1			7.7	562.	217.
23134		4-35,1044	-113.9829	-1-08-201		SPRING						
23135		4-35,1821	-113.3194	-1-23-200	12/17/77	WELL	15.1	FARM/LIVESTOCK	IRON	7.9	375.	152.
23135		4-35,1821	-113.3194	-1-08-201		WELL						
23137		4-35,1007	-113.3785	-1-23-200	12/17/77	SPRING	11.3	FARM/LIVESTOCK	IRON	8.6	903.	142.
23138		4-35,1252	-113.3243	-1-21-200	12/17/77	SPRING	12.5			7.5	469.	211.
23139		4-35,1253	-113.4571	-1-21-200	12/19/77	SPRING	12.5			7.6	661.	
23140		4-35,1200	-113.4564	-1-21-200	12/19/77	SPRING	18.5			7.1	936.	374.
23141		4-35,0801	-113.5468	-1-23-200	12/19/77	WELL	16.4	20.0 FARM/LIVESTOCK	IRON	7.7	1151.	308.
23142		4-35,0851	-113.5239	-1-21-200	12/19/77	SPRING	6.0			7.4	1492.	593.
23143		4-35,1117	-113.5480	-1-23-200	12/19/77	WELL	18.2	FARM/LIVESTOCK	IRON	7.4	1367.	337.
23144		4-35,1400	-114.0000	-1-23-200	12/20/77	WELL	19.4	150.0 FARM/LIVESTOCK	IRON	7.6	914.	210.
23145		4-35,0457	-113.9874	-1-23-200	12/20/77	WELL	19.1	FARM/LIVESTOCK	IRON	7.7	1025.	400.
23145		4-35,0457	-113.9874	-1-08-201		WELL						
23146		4-35,0060	-113.9553	-1-23-200	12/20/77	WELL	14.5	FARM/LIVESTOCK	IRON	7.2	966.	273.
23146		4-35,0060	-113.9553	-1-08-201		WELL						
23148		4-35,4637	-113.6532	-1-21-200	12/02/77	SPRING	2.4			7.5	776.	369.
23149		4-35,3913	-113.5818	-1-21-200	12/21/77	SPRING	5.2			7.4	756.	268.
23150		4-35,2986	-113.5338	-1-21-200	12/22/77	SPRING	13.9			7.1	524.	294.
23152		4-35,1886	-113.6193	-1-23-200	12/22/77	WELL	24.5	400.0 FARM/LIVESTOCK	IRON	8.0	546.	148.
23154		4-35,0703	-113.5837	-1-21-200	12/23/77	SPRING	18.5			7.0	934.	420.
23155		4-35,0807	-113.6071	-1-23-200	12/23/77	WELL	10.0	FARM/LIVESTOCK	IRON	8.2	947.	287.
23156		4-35,0945	-113.6360	-1-23-200	12/23/77	WELL	10.0	FARM/LIVESTOCK	IRON	8.3	935.	213.
23157		4-35,0140	-113.6871	-1-23-200	12/23/77	WELL	11.0	FARM/LIVESTOCK	IRON	8.0	691.	209.
23160		4-35,0542	-113.6621	-1-23-200	01/06/78	WELL	16.7	FARM/LIVESTOCK	IRON	7.8	562.	195.
23160		4-35,0542	-113.6621	-1-08-201		WELL						
23162		4-35,1021	-113.4893	-1-21-200	01/07/78	SPRING	14.8			7.3	225.	99.

WILLIAMS 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 UMHO/CM	AKTOTL MG/LITER
23162	4-35,1021-113,4893-1-06-201					SPRING							
23163	4-35,1156-113,5303-1-21-200				01/07/78	SPRING	10.9				7.6	861.	383.
23164	4-35,1396-113,5737-1-23-200				01/07/78	WELL	18.0		FARM/LIVESTOCK	IRON	7.4	451.	230.
23165	4-35,1205-113,6391-1-23-200				01/07/78	WELL	9.6	300.0	FARM/LIVESTOCK	IRON	7.9	596.	426.
23166	4-35,1581-113,6930-1-23-200				01/07/78	WELL	22.3		FARM/LIVESTOCK	IRON	7.8	420.	189.
23168	4-35,5007-113,6900-1-21-200				01/08/78	SPRING	8.5				7.6	636.	302.
23169	4-35,4923-113,7008-1-21-200				01/08/78	SPRING	8.6				7.1	1064.	324.
23172	4-35,8224-113,1609-1-21-200				01/09/77	SPRING	6.0				8.1	410.	179.
23173	4-35,5147-113,3190-1-23-200				10/01/77	WELL	9.0				7.8	521.	251.
23175	4-35,0328-113,6499-1-21-200				01/11/78	SPRING	5.0				7.2	1173.	370.
23176	4-35,1096-113,8098-1-23-200				01/12/78	WELL	28.5		FARM/LIVESTOCK		6.8	201.	269.
23177	4-35,0710-113,8370-1-21-200				01/12/78	SPRING	14.8				7.2	466.	247.

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TABLE B-3. WATER ANALYSIS: SPRING AND WELL SITES

SITE NUMBER	RPL TPTR	AKPHEN MG/LITER	POS. CONT	URANIUM(DNC) PPB	1ERR	Q. C. DISSOLVED X-REF Q2(PPM)	EH MV
23002	200	WSFO	1	0.68	4.26	7.10	135.00
23003	200	WSFO	1	0.83	3.78	2.21	119.00
23004	200	WSFO	1	30.76	1.13	5.40	150.00
23005	200	WSFO	1	0.95	3.79	8.25	190.00
23006	200	WSFO	1	0.73	4.08	5.20	170.00
23007	200	WSFO	1	1.45	3.03	6.44	145.00
23008	200	WSFO	1	1.33	3.15		81.00
23009	200	WSFO	1	10.05	1.24	4.75	105.00
23010	200	WSFO	1	1.31	2.89	4.64	90.00
23012	200	WSFO	1	1.90	2.62	1.95	-10.00
23013	200	WSFO	1	1.66	2.39	4.96	105.00
23014	200	WSFO	1	6.49	1.54	1.25	-78.00
23016	200	WSFO	1	10.46	1.43	0.55	140.00
23017	200	WSFO	1	0.92	3.49	6.75	70.00
23018	200	WSFO	1	3.30	1.87	7.38	70.00
23021	200	WSFO	1	1.99	2.44	7.70	90.00
23022	200	WSFO	1	1.43	2.88	8.33	80.00
23023	200	WSFO	1	1.45	2.86	10.20	110.00
23024	200	WSFO	1	2.63	2.12	6.60	55.00
23025	200	WSFO	1	1.02	3.33	6.89	80.00
23026	200	WSFO	1	2.26	2.17	3.21	-120.00
23027	200	WSFO	1	0.37	6.70	5.80	110.00
23028	200	WSFO	1	7.15	1.45	3.80	185.00
23029	200	WSFO	1	1.09	3.50	6.50	180.00
23030	200	WSFO	1	1.31	2.77	6.87	190.00
23032	200	WSFO	1	110.40	1.04	6.02	75.00
23036	200	WSFO	1	0.10	1.40	5.91	155.00
23038	200	WSFO	1	4.92	1.63	0.60	185.00
23039	200	WSFO	1	3.88	1.84	5.30	140.00
23040	200	WSFO	1	6.65	1.48	6.75	60.00
23041	200	WSFO	1	7.58	1.51	7.30	55.00
23043	200	WSFO	1	75.15	1.07	10.65	10.00
23044	200	WSFO	1	78.53	1.06	0.70	110.00
23045	200	WSFO	1	3.36	1.90	0.15	165.00
23046	200	WSFO	1	15.34	1.27	0.49	155.00
23047	200	WSFO	1	54.74	1.07	1.20	180.00
23048	200	WSFO	1	1.21	1.40	5.90	165.00
23049	200	WSFO	1	1.33	2.79	8.08	160.00
23050	200	WSFO	1	2.88	2.14	4.99	170.00
23051	200	WSFO	1	26.19	1.15	7.41	165.00
23052	200	WSFO	1	8.51	1.45	3.75	155.00
23053	200	WSFO	1	140.80	1.03	1.24	145.00
23058	200	WSFO	1	0.09	16.32	6.20	95.00
23062	200	WSFO	1	0.77	3.66	5.80	100.00
23063	200	WSFO	1	0.07	21.89	5.50	50.00
23066	200	WSFO	1	0.54	4.75	6.51	65.00
23068	200	WSFO	1	0.11	13.86	8.01	80.00
23069	200	WSFO	1	1.96	1.59	5.61	55.00
23070	200	WSFO	1	1.92	2.28	6.13	70.00

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

SITE NUMBER	RPL TPTR	AKPHEN MG/LITER	POS. CONT	URANIUM(DNC) PPB	ZERR	O. C. DISSOLVED X-REF O2 (PPM)	EM MV
23071	200	MMFO	1	2.42	2.26	4.58	85.00
23072	200	MMFO	1	0.59	4.91	7.40	75.00
23073	200	MMFO	1	0.91	3.49	0.71	80.00
23077	200	MSFO	1	3.09	1.88	6.65	70.00
23078	200	MSFO	1	1.49	2.56	7.90	90.00
23079	200	MMFO	1	1.21	2.96	8.41	115.00
23080	200	MMFO	1	13.47	1.28	6.29	110.00
23081	200	MSFO	1	1.79	2.32	6.40	110.00
23082	200	MMFO	1	1.30	2.89	10.35	110.00
23083	200	MMFO	1	1.16	3.22	7.25	110.00
23084	200	MMFO	1	0.89	3.58	6.72	95.00
23085	200	MMFO	1	0.99	3.20	6.49	85.00
23086	200	MMFO	1	0.88	3.64	6.50	98.00
23088	200	MMFO	1	3.12	1.91	7.10	125.00
23089	200	MMFO	1	1.94	2.32	7.70	90.00
23090	200	MMFO	1	1.62	3.38	6.00	80.00
23091	200	MMFO	1	1.38	2.78	6.10	74.00
23092	200	MMFO	1	1.33	2.73	6.10	80.00
23093	200	MMFO	1	2.37	2.16	7.70	85.00
23094	200	MMFO	1	0.44	5.11	1.43	79.00
23095	200	MMFO	1	0.96	3.34	7.81	80.00
23096	200	MMFO	1	0.72	3.77	7.81	80.00
23097	200	MMFO	1	0.99	3.11	0.19	80.00
23098	200	MMFO	1	2.55	2.10	8.00	82.00
23098	201	MMFA					
23099	200	MMFO	1	0.85	3.85	6.58	80.00
23099	201	MMFA					
23100	200	MMFO	1	0.90	3.44	8.95	75.00
23102	200	MMFO	1	0.32	6.30	1.97	75.00
23103	200	MMFO	1	1.22	2.87	2.38	85.00
23104	200	MMFO	1			5.45	85.00
23105	200	MMFO	1	1.29	2.87	6.05	90.00
23106	200	MMFO	1	1.12	3.06	7.01	135.00
23107	200	MSFO	1	6.32	1.51	4.70	160.00
23108	200	MSFO	1	21.50	1.17	7.39	115.00
23109	200	MMFO	1	3.05	1.95	6.41	125.00
23109	201	MMFA					
23110	200	MMFO	1	1.23	3.00	6.87	120.00
23110	201	MMFA					
23111	200	MMFO	1	0.06	23.43	1.49	85.00
23112	200	MMFO	1	1.11	3.19	7.19	120.00
23113	203	MMFO	1	0.97	3.14	1.60	80.00
23114	200	MMFO	1	0.34	5.98	1.15	90.00
23115	200	MMFO	1	1.37	2.78	4.16	110.00
23116	200	MMFO	1	2.01	2.33	4.81	125.00
23117	200	MMFO	1	4.12	1.75	7.75	120.00
23118	200	MMFO	1	1.04	3.09	6.74	120.00
23119	200	MMFO	1	2.18	2.10	7.04	120.00
23119	201	MMFA					

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

SITE NUMBER	RPL	TPTR	AKPHEN MG/LITER	POS. CONT	URANIUM(DMC) PPB	ERR	D. C. DISSOLVED X-REF O2 (PPM)	EH MV
23121	200	MSFO		1	3.19	1.94	6.62	105.00
23121	201	MSFA						
23122	200	MSFO		1	0.62	4.27	5.10	110.00
23122	201	MSFA						
23123	200	MSFO	1.	1	1.11	2.96	1.64	101.00
23123	201	MSFA						
23124	200	MSFO		1	0.60	4.19	7.05	100.00
23124	201	MSFA		1	0.92	3.29	6.51	100.00
23125	200	MSFO		1	8.04	1.42	2.75	80.00
23126	200	MSFO		1	1.33	2.94	6.01	75.00
23127	200	MSFO		1	3.89	1.77	9.75	
23128	200	MSFO		1	0.57	4.59	7.11	75.00
23129	200	MSFO		1	2.50	2.15	7.11	130.00
23130	200	MSFO		1	4.70	2.27	3.45	140.00
23131	200	MSFO		1	13.13	1.26	7.70	40.00
23134	201	MSFA						
23135	200	MSFO		1	1.93	2.34	5.18	10.00
23135	201	MSFA						
23137	200	MSFO	6.	1	0.32	53.34	0.34	
23138	200	MSFO		1	2.23	2.83	2.31	
23139	200	MSFO		1	7.53	1.44	1.64	90.00
23140	200	MSFO		1	46.84	1.08	3.16	95.00
23141	200	MSFO		1	31.11	1.15	6.78	85.00
23142	200	MSFO		1	39.64	1.09	2.49	60.00
23143	200	MSFO		1	498.30	1.01	4.71	60.00
23144	200	MSFO		1	3.41	1.86	7.38	60.00
23145	200	MSFO		1	10.94	1.33	8.70	65.00
23145	201	MSFA						
23146	200	MSFO		1	17.99	1.21	4.48	55.00
23146	201	MSFA						
23148	200	MSFO		1	12.25	1.28	1.24	80.00
23149	200	MSFO		1	2.43	2.11	2.10	60.00
23150	200	MSFO		1	17.01	1.22	5.48	50.00
23152	200	MSFO		1	1.92	2.85	5.50	50.00
23154	200	MSFO		1	137.10	1.03	5.50	55.00
23155	200	MSFO		1	69.66	1.06	10.50	60.00
23156	200	MSFO		1	6.71	1.48	10.10	70.00
23157	200	MSFO		1	67.32	1.06	10.00	59.00
23160	200	MSFO		1	6.26	1.55	7.74	115.00
23160	201	MSFA						
23162	200	MSFO		1	0.46	5.62	7.48	150.00
23162	201	MSFA						
23163	200	MSFO		1	24.49	2.03	1.13	100.00
23164	200	MSFO		1	4.75	1.62	6.51	110.00
23165	200	MSFO		1	9.59	1.34	8.31	125.00
23166	200	MSFO		1	4.93	1.64	2.78	150.00
23169	200	MSFO		1	56.76	1.07	5.50	130.00
23169	200	MSFO		1	51.01	1.07	2.31	100.00
23172	200	MSFO		1	1.91	2.38	9.74	105.00

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

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SITE NUMBER	RPL	TPTR	AKPHEN MG/LITER	POS. CONT	URANIUM(DNC) PPB	Q. C. DISSOLVED X-REF Q2(PPM)	EH MV
23173	200	WMFO		1	7.42	1.47	5.60
23175	200	WSFO		1	97.36	1.05	8.20
23176	200	WMFO		1	10.40	1.33	0.55
23177	200	WSFO		1	80.77	1.05	2.45

W

30'

15'

Δ 23002

Δ 23021

Δ 23126

Δ 23172

▽ 23024

▽ 2

Δ 23010

Δ 23102

Δ 23012

Δ 23027

Δ 23078

Δ 23039

Δ 23017

▽ 23173

▽ 23016

▽ 23007

▽ 23006

Δ 23148

2

WILLIAMS

113 ° 00 '

45 '

Δ 23021

Δ 23022

Δ 23023

Δ 23024

Δ 23025

Δ 23026

Δ 23027

23079

3

NI 12-01

45'

30'

15'

Δ 23077

▽ 23088

▽ 23089

Δ 23081

▽ 23091

Δ 23078
▽ 23090

4

01

15'

112°00'

36°00'

▽23088

45'

30'

5

45'

30'

15'

6

▽ 23013

▽ 23008

▽ 23011

▽ 23010

▽ 23014

▽ 23016

▽ 23008

△ 23048

▽ 23018

△ 23039

△ 23041

△ 23042

▽ 23041

▽ 23041

▽ 23043

▽ 23042

▽ 23043

▽ 23041

▽ 23130

▽ 23131

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▽ 23049

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21041

21042

21043

21044

21045

V 23080

V 23083

V 23084

V 23085

V 23086

V 23087

V 23088

V 23089

V 23090

23093

V 23096

V 23095

V 23094

8

45'

30'

15'

Δ 23056

▽ 23063

Δ 23068

▽ 23062

9

10

SYMBOL EXPLANATION

LAWRENCE
LIVERMORE
LABORATORY
UNIVERSITY OF CALIFORNIA

30'

15'

113°00'

SCALE 1:2500

5

0

5

5

0

5

10

15

URANIUM (TOTAL) CONCENTRATION
IN WATER SAMPLES

TAL) CONCENTRATIONS (PPB)
WATER SAMPLES

12

13

OVERLAY
URANIUM (TO
CONCENTRATION
(WATER SAMPLE
GEOCHEMICAL
RECONNAISSANCE
WILLIAM
(NTMS QUAD)

30'

15'

2

WILLIAMS

113°00'

45'

30'

x

3

NI 12-01

30'

15'

4

-01

15'

112°00'

36°00'

②

45'

30'

5

45'

30'

15'

6

x

7

x

.

x

x

+

+

45'

30'

15'

x

+

+

10

**LAWRENCE
LIVERMORE
LABORATORY**
UNIVERSITY OF CALIFORNIA

SYMBOL EXPLANATION

CONDUCTIVITY ($\mu\text{MHO}/\text{CM}$)

- + LESS THAN 150. $\mu\text{MHO}/\text{CM}$
- GREATER THAN 2000. $\mu\text{MHO}/\text{CM}$

TION

30'

15'

12

CONDUCTIVITY
WATER

10/CM

DUCTIVITY (μ MHO/CM)
WATER SAMPLES

13

OVERLAY 1C

CONDUCTIVITY (μ MHO/
(WATER SAMPLES)

GEOCHEMICAL
RECONNAISSANCE ST

WILLIAMS
(NTMS QUAD)

14

114 00

45

36 00

45

30

15

2

03145 03145

30948

30

15

9

15

30

St

The scatter plot displays a distribution of points across a grid defined by latitude (0 to 45) and longitude (170 to 180). The points are labeled with numbers, primarily in the 21000-21999 range, with some points in the 20000-20999 range. The points are distributed across the grid area, with a higher density in the central and lower-left regions. The grid lines are marked at 5-degree intervals on both axes.

10

113 00
SCALE 1250000

45

ITE LOCATIONS. SEDIMENT SAMPLES

13

W

30'

15'

2

WILLIAMS

113° 00'

45'

NI 12-01

30'

15'

4

01

15'

112°00'

36°00'

45'

30'

5

6

9

10

**LAWRENCE
LIVERMORE
LABORATORY**
UNIVERSITY OF CALIFORNIA

SYMBOL EXPLANATION

URANIUM (TOTAL) CONCENTRATIONS

PARTS PER MILLION (PPM) BY WEIGHT
+ LESS THAN 0.75 PPM
(OR NOT DETECTED)
● GREATER THAN 20.0 PPM

ANATION

STRATIONS

20.0
PM)BY WEIGHT
PPM
ED)
0.0 PPM

12

URANIUM (TOT
SE

113°00'

45'

SCALE 1:250000

5

0

5

10

15

20 STATUTE MILES

5

0

5

10

15

20

25

30 KILOMETERS

URANIUM(TOTAL)CONCENTRATIONS(PPM)
SEDIMENT SAMPLES

13

45' 30' 15'

STATUTE MILES

TERS

14

CON
REC

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

45'

30'

15'

2

WILLIAMS

15'

113°00'

45'

NI 12-01

45'

30'

4

NI 12-01

30'

15'

112°00'

36°00'

45'

5

30'

45'

30'

15'

6

7

8

9

SYMBOL EXPLANATION

THORIUM (TOTAL) CONCENTRATIONS

**LAWRENCE
LIVERMORE
LABORATORY**

UNIVERSITY OF CALIFORNIA

ATION

'IONS

500.
Y WEIGHT

PPM

12

THORIUM (TOTAL
SEDIM

113°00'
SCALE 1:250000

45'

5 0 5 10 15 20 STATUTE MILES
5 0 5 10 15 20 25 30 KILOMETERS

THORIUM (TOTAL) CONCENTRATIONS (PPM)
SEDIMENT SAMPLES

13

STATUTE MILES
METERS

14

CO
REC

OVERLAY 20
 THORIUM(TOTAL)
 CONCENTRATIONS(PPM)
 (SEDIMENT SAMPLES)

GEOCHEMICAL
 RECONNAISSANCE STUDY
 WILLIAMS
 (INTMS DIAD)