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Lawrence Livermore Laboratory

HYDROGEOCHEMICAL AND STREAM-SEDIMENT SURVEY (NURE)

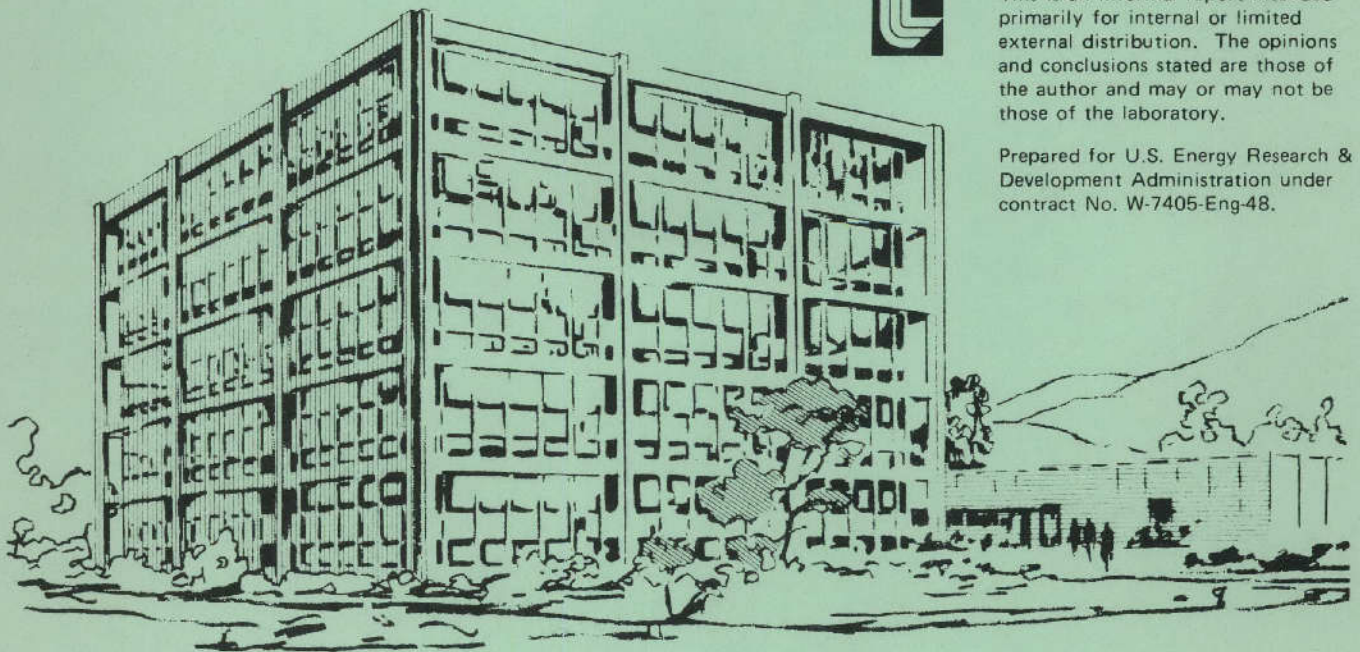
Preliminary Report on the Winnemucca Dry Lake Basin Pilot Study
(NEVADA)

August 1, 1976



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PRELIMINARY REPORT ON THE WINNEMUCCA DRY LAKE BASIN PILOT STUDY

INTRODUCTION

The Lawrence Livermore Laboratory (LLL) is conducting a hydrogeochemical and stream-sediment survey in the seven western states as part of ERDA's National Uranium Resources Evaluation (NURE) Program. The objective of this survey is to develop a geochemical data base for use by the private sector to locate regions of anomalous uranium content. Prior to wide area coverage, several pilot studies are being undertaken to develop and evaluate sampling and analytical techniques. The second through fifth of these studies were conducted in four playa basins in Nevada, selected to represent different regional geology and uranium occurrence. This study in the Winnemucca Dry Lake Basin, located on Figure 1, characterizes igneous surface geology with known uranium occurrences.

Winnemucca Lake is surrounded by the igneous environment of the mountains of the Lake Range on the west and the Nightingale-Selenite Range on the east. Fifteen known uranium occurrences exist over a large area on the east side of the basin. They are commonly vein deposits of secondary uranium minerals in metamorphic rocks near or in granite, pegmatites, or in Tertiary volcanic rocks. The basin includes drainage from an area of 356 square miles. Results of

this study are particularly applicable to the western Basin and Range igneous metallogenic province, which includes southeastern Oregon, western Nevada, and southeastern California.

This report contains only the analytical data and sample locations. Details of the sampling methods and equipment, analytical sensitivity, errors, interferences, and geochemical interpretation will be reported separately.

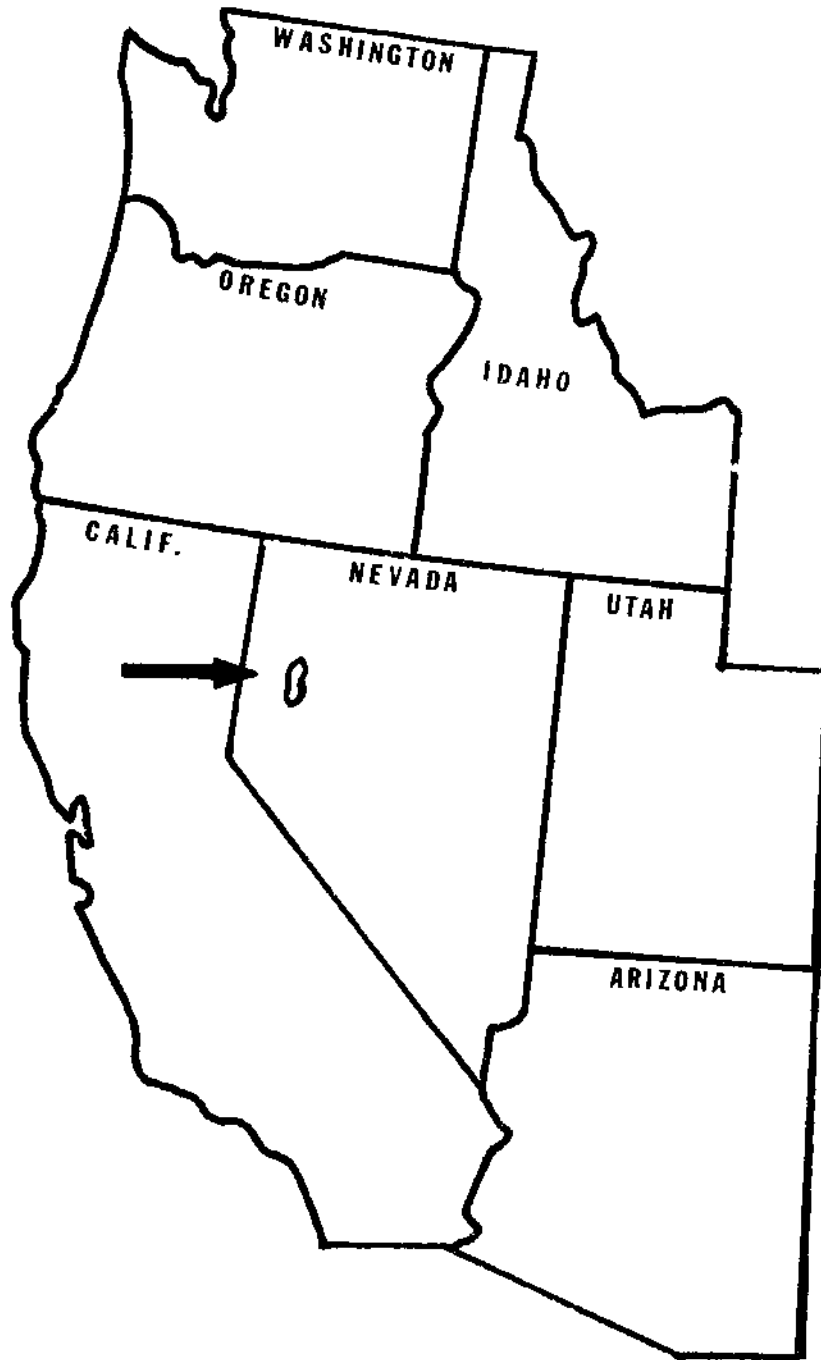


FIGURE 1: LOCATION OF WINNEMUCCA DRY LAKE BASIN

SAMPLE COLLECTION AND TREATMENT

Samples of the playa were collected at various depths to ten feet from shallow hand-drilled holes. Sediment samples were obtained from dry stream beds and alluvial fans which surround the playa. Relatively unweathered rock judged to be characteristic of the locale was also collected near many of the sediment sampling locations. In addition, all of the flowing streams, springs, and active wells which could be found were sampled. The pH, temperature, dissolved oxygen, eH, alkalinity, phenolphthalein alkalinity, and carbon dioxide were measured in-situ on filtered but otherwise untreated samples. Collected samples were filtered through a 0.4 μm pore membrane and one portion acidified to pH \sim 1.0 with HNO_3 in the field and the other untreated.

In the receiving laboratory the sediments were dried and the portion passing through a 1000 μm sieve, but retained on a 500 μm sieve, was analyzed. The playa samples were similarly handled except that they were first blended and the "cake" formed on drying was pulverized before sieving. Essentially all of the playa material passed through the sieve. Rocks were ground and passed through a 250 μm mesh sieve before analysis. Unacidified water samples were analyzed for chloride and sulfate content. Trace element analysis was performed on the residue of the acidified water samples. Archival samples were retained from all material collected.

Locations of water, rock, and sediment samples are shown in Figure 2, and locations of the playa samples are shown on Figure 3. These figures are scaled to the 1:250,000 AMS maps, Reno NJ 11-1 and Lovelock NK 11-10. The Universal Transverse Mercator grid (for Zone 11) is indicated on the figure.

CHEMICAL ANALYSIS

All data in this report except for the water measurements discussed above were obtained by neutron activation analysis using the Livermore Pool-type Reactor. Samples were counted after predetermined decay periods following irradiation. The counting data were converted to elemental concentration data by use of a computer code which also derived an estimate of the statistical errors. Other errors are not specified.

DATA PRESENTATION

Results of the study are presented in the appended six tables. Each table is divided into two parts, the first of which gives the site number, its location by UTM coordinates, and the field measurement data. The second part contains the site number and neutron activation analytical data. The tables are titled and numbered as follows:

<u>Title</u>	<u>Location & Field Data</u>	<u>Analytical Data</u>
Streams	1.1	1.2
Spring and Well Water	2.1	2.2
Playa Samples	3.1	3.2
Sediments, Wet Sites	4.1	4.2
Sediments, Dry Sites	5.1	5.2
Rocks	6.1	6.2

Certain sites were revisited during different parts of the season and replicate samples collected. These appear in the N.2 tables, with a four-letter sample type and treatment code followed by a numeral.

Zero indicates the first sample; 1-the second, or duplicate; 2-the third, etc. The sample type and treatments applicable to this study are: Sw-wet sediment; SD-dry sediment; WW-well water; WR-river and stream water; WS-spring water; RO-rock; NO-no treatment; DS-dried and sieved; and LA-large acid. The sampling depth, in feet, of playa material is indicated by the two numbers following the SP (playa) code.

The location and field measurement tables have the site number, UTM coordinates, date collected, and data as described below.

Field Measurements

H2O TEMP: Measurement of water temperature, in situ, by mercury thermometer to nearest 0.1 degree C.

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

TOTAL ALK: Measurement by titration to a bromcresol green-methyl red indicator endpoint (pH = 4.8) with acid. Reported as an equivalent amount of CaCO_3 in mg per liter.

PHENO ALK: Measurement by titration to a phenolphthalein indicator endpoint (pH = 8.3) with acid. Reported as an equivalent amount of CaCO_3 in mg per liter.

DISS CO2: Measurement by titration to a phenolphthalein indicator endpoint (pH = 8.3) with base. Determination is not made if pH > 8.3. Reported as equivalent dissolved CO2 in mg per liter.

DISS O2: Measurement with a commercial dissolved oxygen meter. Accuracy is estimated to be ± 0.1 ppm.

EH: Measurement with a portable commercial eH meter. Reported in millivolts, referenced to a standard colomel electrode at 25 degrees C.

Laboratory Measurements

COND/LAB: Measurement with a commercial conductivity meter. Reported as specific conductivity in micromhos per cm ($\mu\text{mho/cm}$) at 25 degrees C.

CHLORIDE: Measurement of the chloride content reported in parts-per-million (ppm). Detection limit estimated to be 5 ppm; accuracy ± 10 ppm.

SULFATE: Measurement of the sulfate content reported in parts-per-million (ppm). Detection limit estimated to be 10 ppm; accuracy ± 20 ppm.

In the neutron activation analytical data tables the site number, date collected, sample type and treatment, and uranium content are always listed as the first four columns of each page, followed by other trace elements. The other elements are listed alphabetically and are: Sb, As, Ba, Br, Ca, Ce, Cs, Cr, Co, Au, Hf, Fe, Mo, K, Na, Sr, Ta, Th, W, Zn, and Zr. These are divided in groups of four to a page so each table contains several repetitions of the site information and uranium columns. The data tabulated are parts by weight of the element, with the symbols PPK, PPM, PPB, and PPT standing for parts per thousand, million, billion, and trillion, respectively. Those cases where no value is listed indicate that the measurement was below the limit of detection for that specific sample. Because of variation in measurement conditions, the limit of detectability fluctuates, and thus a missing value is not necessarily smaller than the smallest value listed for some other sample.

It must be emphasized that this data is preliminary and may contain undetected errors. No warranty of accuracy can be implied or is intended. The user must be aware that any conclusion he may draw from it is entirely and totally his own, and that neither the LLL nor the University of California accepts any liability for costs incurred by a user because of such errors.

APPENDIX A

WINNEMUCCA DRY LAKE BASIN PILOT STUDY
PRELIMINARY REPORT
NUMERICAL TABLES

<u>SAMPLE/SITE TYPE</u>	<u>LOCATIONS</u>	<u>PAGE</u>	<u>ANALYSIS</u>	<u>PAGE</u>
WATER/RIVER & STREAMS	1.1	1	1.2	2
WATER/SPRINGS & WELLS	2.1	9	2.2	10
PLAYA SEDIMENTS/PLAYAS	3.1	17	3.2	18
WET SEDIMENTS/RIVER & STREAMS	4.1	24	4.2	25
DRY SEDIMENTS	5.1	31	5.2	32
ROCK SITES	6.1	38	6.2	39

LAWRENCE LIVERMORE LABORATORY

AUGUST 1976

PART OF THE ERDA HYDROGEOCHEMICAL STREAM-SEDIMENT SURVEY

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 1.1 FIELD MEASUREMENTS, RIVERS AND STREAMS

SITE	LOCATION		H2O TEMP DEG C	PH	PHENO ALK MG/LITER	TOTAL ALK MG/LITER	DISS CO2 MG/LITER
	NORTH-SOUTH	EAST-WEST					
2030	4476000N	306900E	17.5	8.0		180.00	6.00
2031	4476600N	307800E	18.4	7.8		180.00	4.00
2032	4475400N	306400E	7.6	8.4		240.00	4.00
2034	4455950N	297850E	21.5	9.3	40.00	80.00	
2041	4438550N	295650E	19.5	8.7	20.00	140.00	

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

PART 1 OF 7

SITE	DATE	COL	TPTR	URANIUM		COND/LAB UMHOS/CM	CHLORIDE PPM	SULFATE PPM	ANTIMONY		ARSENIC	
				PPB	ERR				PPT	ERR	PPB	ERR
2030	76-03-24	WRLAO	WRLNO	45.06	0.32				118.50	19.75	2.37	0.42
2031	76-03-24	WRLAO	WRLNO	18.66	0.15	532.00	40.00	54.00	91.40	25.47	1.47	0.40
2032	76-03-24	WRLAO	WRLNO	41.97	0.29	415.00	90.00	27.00	184.90	22.35	5.12	0.55
2034	76-03-24	WRLAO	WRLNO	0.16	0.01	671.00	60.00	57.00	232.60	11.49	19.89	0.36
2041	76-04-05	WRLAO	WRLNO	0.43	0.03	215.00	20.00	24.00	136.80	8.46	3.22	0.26
						337.00	41.00	29.00				

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

PART 2 OF 7

SITE	DATE	COL	TPTR	URANIUM		BARIUM		BROMINE		CALCIUM	
				PPB	ERR	PPB	ERR	PPB	ERR	PPM	ERR
2030	76-03-24	WRLA0		45.06	0.32	62.69	5.20	52.63	0.50	57.63	0.92
2031	76-03-24	WRLA0		18.66	0.15	51.77	3.83	45.04	0.48	45.13	0.68
2032	76-03-24	WRLA0		41.97	0.29	84.38	5.82	79.24	0.56	59.89	0.84
2034	76-03-24	WRLA0		0.16	0.01	14.12	1.86	26.97	0.41	4.12	0.08
2041	76-04-05	WRLA0		0.43	0.03	33.98	3.03	8.71	0.41	19.37	0.39

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

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SITE	DATE	COL	TPTR	URANIUM		CHROMIUM		COBALT		GOLD	
				PPB	ERR	PPB	ERR	PPT	ERR	PPT	ERR
2030	76-03-24	WRLAO		45.06	0.32	3.21	0.30	413.80	49.32		
2031	76-03-24	WRLAO		18.66	0.15	0.89	0.22	309.00	35.30		
2032	76-03-24	WRLAO		41.97	0.29	0.45	0.27	440.90	43.27		
2034	76-03-24	WRLAO		0.16	0.01	0.60	0.10	294.80	32.20	2.11	0.49
2041	76-04-05	WRLAO		0.43	0.03	1.22	0.11	243.90	36.93		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

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SITE	DATE	COL	TPTR	URANIUM		IRON		MOLYBDENUM	
				PPB	ERR	PPB	ERR	PPB	ERR
2030	76-03-24	WRLA0		45.06	0.32	296.90	33.61	69.31	2.56
2031	76-03-24	WRLA0		18.66	0.15	116.00	17.60	33.24	1.35
2032	76-03-24	WRLA0		41.97	0.29			75.18	2.63
2034	76-03-24	WRLA0		0.16	0.01	94.26	14.31	6.50	0.26
2041	76-04-05	WRLA0		0.43	0.03	169.70	16.85	5.55	0.45

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

PART 5 OF 7

SITE	DATE	COL	TPTR	URANIUM		SODIUM		STRONTIUM		TANTALUM	
				PPB	ERR	PPM	ERR	PPB	ERR	PPT	ERR
2030	76-03-24	WRLAO		45.06	0.32	29.68	1.04	525.40	49.39		
2031	76-03-24	WRLAO		18.66	0.15	22.99	0.53	389.40	40.50	31.06	17.46
2032	76-03-24	WRLAO		41.97	0.29	49.14	1.77	639.40	60.74		
2034	76-03-24	WRLAO		0.16	0.01	36.96	1.63	56.02	14.45		
2041	76-04-05	WRLAO		0.43	0.03	41.85	1.05	203.80	30.37		

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

PART 6 OF 7

SITE	DATE	COL	TPTR	URANIUM		THORIUM		TUNGSTEN		YTTERBIUM		ZINC	
				PPB	ERR	PPT	ERR	PPB	ERR	PPT	ERR	PPB	ERR
2030	76-03-24	WRLAO		45.06	0.32					67.19	26.40	11.85	1.87
2031	76-03-24	WRLAO		18.66	0.15	30.78	19.88			45.20	21.24	24.14	1.57
2032	76-03-24	WRLAO		41.97	0.29	116.50	21.89	1.28	0.69	67.96	26.85		
2034	76-03-24	WRLAO		0.16	0.01	32.19	10.11	1.17	0.29				
2041	76-04-05	WRLAO		0.43	0.03							6.22	1.31

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 1.2 WATER ANALYSIS, RIVER AND STREAM SITES

PART 7 OF 7

SITE	DATE	COL	TPTR	URANIUM		ZIRCONIUM	
				PPB	ERR	PPB	ERR
2030	76-03-24	WRLAO		45.06	0.32	234.91	24.75
2031	76-03-24	WRLAO		18.66	0.15	103.54	14.81
2032	76-03-24	WRLAO		41.97	0.29	222.22	22.91
2034	76-03-24	WRLAO		0.16	0.01		
2041	76-04-05	WRLAO		0.43	0.03		

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 2.1 FIELD MEASUREMENTS, SPRING AND WELL SITES

SITE	LOCATION		H2O TEMP DEG C	PH	PHENO ALK MG/LITER	TOTAL ALK MG/LITER	DISS CO2 MG/LITER	DISS O2 PPM	EH MV
	NORTH-SOUTH	EAST-WEST							
2029	4436150N	297000E	16.5	6.8		260.00	18.00	4.50	180.00
2033	4456150N	297150E	19.5	7.7		60.00	6.00	4.62	130.00
2036	4457300N	297500E	18.8	7.4		100.00	4.00	7.20	140.00
2038	4464000N	298700E	10.7	7.2		140.00	8.00	4.80	160.00
2043	4444500N	297300E	18.9	8.0		140.00	6.00	6.04	0.85
2070	4470400N	304900E	12.5	7.4		240.00	14.00	5.30	25.00

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 1 OF 7

SITE	DATE	COL	TPTR	URANIUM		COND/LAB UMHOS/CM	CHLORIDE PPM	SULFATE PPM	ANTIMONY		ARSENIC	
				PPB	ERR				PPT	ERR	PPB	ERR
2029	76-03-24	WSLAO		1.61	0.04				69.18	16.41	2.17	0.37
		WSLNO				500.00	30.00	35.00				
2033	76-03-25	WSLAO		0.25	0.01				140.70	8.30	11.91	0.18
		WSLNO				232.00	20.00	25.00				
2036	76-03-25	WSLAO		0.15	0.01				127.70	4.78	9.86	0.17
		WSLNO				226.00	20.00	19.00				
2038	76-03-25	WSLAO		0.25	0.01				194.90	11.72	19.83	0.34
		WSLNO				400.00	30.00	38.00				
2038	76-03-25	WSLA1		0.27	0.01				186.50	11.56	19.79	0.34
		WSLN1				400.00	30.00	34.00				
2043	76-04-05	WSLAO		0.37	0.01				29.09	4.25	2.12	0.14
		WSLNO				312.00	20.00	28.00				
2070	76-04-08	WSLAO		57.17	0.46				167.70	17.45	9.74	0.48
		WSLNO				752.00	80.00	84.00				

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 2 OF 7

SITE	DATE	COL	TPTR	URANIUM		BARIUM		BROMINE		CALCIUM	
				PPB	ERR	PPB	ERR	PPB	ERR	PPM	ERR
2029	76-03-24	WSL	AO	1.61	0.04	37.46	4.57	42.39	0.49	37.85	0.68
2033	76-03-25	WSL	AO	0.25	0.01	7.73	1.01	2.70	0.37	4.95	0.09
2036	76-03-25	WSL	AO	0.15	0.01	3.07	0.64			1.31	0.06
2038	76-03-25	WSL	AO	0.25	0.01	59.72	1.91	5.26	0.39	3.74	0.10
2038	76-03-25	WSL	A1	0.27	0.01	15.04	2.00	4.45	0.39	3.81	0.10
2043	76-04-05	WSL	AO	0.37	0.01	11.25	0.73			9.46	0.15
2070	76-04-08	WSL	AO	57.17	0.46	30.96	7.34	2.18	0.39	64.64	0.97

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 3 OF 7

SITE	DATE	COL	TPTR	URANIUM		CHROMIUM		COBALT		GOLD	
				PPB	ERR	PPB	ERR	PPT	ERR	PPT	ERR
2029	76-03-24	WSLA0		1.61	0.04	1.06	0.15	354.40	43.32		
2033	76-03-25	WSLA0		0.25	0.01	0.63	0.10			0.71	0.26
2036	76-03-25	WSLA0		0.15	0.01	0.64	0.05				
2038	76-03-25	WSLA0		0.25	0.01	0.68	0.12				
2038	76-03-25	WSLA1		0.27	0.01	0.69	0.10				
2043	76-04-05	WSLA0		0.37	0.01	2.57	0.07	16.47	7.57		
2070	76-04-08	WSLA0		57.17	0.46	1.16	0.30				

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 4 OF 7

SITE	DATE	COL	TPTR	URANIUM		IRON		MOLYBDENUM	
				PPB	ERR	PPB	ERR	PPB	ERR
2029	76-03-24	WSLA0		1.61	0.04	171.70	32.71	6.82	0.35
2033	76-03-25	WSLA0		0.25	0.01	260.10	11.99	5.49	0.24
2036	76-03-25	WSLA0		0.15	0.01	254.30	6.52	4.24	0.16
2038	76-03-25	WSLA0		0.25	0.01	176.00	19.94	10.01	0.40
2038	76-03-25	WSLA1		0.27	0.01	95.15	17.98	10.76	0.40
2043	76-04-05	WSLA0		0.37	0.01	50.10	5.69	3.91	0.16
2070	76-04-08	WSLA0		57.17	0.46			118.45	3.85

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 5 OF 7

SITE	DATE	COL	TPTR	URANIUM		SODIUM		STRONTIUM		TANTALUM	
				PPB	ERR	PPM	ERR	PPB	ERR	PPT	ERR
2029	76-03-24	WSLAD		1.61	0.04	47.58	2.00	223.70	41.17		
2033	76-03-25	WSLAD		0.25	0.01	34.95	1.47	76.35	18.52		
2036	76-03-25	WSLAD		0.15	0.01	33.12	0.40	15.33	4.08		
2038	76-03-25	WSLAD		0.25	0.01	76.41	1.83			70.66	29.18
2038	76-03-25	WSLA1		0.27	0.01	74.86	0.45	90.46	23.88		
2043	76-04-05	WSLAD		0.37	0.01	41.22	0.43	208.70	5.92		
2070	76-04-08	WSLAD		57.17	0.46	51.85	2.18	583.00	58.30		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

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SITE	DATE	COL	TPTR	URANIUM		THORIUM		TUNGSTEN		YTTERBIUM		ZINC	
				PPB	ERR	PPT	ERR	PPB	ERR	PPT	ERR	PPB	ERR
2029	76-03-24	WSLA0		1.61	0.04	70.17	21.33					9.28	2.29
2033	76-03-25	WSLA0		0.25	0.01	100.60	7.25	1.21	0.15			9.77	1.32
2036	76-03-25	WSLA0		0.15	0.01			0.71	0.15			4.15	0.49
2038	76-03-25	WSLA0		0.25	0.01	34.87	10.15	1.73	0.23			45.63	2.28
2038	76-03-25	WSLA1		0.27	0.01	24.66	8.11	1.80	0.25	25.12	7.21		
2043	76-04-05	WSLA0		0.37	0.01	10.18	3.29					5.76	0.60
2070	76-04-08	WSLA0		57.17	0.46							4.45	1.56

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 2.2 WATER ANALYSIS, SPRING AND WELL SITES

PART 7 OF 7

SITE	DATE	COL	TPTR	URANIUM		ZIRCONIUM	
				PPB	ERR	PPB	ERR
2029	76-03-24	WSL	AO	1.61	0.04		
2033	76-03-25	WSL	AO	0.25	0.01		
2036	76-03-25	WSL	AO	0.15	0.01		
2038	76-03-25	WSL	AO	0.25	0.01		
2038	76-03-25	WSL	A1	0.27	0.01		
2043	76-04-05	WSL	AO	0.37	0.01		
2070	76-04-08	WSL	AO	57.17	0.46	278.97	27.65

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 3.1 PLAYA SEDIMENT SITES

SITE	LOCATION	
	NORTH-SOUTH	UTMS EAST-WEST
343	4425600N	298600E
347	4430450N	298700E
351	4436850N	299300E
353	4457450N	301900E
360	4441400N	298800E
363	4447900N	299200E
396	4462300N	300700E
398	4462300N	302000E
421	4426000N	302500E
423	4429400N	302500E
424	4430400N	300000E
427	4431950N	300100E
428	4433600N	299600E
429	4435300N	297000E
435	4459150N	300750E
437	4460700N	300800E
442	4458000N	304500E
451	4438300N	300500E
456	4449400N	303900E
457	4450950N	303000E
460	4428900N	296000E
2900	4428900N	297800E
2901	4456700N	299300E
2903	4438250N	300500E
2905	4455850N	300500E
2906	4449350N	305200E

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WINNEMUCCA DRY LAKE PILOT STUDY, PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 1 OF 6

SITE	DATE	COL	TPTR	URANIUM		ANTIMONY		ARSENIC		BARIUM		BROMINE	
				PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR
340	75-09-03	SP050		2.70	0.14	1.82	0.09	13.02	1.75	1291.00	63.24		
343	75-09-03	SP100		3.72	0.20	3.27	0.14	23.09	2.01	1070.00	35.30		
347	75-09-04	SP050		5.74	0.18	3.00	0.12	45.51	2.69	945.00	35.93	113.10	1.13
351	75-09-05	SP050		3.00	0.13	2.46	0.09	15.47	2.00	890.20	37.39	58.07	0.70
353	75-09-13	SP050		4.16	0.21	2.73	0.14	19.36	3.25	827.10	28.95	169.80	1.53
353	75-09-15	SP100		7.16	0.31	1.47	0.12	19.62	3.75	877.20	33.33	148.00	1.33
360	75-10-15	SP050		5.35	0.18	2.34	0.11	35.45	2.48	943.50	40.58	60.99	0.85
360	75-10-15	SP100		6.72	0.28	4.07	0.12	56.95	2.79	1081.00	34.61	32.01	0.67
363	75-10-16	SP050		5.19	0.24	2.54	0.12	16.19	2.95	1012.00	34.40	9.63	0.62
363	75-10-16	SP100		2.31	0.35	3.25	0.16	11.29	2.92	1144.00	26.59	7.13	0.61
396	75-08-07	SP050		2.82	0.12	4.80	0.10	13.80	2.22	1116.00	32.35	37.59	0.75
396	75-08-07	SP100		6.97	0.34	3.27	0.12	50.96	2.80	1143.00	43.42	25.01	0.65
398	75-08-07	SP050		3.23	0.17	2.50	0.09	21.89	2.12	912.10	22.30	30.99	0.59
398	75-08-07	SP100		15.92	0.29	2.19	0.14	17.15	2.28	1243.00	23.62	45.31	0.77
421	75-08-06	SP050		2.07	0.23	2.44	0.08	16.75	1.66	953.50	28.60	5.52	0.61
421	75-08-06	SP100		1.99	0.24	3.97	0.12	19.25	3.21	1086.00	30.18	3.89	0.61
423	75-08-06	SP050		3.06	0.26	2.54	0.14	12.94	3.74	1079.00	35.60	6.11	0.76
423	75-08-06	SP100		2.86	0.19	3.38	0.18	12.46	3.50	1443.00	47.61	5.81	0.83
424	75-08-06	SP100		2.56	0.23	4.74	0.18	16.46	3.82	977.70	35.20	21.92	0.99
427	75-08-07	SP050		1.77	0.11	1.69	0.11	7.45	1.63	849.20	45.01	19.82	0.57
427	75-08-07	SP100		2.97	0.14	2.20	0.11	45.96	2.53	971.30	25.26	23.12	0.67
428	75-08-07	SP050		2.58	0.13	2.64	0.12	16.58	2.64	690.90	32.48	64.94	0.84
428	75-08-07	SP100		3.52	0.13	2.85	0.09	52.97	2.17	933.20	34.53	22.81	0.57
429	75-08-07	SP050		3.63	0.19	2.58	0.10	18.71	2.49	840.50	25.21	56.14	0.90
429	75-08-07	SP100		6.37	0.24	1.50	0.11	13.46	2.46	681.50	29.99	132.80	1.20
435	75-08-08	SP050		1.35	0.38	2.19	0.10	9.43	2.85	847.60	27.97	68.74	0.96
435	75-08-08	SP100		7.16	0.29	3.78	0.19	54.00	5.18	1099.00	50.57	73.44	1.40
437	75-08-08	SP050		2.62	0.37	2.99	0.17	15.44	3.21	823.70	55.19	49.80	1.20
437	75-08-08	SP100		6.03	0.32	2.62	0.13	10.44	2.66	1097.00	60.34	44.43	1.07
442	75-08-08	SP050		4.01	0.17	3.38	0.10	14.42	2.57	992.70	27.80	8.87	0.55
442	75-08-08	SP100		13.08	0.30	4.09	0.16	18.73	2.96	1005.00	64.32	12.79	0.74
451	75-08-12	SP050		2.34	0.19	2.10	0.09	15.69	2.59	1110.00	27.75	3.64	0.49
451	75-08-12	SP100		3.66	0.36	1.82	0.12	17.02	3.13	599.10	27.56	184.30	1.66
456	75-08-12	SP050		2.81	0.17	3.40	0.14	8.86	2.72	1111.00	44.45	12.19	0.59
456	75-08-12	SP100		6.32	0.28	4.37	0.14	16.74	2.48	1271.00	26.70	21.02	0.71
457	75-08-12	SP050		3.38	0.12	3.67	0.11	20.31	2.42	748.50	23.20	135.20	0.81
457	75-08-12	SP100		6.58	0.22	1.66	0.11	19.84	2.32	684.10	36.31	200.50	1.40
460	75-08-05	SP050		5.48	0.27	3.13	0.15	22.59	2.51	1117.00	43.57	5.16	0.57
460	75-08-05	SP100		5.48	0.27	3.13	0.15	22.59	2.51	1117.00	43.57	5.16	0.57
460	75-08-05	SP050		5.48	0.27	3.13	0.15	22.59	2.51	1117.00	43.57	5.16	0.57
460	75-08-05	SP100		17.69	0.41	2.73	0.13	17.59	3.13	981.60	47.12	10.17	0.65
2900	75-08-20	SP050		3.34	0.25	2.27	0.16	20.38	3.53	1124.00	42.71	25.91	1.02
2901	75-08-20	SP050		3.73	0.22	4.00	0.19	9.87	3.26	1582.00	37.96	90.18	1.35
2901	75-08-20	SP100		11.13	0.29	2.81	0.08	44.29	2.04	1199.00	34.76	33.79	0.61
2903	75-08-20	SP050		4.57	0.18	2.27	0.13	14.12	1.81	727.10	24.72	174.20	1.22
2905	75-08-20	SP100		5.58	0.29	1.80	0.18	17.67	3.39	962.40	30.80	104.90	1.47
2906	75-08-20	SP050		4.16	0.22	2.32	0.14	19.66	3.42	787.20	26.77	135.40	1.08
2906	75-08-20	SP100		4.09	0.21	1.70	0.12	24.14	3.62	594.20	23.18	298.70	1.79

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WINNEMUCCA DR/ LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 2 OF 6

SITE	DATE	COL	TPTR	URANIUM		CALCIUM		CERIUM		CESIUM		CHROMIUM	
				PPM	ERR	PPK	ERR	PPM	ERR	PPM	ERR	PPM	ERR
343	75-09-03	SP050		2.70	0.14	45.05	1.17	43.59	1.25	4.25	0.16	23.97	1.75
343	75-09-03	SP100		3.72	0.20	43.40	4.25	48.04	1.10	8.88	0.24	43.64	1.66
347	75-09-04	SP050		5.74	0.18	64.45	2.00	29.51	0.99	5.13	0.27	26.56	1.54
351	75-09-05	SP050		3.00	0.13	83.74	1.34	36.66	0.84	5.51	0.18	30.66	1.20
353	75-09-15	SP050		4.16	0.21	71.15	1.57	28.00	0.82	7.19	0.19	17.36	1.56
353	75-09-15	SP100		7.16	0.31	63.14	1.71	25.92	0.93	5.98	0.30	19.84	1.43
360	75-10-15	SP050		5.95	0.18	90.21	2.44	39.03	1.33	4.41	0.21	30.24	1.54
360	75-10-15	SP100		6.72	0.28	103.40	2.27	44.77	1.10	3.34	0.19	45.79	1.51
363	75-10-16	SP050		5.19	0.24	54.75	1.97	40.18	1.32	7.94	0.29	30.35	1.76
363	75-10-16	SP100		2.31	0.35	42.28	1.44	50.96	1.42	10.61	0.27	34.34	1.86
396	75-08-07	SP050		2.82	0.12	41.11	1.07	38.95	0.76	9.70	0.19	32.38	1.23
396	75-08-07	SP100		6.97	0.34	148.20	3.11	28.25	1.09	4.56	0.18	22.28	1.98
398	75-08-07	SP050		3.23	0.17	69.76	1.60	38.45	0.84	6.28	0.15	24.28	1.02
398	75-08-07	SP100		15.92	0.29	78.58	1.41	29.52	0.98	8.54	0.25	25.18	1.08
421	75-08-06	SP050		2.07	0.23	45.86	3.85	41.23	1.14	7.08	0.13	39.32	1.38
421	75-08-06	SP100		1.99	0.24	27.32	4.07	49.78	1.16	9.34	0.20	39.56	1.35
423	75-08-06	SP050		3.06	0.26	48.91	4.11	43.14	1.22	8.67	0.31	47.49	1.90
423	75-08-06	SP100		2.86	0.19	25.50	4.51	52.76	1.34	11.84	0.30	36.20	1.85
424	75-08-06	SP100		2.56	0.23	31.22	4.93	44.31	1.65	7.82	0.42	35.10	1.83
427	75-08-07	SP050		1.77	0.11	39.79	1.75	38.13	1.28	5.99	0.26	45.80	1.60
427	75-08-07	SP100		2.97	0.14	33.46	1.17	42.53	1.50	7.02	0.25	40.16	2.33
428	75-08-07	SP050		2.58	0.13	48.58	1.41	32.42	0.98	6.87	0.27	27.60	1.60
428	75-08-07	SP100		3.52	0.13	46.35	1.39	35.21	0.93	5.34	0.20	36.61	1.47
429	75-08-07	SP050		3.63	0.19	54.03	1.78	32.06	1.04	7.40	0.27	26.91	1.62
429	75-08-07	SP100		6.37	0.24	44.65	1.34	27.44	1.03	6.00	0.27	24.96	1.22
435	75-08-08	SP050		1.35	0.38	66.07	1.45	38.38	1.05	6.91	0.24	25.09	1.48
435	75-08-08	SP100		7.16	0.29	77.46	1.78	37.51	1.18	7.48	0.45	24.80	2.70
437	75-08-08	SP050		2.62	0.37	70.83	2.83	36.83	1.57	6.37	0.28	25.30	1.75
437	75-08-08	SP100		6.03	0.32	41.27	1.65	40.89	1.56	9.84	0.31	29.18	1.84
442	75-08-08	SP050		4.01	0.17	96.63	2.32	38.69	1.24	6.11	0.21	22.42	1.28
442	75-08-08	SP100		13.08	0.30	68.00	1.90	30.56	1.69	8.01	0.22	26.27	1.21
451	75-08-12	SP050		2.34	0.19	54.67	1.42	40.81	1.13	4.21	0.16	26.94	1.08
451	75-08-12	SP100		3.66	0.36	47.85	1.53	26.67	1.02	6.08	0.15	20.47	1.04
456	75-08-12	SP050		2.81	0.17	59.28	1.54	44.51	0.95	11.63	0.34	31.48	1.42
456	75-08-12	SP100		8.32	0.28	54.32	1.58	34.65	0.97	11.24	0.31	32.69	1.41
457	75-08-12	SP050		3.38	0.12	52.07	0.89	26.87	0.52	7.56	0.24	23.22	1.21
457	75-08-12	SP100		6.58	0.22	69.72	1.39	20.07	0.69	5.16	0.30	14.67	1.35
460	75-08-05	SP050		5.48	0.27	60.01	5.34	47.69	1.24	8.60	0.25	36.98	1.59
460	75-08-05	SP050		5.48	0.27	60.01	5.34	47.69	1.24	8.60	0.25	36.98	1.59
460	75-08-05	SP100		17.69	0.41	46.46	4.37	37.04	1.30	10.50	0.32	35.01	1.79
2900	75-08-20	SP050		3.34	0.25	50.17	1.96	42.70	1.35	7.37	0.41	42.46	2.34
2901	75-08-20	SP050		3.73	0.22	58.75	1.82	35.48	1.07	8.53	0.38	30.19	1.90
2901	75-08-20	SP100		11.13	0.29	143.10	3.00	21.48	1.00	3.84	0.16	19.11	1.11
2903	75-08-20	SP050		4.57	0.18	46.65	1.21	31.12	0.80	7.53	0.34	24.60	1.57
2905	75-08-20	SP100		5.58	0.29	61.43	2.40	34.10	1.13	6.65	0.38	23.11	1.78
2906	75-08-20	SP050		4.16	0.22	51.00	1.28	28.65	0.78	7.86	0.32	22.51	1.49
2906	75-08-20	SP100		4.09	0.21	46.54	1.26	20.24	0.70	4.93	0.27	16.39	1.62

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 3 OF 6

SITE	DATE	COL	TPTR	URANIUM		COBALT		GOLD		HAFNIUM		IRON	
				PPM	ERR	PPM	ERR	PPB	ERR	PPM	ERR	PPK	ERR
343	75-09-03	SP050		2.70	0.14	9.93	0.25			3.32	0.11	30.35	0.36
343	75-09-03	SP100		3.72	0.20	14.41	0.26			3.55	0.14	42.40	0.38
347	75-09-04	SP050		5.74	0.18	12.02	0.28			2.52	0.21	30.39	0.35
351	75-09-05	SP050		3.00	0.13	11.27	0.23			2.66	0.09	30.44	0.33
353	75-09-15	SP050		4.16	0.21	10.50	0.26			2.15	0.12	26.71	0.35
353	75-09-15	SP100		7.16	0.31	10.02	0.31			2.39	0.11	26.94	0.38
360	75-10-15	SP050		5.35	0.18	12.27	0.27			2.47	0.18	32.16	0.35
360	75-10-15	SP100		6.72	0.28	13.43	0.26			3.03	0.18	35.33	0.35
363	75-10-16	SP050		5.19	0.24	14.32	0.27	8.61	5.13	3.40	0.13	35.79	0.39
363	75-10-16	SP100		2.31	0.35	15.55	0.30			4.07	0.11	40.84	0.45
396	75-08-07	SP050		2.82	0.12	15.43	0.22	6.97	3.43	3.53	0.10	41.93	0.38
396	75-08-07	SP100		6.97	0.34	8.46	0.22	4.60	3.68	2.31	0.16	22.53	0.29
398	75-08-07	SP050		3.23	0.17	10.98	0.19			3.31	0.09	29.63	0.27
398	75-08-07	SP100		15.92	0.29	13.50	0.22	6.90	3.51	3.29	0.11	33.29	0.30
421	75-08-06	SP050		2.07	0.23	14.38	0.23			3.42	0.15	38.55	0.35
421	75-08-06	SP100		1.99	0.24	17.00	0.24	7.85	4.47	3.78	0.11	44.69	0.40
423	75-08-06	SP050		3.06	0.26	15.06	0.26	6.87	4.89	3.85	0.12	40.62	0.45
423	75-08-06	SP100		2.86	0.19	17.98	0.32	11.48	6.90	3.74	0.22	45.96	0.51
424	75-08-06	SP100		2.56	0.23	16.70	0.33			3.85	0.15	41.81	0.36
427	75-08-07	SP050		1.77	0.11	13.32	0.24			3.21	0.13	36.07	0.36
427	75-08-07	SP100		2.97	0.14	14.94	0.27			3.65	0.15	40.10	0.40
428	75-08-07	SP050		2.58	0.13	12.60	0.25			2.52	0.12	32.86	0.36
428	75-08-07	SP100		3.52	0.13	12.10	0.21			2.79	0.08	31.72	0.32
429	75-08-07	SP050		3.63	0.19	12.79	0.28			2.21	0.16	32.76	0.39
429	75-08-07	SP100		6.37	0.24	11.70	0.25	4.77	3.84	2.46	0.09	29.57	0.33
435	75-08-08	SP050		1.35	0.38	12.21	0.21			2.84	0.12	32.89	0.33
435	75-08-08	SP100		7.16	0.29	12.71	0.32			3.18	0.14	31.79	0.67
437	75-08-08	SP050		2.62	0.37	11.13	0.27			2.67	0.14	30.24	0.45
437	75-08-08	SP100		6.03	0.32	14.27	0.27	5.44	4.37	2.93	0.32	37.59	0.45
442	75-08-08	SP050		4.01	0.17	10.57	0.18			2.80	0.08	28.62	0.31
442	75-08-08	SP100		13.08	0.30	14.52	0.12	8.03	4.64	3.22	0.15	34.87	0.38
451	75-08-12	SP050		2.34	0.19	10.34	0.18			3.00	0.13	29.75	0.30
451	75-08-12	SP100		3.66	0.36	10.70	0.19			1.86	0.12	26.43	0.32
456	75-08-12	SP050		2.81	0.17	13.35	0.24	9.66	5.02	4.57	0.12	38.36	0.31
456	75-08-12	SP100		8.32	0.28	15.32	0.26	10.73	4.45	4.06	0.11	38.11	0.34
457	75-08-12	SP050		3.38	0.12	12.09	0.19			2.50	0.09	30.56	0.21
457	75-08-12	SP100		6.58	0.22	8.70	0.24			2.00	0.09	21.60	0.26
460	75-08-05	SP050		5.48	0.27	18.06	0.31			3.74	0.13	42.85	0.51
460	75-08-05	SP100		5.48	0.27	18.06	0.31			3.74	0.13	42.85	0.51
460	75-08-05	SP100		17.69	0.41	14.87	0.27	12.70	5.67	3.95	0.17	38.29	0.46
2900	75-08-20	SP050		3.34	0.25	16.37	0.39	9.04	6.28	3.35	0.24	40.79	0.53
2901	75-08-20	SP050		3.73	0.22	14.25	0.38	13.29	6.60	3.24	0.14	36.17	0.43
2901	75-08-20	SP100		11.13	0.29	7.41	0.19			1.96	0.09	19.13	0.23
2903	75-08-20	SP050		4.57	0.18	12.86	0.27	12.28	4.50	2.30	0.19	33.32	0.33
2905	75-08-20	SP100		5.58	0.29	11.58	0.32			2.65	0.22	30.70	0.46
2906	75-08-20	SP050		4.16	0.22	11.90	0.23			2.56	0.09	31.71	0.35
2906	75-08-20	SP100		4.09	0.21	8.09	0.25			1.28	0.11	20.19	0.18

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 4 OF 6

SITE	DATE	COL	TPTR	URANIUM		MOLYBDENUM		SODIUM		STRONTIUM	
				PPM	ERR	PPM	ERR	PPK	ERR	PPM	ERR
343	75-09-03	SP050		2.70	0.14	7.71	1.00	21.68	0.48	631.60	93.48
343	75-09-03	SP100		3.72	0.20	9.17	2.21	22.83	0.50	614.50	79.27
347	75-09-04	SP050		5.74	0.18	61.63	3.57	61.35	0.92	1317.00	75.07
351	75-09-05	SP050		3.00	0.13	5.22	1.19	41.75	0.58	1193.00	84.72
353	75-09-15	SP050		4.16	0.21	8.46	2.15	81.92	1.39	1182.00	133.60
353	75-09-15	SP100		7.16	0.31	41.12	3.43	79.24	1.43	1177.00	156.60
360	75-10-15	SP050		5.35	0.18	25.47	2.34	38.88	0.82	932.70	85.81
360	75-10-15	SP100		6.72	0.28	32.95	2.90	30.39	0.58	1116.00	78.09
363	75-10-16	SP050		5.19	0.24	12.69	2.35	22.32	0.71	887.80	55.04
363	75-10-16	SP100		2.31	0.35	13.89	2.52	23.13	0.76	584.00	63.65
396	75-08-07	SP050		2.82	0.12	7.61	1.49	31.88	0.61	486.00	59.77
396	75-08-07	SP100		6.97	0.34	41.86	3.38	23.46	0.68	1857.00	52.01
398	75-08-07	SP050		3.23	0.17	6.95	1.12	31.36	0.60	855.00	61.56
398	75-08-07	SP100		15.92	0.29	32.23	2.36	35.55	0.85	1555.00	59.08
421	75-08-06	SP050		2.07	0.23	5.79	1.15	23.13	0.53	679.00	57.03
421	75-08-06	SP100		1.99	0.24	5.86	1.47	22.38	0.72	436.00	70.63
423	75-08-06	SP050		3.06	0.26	7.05	1.44	18.26	0.71	599.40	82.72
423	75-08-06	SP100		2.86	0.19			20.55	1.01	425.10	122.40
424	75-08-06	SP100		2.56	0.23			27.78	0.69	620.90	107.40
427	75-08-07	SP050		1.77	0.11	5.38	1.28	30.30	0.45	677.10	81.25
427	75-08-07	SP100		2.97	0.14	13.69	1.19	29.48	0.68	388.40	71.85
428	75-08-07	SP050		2.58	0.13	7.79	0.97	41.10	0.74	578.00	76.30
428	75-08-07	SP100		3.52	0.13	15.66	1.86	31.00	0.62	639.50	72.27
429	75-08-07	SP050		3.63	0.19	13.61	1.05	40.40	0.93	846.20	58.39
429	75-08-07	SP100		6.37	0.24	41.35	4.05	69.74	1.12	763.30	55.72
435	75-08-08	SP050		1.35	0.38	13.02	1.13	43.16	0.65	839.30	71.34
435	75-08-08	SP100		7.16	0.29	29.23	4.93	45.25	0.91	1490.00	180.30
437	75-08-08	SP050		2.62	0.37	8.42	1.14	36.20	1.01	984.40	53.16
437	75-08-08	SP100		6.03	0.32	22.29	2.75	35.85	1.11	590.10	56.06
442	75-08-08	SP050		4.01	0.17	10.01	2.19	19.29	0.58	1078.00	65.63
442	75-08-08	SP100		13.08	0.30	30.78	2.74	20.73	0.68	1353.00	70.38
451	75-08-12	SP050		2.94	0.19	6.21	1.46	20.44	0.76	691.40	44.94
451	75-08-12	SP100		3.66	0.36	19.77	1.29	86.24	1.64	715.40	43.64
456	75-08-12	SP050		2.81	0.17	7.46	1.76	24.16	0.56	537.70	73.13
456	75-08-12	SP100		8.32	0.28	26.36	1.86	23.45	0.59	550.40	56.69
457	75-08-12	SP050		3.38	0.12	10.08	1.67	66.73	0.67	1060.00	120.80
457	75-08-12	SP100		6.59	0.22	121.26	3.20	93.33	1.12	1177.00	78.86
460	75-08-05	SP050		5.48	0.27	13.58	2.60	21.76	0.52	846.60	102.40
460	75-08-05	SP050		5.48	0.27	13.58	2.60	21.76	0.52	846.60	102.40
460	75-08-05	SP100		17.69	0.41	46.86	3.34	23.49	0.68	614.60	101.40
2900	75-08-20	SP050		3.34	0.25	14.67	2.50	34.53	0.86	740.10	89.56
2901	75-08-20	SP050		3.73	0.22	5.67	2.51	47.12	1.13	899.20	143.90
2901	75-08-20	SP100		11.13	0.29	60.83	3.75	24.23	0.53	1665.00	44.95
2903	75-08-20	SP050		4.57	0.18	19.48	2.52	79.18	0.95	845.90	225.90
2905	75-08-20	SP100		5.58	0.29	50.31	3.86	61.81	1.30	939.30	93.04
2906	75-08-20	SP050		4.16	0.22	11.29	1.95	69.97	1.33	927.70	124.30
2906	75-08-20	SP100		4.09	0.21	51.07	2.76	129.30	1.68	958.10	149.50

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 5 OF 6

SITE	DATE	COL	TPTR	URANIUM		TANTALUM		TERBIUM		THORIUM		TUNGSTEN	
				PPM	ERR	PPB	ERR	PPB	ERR	PPM	ERR	PPM	ERR
343	75-09-03	SP050		2.70	0.14	793.70	127.00	528.90	43.90	8.	0.	9.12	3.29
343	75-09-03	SP100		3.72	0.20	847.00	131.30	648.20	64.92	8.	0.		
347	75-09-04	SP050		5.74	0.18	545.30	177.80	468.70	61.54	6.	0.	17.44	6.61
351	75-09-05	SP050		3.00	0.13	630.70	150.70	599.50	69.55	6.	0.		
353	75-09-15	SP050		4.16	0.21	582.30	187.50	366.80	84.37	6.	0.		
353	75-09-15	SP100		7.16	0.31	637.10	208.30	387.00	98.69	6.	0.		
360	75-10-15	SP050		5.35	0.18	741.00	148.20	653.00	80.97	6.	0.	14.97	5.94
360	75-10-15	SP100		6.72	0.28	572.80	115.70	830.40	92.18	6.	0.	14.87	7.57
363	75-10-16	SP050		5.19	0.24	631.40	144.00	607.10	85.60	7.	0.		
363	75-10-16	SP100		2.31	0.35	733.60	148.20	703.00	62.57	10.	0.		
396	75-08-07	SP050		2.82	0.12	866.20	113.50	632.40	65.13	8.	0.		
396	75-08-07	SP100		6.97	0.34	434.10	122.40	511.80	41.97	6.	0.	10.29	5.96
398	75-08-07	SP050		3.23	0.17	680.50	100.00	589.20	47.72	8.	0.		
398	75-08-07	SP100		15.92	0.29	837.70	108.10	553.50	40.95	8.	0.		
421	75-08-06	SP050		2.07	0.23	634.40	117.40	564.80	40.10	7.	0.	14.51	8.41
421	75-08-06	SP100		1.99	0.24	800.20	112.80	633.50	42.44	8.	0.		
423	75-08-06	SP050		3.06	0.26	763.60	122.90	663.90	49.79	8.	0.		
423	75-08-06	SP100		2.86	0.19	993.30	159.90	733.30	61.60	10.	0.	24.38	15.09
424	75-08-06	SP100		2.56	0.23	867.10	226.30	645.70	114.90	6.	0.		
427	75-08-07	SP050		1.77	0.11	526.10	126.30	515.20	69.03	6.	0.		
427	75-08-07	SP100		2.97	0.14	620.80	141.60	612.00	75.89	6.	0.		
428	75-08-07	SP050		2.58	0.13	522.00	122.70	430.30	62.39	5.	0.		
428	75-08-07	SP100		3.52	0.13	574.00	112.50	481.00	56.76	6.	0.	8.16	3.40
429	75-08-07	SP050		3.63	0.19	436.00	118.20	519.00	63.31	5.	0.	17.25	5.88
429	75-08-07	SP100		6.37	0.24	456.30	130.50	453.50	66.49	5.	0.		
435	75-08-08	SP050		1.35	0.38	555.40	116.60	533.60	58.70	7.	0.		
435	75-08-08	SP100		7.16	0.29	1117.00	425.50	524.80	114.90	9.	0.		
437	75-08-08	SP050		2.62	0.37	537.40	172.00	495.50	89.20	7.	0.	8.52	5.04
437	75-08-08	SP100		6.03	0.32	743.30	139.70	596.90	84.16	9.	0.	31.46	15.54
442	75-08-08	SP050		4.01	0.17	528.10	97.17	558.90	60.92	8.	0.	10.49	4.67
442	75-08-08	SP100		13.08	0.30	611.20	114.90	505.60	56.63	7.	0.		
451	75-08-12	SP050		2.34	0.19	593.80	96.80	522.90	50.72	7.	0.	13.91	7.26
451	75-08-12	SP100		3.66	0.36	489.00	132.80	393.50	59.82	5.	0.		
456	75-08-12	SP050		2.81	0.17	862.10	152.60	620.70	77.59	10.	0.		
456	75-08-12	SP100		8.32	0.28	950.60	152.10	603.10	84.43	9.	0.		
457	75-08-12	SP050		3.38	0.12	707.10	169.00	411.90	51.49	6.	0.		
457	75-08-12	SP100		6.58	0.22	709.20	368.80	377.00	73.52	4.	0.		
460	75-08-05	SP050		5.48	0.27	750.60	174.10	728.80	93.28	8.	0.		
460	75-08-05	SP100		5.48	0.27	750.60	174.10	728.80	93.28	8.	0.		
460	75-08-05	SP100		17.69	0.41	762.10	149.40	703.00	58.35	10.	0.		
2900	75-08-20	SP050		3.34	0.25	727.30	208.70	626.30	110.20	6.	0.		
2901	75-08-20	SP050		3.73	0.22	798.30	238.70	549.30	93.38	7.	0.		
2901	75-08-20	SP100		11.13	0.29	336.90	107.20	464.80	56.24	5.	0.		
2903	75-08-20	SP050		4.57	0.18	1133.00	475.80	392.70	87.57	6.	0.		
2905	75-08-20	SP100		5.58	0.29	616.50	236.10	566.10	107.00	7.	0.		
2906	75-08-20	SP050		4.16	0.22	649.40	168.20	341.40	92.53	6.	0.		
2906	75-08-20	SP100		4.09	0.21	456.30	229.20	298.60	80.92	4.	0.		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 3.2 SEDIMENT ANALYSIS, PLAYA SITES

PART 6 OF 6

SITE	DATE	COL	TPTR	URANIUM		YTTERBIUM		ZINC		ZIRCONIUM	
				PPM	ERR	PPB	ERR	PPM	ERR	PPM	ERR
343	75-09-03	SP050		2.70	0.14	1878.00	67.12	73.05	7.89	104.04	61.94
343	75-09-03	SP100		3.72	0.20	2254.00	64.93	99.94	8.10	146.64	75.37
347	75-09-04	SP050		5.74	0.18	1489.00	73.77	68.70	9.42	150.11	62.61
351	75-09-05	SP050		3.00	0.13	1883.00	71.50	73.47	7.35		
353	75-09-15	SP050		4.16	0.21	1334.00	104.60	82.84	9.61		
353	75-09-15	SP100		7.16	0.31	1458.00	86.58	75.01	9.75		
360	75-10-15	SP050		5.35	0.18	1751.00	79.12	74.36	8.93		63.64
360	75-10-15	SP100		6.72	0.28	2101.00	87.46	68.89	9.10	167.91	69.87
363	75-10-16	SP050		5.19	0.24	1790.00	64.70	98.41	8.27	189.19	95.83
363	75-10-16	SP100		2.31	0.35	1519.00	115.90	123.90	8.67	175.13	76.15
396	75-08-07	SP050		2.82	0.12	1849.00	59.81	117.60	7.30	145.96	72.13
396	75-08-07	SP100		6.97	0.34	1810.00	66.05	63.83	7.47	126.90	63.43
398	75-08-07	SP050		3.23	0.17	1965.00	57.11	74.63	6.20	128.23	53.13
398	75-08-07	SP100		15.92	0.29	2070.00	67.16	93.12	7.45	221.82	61.78
421	75-08-06	SP050		2.07	0.23	1797.00	69.50	96.33	7.80	161.51	83.12
421	75-08-06	SP100		1.99	0.24	2006.00	75.72	110.90	7.21	176.94	67.85
423	75-08-06	SP050		3.06	0.26	2296.00	85.48	146.70	8.36	156.89	75.09
423	75-08-06	SP100		2.86	0.19	2332.00	98.68	139.40	10.04		
424	75-08-06	SP100		2.56	0.23	1911.00	128.30	99.83	11.28		
427	75-08-07	SP050		1.77	0.11	1682.00	50.39	81.08	8.27	120.96	65.77
427	75-08-07	SP100		2.97	0.14	1839.00	75.71	98.25	9.24	197.06	80.01
428	75-08-07	SP050		2.58	0.13	1521.00	52.12	78.36	7.76	87.07	62.89
428	75-08-07	SP100		3.52	0.13	1682.00	66.53	74.31	6.39	116.10	66.95
429	75-08-07	SP050		3.63	0.19	1228.00	71.51	81.46	7.90	122.85	66.91
429	75-08-07	SP100		6.37	0.24	1065.00	67.73	69.63	8.22	99.27	55.70
435	75-08-08	SP050		1.35	0.38	1603.00	89.66	82.06	7.14	158.04	55.41
435	75-08-08	SP100		7.16	0.29	2081.00	140.30	93.12	10.52		
437	75-08-08	SP050		2.62	0.37	1645.00	93.61	87.95	11.70		
437	75-08-08	SP100		6.03	0.32	1802.00	98.16	107.70	9.37	147.76	76.49
442	75-08-08	SP050		4.01	0.17	1786.00	66.53	79.10	6.41	119.62	57.55
442	75-08-08	SP100		13.08	0.30	1613.00	74.71	95.99	8.45	185.92	67.50
451	75-08-12	SP050		2.34	0.19	1620.00	66.56	68.42	5.89	104.82	54.77
451	75-08-12	SP100		3.66	0.36	1200.00	54.17	67.49	7.70	109.85	58.93
456	75-08-12	SP050		2.81	0.17	2135.00	93.61	106.20	10.09		
456	75-08-12	SP100		8.32	0.28	1709.00	77.59	128.30	9.11	199.34	84.46
457	75-08-12	SP050		3.38	0.12	1205.00	62.30	77.60	8.07		
457	75-08-12	SP100		6.58	0.22	824.00	74.46	59.11	9.88		
460	75-08-05	SP050		5.48	0.27	2142.00	80.26	98.74	9.48	185.54	96.57
460	75-08-05	SP050		5.48	0.27	2142.00	80.26	98.74	9.48	185.54	96.57
460	75-08-05	SP100		17.69	0.41	2399.00	95.85	130.70	9.68	263.48	86.83
2900	75-08-20	SP050		3.34	0.25	2047.00	126.80	104.60	13.08		
2901	75-08-20	SP050		3.73	0.22	1829.00	111.20	115.10	11.40		
2901	75-08-20	SP100		11.13	0.29	1601.00	48.10	54.54	6.17	120.34	58.17
2903	75-08-20	SP050		4.57	0.18	1415.00	89.44	56.26	10.92		
2905	75-08-20	SP100		5.58	0.29	1645.00	117.90	92.31	11.82	200.71	100.62
2906	75-08-20	SP050		4.16	0.22	1457.00	86.19	95.78	8.81		
2906	75-08-20	SP100		4.09	0.21	860.70	85.14	36.49	10.00		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 4.1 RIVER AND STREAM SEDIMENT SITES

SITE	LOCATION UTMS	
	NORTH-SOUTH	EAST-WEST
2017	4423400N	303500E
2030	4476000N	306900E
2033	4456150N	297150E
2034	4455950N	297350E
2036	4457300N	297500E
2044	4434000N	307400E
2070	4470400N	304900E

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 1 OF 6

SITE	DATE	COL	TPTR	URANIUM		ANTIMONY		ARSENIC		BARIUM		BROMINE	
				PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR
2017	76-03-23	SWDSO		1.35	0.13	0.92	0.16	10.94	3.27	884.10	39.79		
2030	76-03-24	SWDSO		3.97	0.16	0.73	0.09			1115.00	32.34		
2033	76-03-25	SWDSO		2.23	0.17	0.40	0.13			1069.00	33.15		
2034	76-03-24	SWDSO		2.28	0.22	0.42	0.13			907.90	74.45		
2036	76-03-25	SWDSO		2.30	0.41	0.78	0.10	8.56	2.77	1591.00	33.41		
2036	76-03-25	SWDSO		2.30	0.41	0.78	0.10	8.56	2.77	1591.00	33.41		
2044	76-04-06	SWDSO		4.69	0.18	1.39	0.09	14.17	1.01	962.40	38.50	2.39	0.24
2070	76-04-08	SWDSO		1.76	0.10	0.48	0.08			684.10	32.16		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 2 OF 6

SITE	DATE	COL	TPTR	URANIUM		CALCIUM		CERIUM		CESIUM		CHROMIUM	
				PPM	ERR	PPK	ERR	PPM	ERR	PPM	ERR	PPM	ERR
2017	76-03-23	SWDSO		1.35	0.13	51.02	1.22	39.14	0.94	1.85	0.24	65.57	1.71
2030	76-03-24	SWDSO		3.97	0.16	28.76	0.69	24.32	0.66	5.44	0.22	10.78	0.99
2033	76-03-25	SWDSO		2.23	0.17	34.77	5.46	66.11	1.98	3.39	0.26	30.31	2.00
2034	76-03-24	SWDSO		2.28	0.22	30.82	0.86	65.03	1.36	2.22	0.29	23.49	1.39
2036	76-03-25	SWDSO		2.30	0.41	14.08	4.48	68.24	1.87	2.92	0.18	6.66	1.29
2036	76-03-25	SWDSO		2.30	0.41	14.08	4.48	68.24	1.87	2.92	0.18	6.66	1.29
2044	76-04-06	SWDSO		4.69	0.18	29.78	0.80	21.57	0.72	7.68	0.27	16.26	1.24
2070	76-04-08	SWDSO		1.76	0.10	34.27	0.99	18.21	0.62	3.73	0.22	12.08	0.99

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 3 OF 6

SITE	DATE	COL	TPTR	URANIUM		COBALT		GOLD		HAFNIUM		IRON	
				PPM	ERR	PPM	ERR	PPB	ERR	PPM	ERR	PPK	ERR
2017	76-03-23	SWDSO		1.35	0.13	18.91	0.26			2.75	0.09	45.28	0.36
2030	76-03-24	SWDSO		3.97	0.16	10.25	0.19			3.56	0.10	29.66	0.27
2033	76-03-25	SWDSO		2.23	0.17	14.15	0.21			3.90	0.17	43.26	0.43
2034	76-03-24	SWDSO		2.28	0.22	10.66	0.25			4.61	0.12	40.86	0.37
2036	76-03-25	SWDSO		2.30	0.41	2.49	0.08			5.72	0.14	21.67	0.28
2036	76-03-25	SWDSO		2.30	0.41	2.49	0.08			5.72	0.14	21.67	0.28
2044	76-04-06	SWDSO		4.69	0.18	6.20	0.22			2.82	0.12	18.64	0.26
2070	76-04-08	SWDSO		1.76	0.10	13.46	0.19			3.16	0.12	41.33	0.37

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 4 OF 6

SITE	DATE	COL	TPTR	URANIUM		MOLYBDENUM		SODIUM		STRONTIUM	
				PPM	ERR	PPM	ERR	PPK	ERR	PPM	ERR
2017	76-03-23	SWDSO		1.35	0.13			18.31	0.48	658.20	96.10
2030	76-03-24	SWDSO		3.97	0.16	9.94	1.15	23.62	0.69	532.10	39.37
2033	76-03-25	SWDSO		2.23	0.17			27.97	1.16	564.10	82.93
2034	76-03-24	SWDSO		2.28	0.22	5.58	1.80	26.92	0.81	338.30	90.33
2036	76-03-25	SWDSO		2.30	0.41	8.61	2.34	37.22	1.42	395.00	98.95
2036	76-03-25	SWDSO		2.30	0.41	8.61	2.34	37.22	1.49	395.00	99.95
2044	76-04-06	SWDSO		4.69	0.18	17.20	1.58	22.86	0.30	646.30	128.60
2070	76-04-08	SWDSO		1.76	0.10	2.73	1.26	19.26	0.52	471.20	37.70

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 5 OF 6

SITE	DATE	COL	TPTR	URANIUM		TANTALUM		TERBIUM		THORIUM		TUNGSTEN	
				PPM	ERR	PPB	ERR	PPB	ERR	PPM	ERR	PPM	ERR
2017	76-03-23	SWDS0		1.35	0.13	527.50	170.40	729.40	45.22	3.	0.		
2030	76-03-24	SWDS0		3.97	0.16	774.90	101.50	428.40	56.13	4.	0.		
2033	76-03-25	SWDS0		2.23	0.17	722.30	112.00	1081.00	76.75	5.	0.	37.69	14.96
2034	76-03-24	SWDS0		2.28	0.22	769.40	162.40	1170.00	90.09	6.	0.		
2036	76-03-25	SWDS0		2.30	0.41	1153.00	113.00	722.20	44.05	7.	0.		
2036	76-03-25	SWDS0		2.30	0.41	1153.00	113.00	722.20	44.05	7.	0.		
2044	76-04-06	SWDS0		4.69	0.18	642.30	150.90	359.40	64.70	8.	0.		
2070	76-04-08	SWDS0		1.76	0.10	429.20	85.84	492.20	47.25	2.	0.		

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVINGMORE LABORATORY
 TABLE 4.2 SEDIMENT ANALYSIS, RIVER AND STREAM SITES

PART 6 OF 6

SITE	DATE	COL	TPTR	URANIUM		YTTERBIUM		ZINC		ZIRCONIUM	
				PPM	ERR	PPB	ERR	PPM	ERR	PPM	ERR
2017	76-03-23	SWDSO		1.35	0.13	2257.00	82.93	94.83	9.11		
2030	76-03-24	SWDSO		3.97	0.16	1139.00	65.34	56.56	6.85	165.65	55.70
2033	76-03-25	SWDSO		2.23	0.17	3211.00	101.80	94.43	7.27	163.26	71.78
2034	76-03-24	SWDSO		2.28	0.22	3587.00	74.55	98.52	10.36	103.61	71.41
2036	76-03-25	SWDSO		2.30	0.41	2556.00	80.28	67.59	5.95	222.96	57.61
2036	76-03-25	SWDSO		2.30	0.41	2556.00	80.28	67.59	5.95	222.96	57.61
2044	76-04-06	SWDSO		4.69	0.18	1215.00	64.34	60.65	8.92	112.51	59.27
2070	76-04-08	SWDSO		1.76	0.10	1284.00	54.12	81.32	5.86	120.50	56.04

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 5.1 DRY SEDIMENT SITES

SITE	LOCATION	
	NORTH-SOUTH	UTMS EAST-WEST
321	4419650N	301900E
326	4471250N	301100E
327	4463250N	305200E
329	4458000N	307000E
330	4477950N	304600E
331	4438500N	304450E
332	4440400N	304100E
333	4441900N	304050E
335	4446100N	304650E
366	4429600N	304500E
368	4434500N	303000E
371	4423700N	295000E
372	4429600N	295800E
373	4446800N	295200E
374	4450350N	297500E
376	4452900N	297700E
2011	4423500N	302950E
2013	4423200N	304950E
2016	4422800N	304400E
2020	4425900N	305200E
2022	4426300N	308200E
2039	4466300N	297800E
2042	4444700N	297400E
2044	4434000N	307400E
2045	4433600N	307350E
2046	4433500N	307300E
2047	4434010N	305300E
2048	4436200N	305050E
2049	4442000N	304200E
2050	4444450N	302900E
2051	4444150N	305700E
2052	4444250N	305800E
2053	4444900N	306100E
2055	4444650N	306200E
2059	4452300N	306400E
2060	4425800N	296200E
2061	4456500N	304900E
2062	4454300N	305550E
2063	4457100N	308500E
2065	4456700N	308100E
2068	4470400N	301200E
2069	4470500N	304500E
2071	4475200N	301500E
2072	4463250N	305200E
2073	4466250N	304900E
2080	4455200N	307600E

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 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

PART 1 OF 6

SITE	DATE	COL	TPTR	URANIUM		ANTIMONY		ARSENIC		BARIUM		BROMINE	
				PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	1.73	0.07	19.98	2.16	1334.00		28.01	
326	75-11-12	SDDSO		0.88	0.07	0.38	0.02	1.99	0.32	814.00		18.74	
327	75-11-12	SDDSO		0.66	0.12	0.55	0.05	4.94	1.57	1025.00		17.42	
329	75-11-12	SDDSO		1.72	0.10	0.41	0.07	11.65	2.16	1135.00		21.57	
330	75-11-12	SDDSO		0.73	0.06	0.50	0.05	4.84	1.42	1088.00		15.23	
331	75-11-13	SDDSO		0.91	0.17	0.88	0.05	3.87	0.72	916.00		18.33	
332	75-11-13	SDDSO		1.01	0.07	1.00	0.04	3.50	1.05	921.70		17.51	
333	75-11-13	SDDSO		1.08	0.08	0.87	0.04	5.06	0.97	838.70		11.74	
335	75-11-13	SDDSO		1.89	0.08	0.34	0.05	5.66	0.66	608.50		17.65	
366	75-09-18	SDDSO		6.13	0.26	5.04	0.14	26.93	3.82	1055.00		32.71	
366	75-09-18	SDDSO		6.13	0.26	5.04	0.14	26.93	3.82	1055.00		32.71	
368	75-09-18	SDDSO		4.26	0.27	6.54	0.13	49.40	3.01	1289.00		25.79	
371	75-10-17	SDDSO		1.13	0.24	0.46	0.12	8.45	1.53	1174.00		45.77	
372	75-10-17	SDDSO		1.64	0.23	0.48	0.07	3.35	0.79	1631.00		45.67	
373	75-10-17	SDDSO		1.27	0.32	0.35	0.11			850.10		59.56	2.41
374	75-10-17	SDDSO		1.74	0.22	0.35	0.12			922.50		35.98	0.73
376	75-10-17	SDDSO		2.68	0.31	0.48	0.15			1228.00		52.80	
2011	76-03-23	SDDSO		2.99	0.16	3.10	0.13	19.44	2.70	995.80		74.69	
2013	76-03-23	SDDSO		1.34	0.14	1.67	0.11	26.92	2.88	654.90		35.37	
2016	76-03-23	SDDSO		1.16	0.15	0.77	0.11	8.63	2.92	871.10		37.46	
2020	76-03-23	SDDSO		1.83	0.14	1.14	0.11			1107.00		35.43	
2022	76-03-23	SDDSO		1.51	0.13	0.59	0.10	5.68	1.70	1111.00		48.90	
2039	76-03-25	SDDSO		1.96	0.20	0.40	0.18			1055.00		64.33	
2042	76-04-05	SDDSO		1.67	0.20	0.89	0.13	14.60	3.65	1378.00		59.27	
2044	76-04-06	SDDSO		4.35	0.20	1.05	0.06	15.32	2.13	989.20		24.73	
2045	76-04-06	SDDSO		2.69	0.19	1.08	0.08	17.27	1.76	937.30		22.50	
2046	76-04-06	SDDSO		4.50	0.27	2.71	0.12	28.47	2.79	1247.00		33.68	
2047	76-04-06	SDDSO		3.97	0.21	2.63	0.10	27.77	1.97	1230.00		24.60	
2048	76-04-06	SDDSO		1.79	0.12	1.17	0.06	3.58	1.03	1033.00		18.59	
2049	76-04-06	SDDSO		1.49	0.09	0.77	0.05	5.21	1.22	1120.00		19.04	
2050	76-04-05	SDDSO		3.10	0.14	1.02	0.03	12.49	0.78	1148.00		18.37	
2051	76-04-05	SDDSO		2.15	0.20	0.53	0.06	6.95	1.26	995.80		19.94	
2052	76-04-05	SDDSO		2.87	0.18	1.03	0.06	9.97	1.45	889.30		16.01	
2053	76-04-05	SDDSO		6.46	0.36	0.76	0.05	30.18	2.38	986.40		20.71	
2055	76-04-05	SDDSO		3.21	0.21	0.47	0.09			1075.00		25.81	
2059	76-04-05	SDDSO		2.05	0.10	0.93	0.04	4.31	1.16	815.60		13.87	
2060	76-04-05	SDDSO		2.36	0.15	1.16	0.09	18.89	1.27	1798.00		57.53	
2061	76-04-06	SDDSO		0.77	0.06	0.63	0.04	4.95	1.23	925.40		11.11	1.59
2062	76-04-06	SDDSO		1.26	0.07	0.57	0.04	2.28	0.66	841.20		13.46	0.32
2063	76-04-06	SDDSO		1.85	0.12	0.77	0.06	3.77	1.56	939.30		20.66	
2065	76-04-06	SDDSO		3.19	0.30	0.51	0.09			2059.00		39.13	
2068	76-04-08	SDDSO		3.01	0.20	1.13	0.10			951.90		33.32	
2069	76-04-08	SDDSO		4.87	0.24	0.65	0.05			819.80		26.23	
2071	76-04-08	SDDSO		1.34	0.25	0.80	0.16			1395.00		39.05	
2072	76-04-12	SDDSO		1.58	0.12	3.15	0.08	9.59	1.79	779.50		21.05	
2073	76-04-12	SDDSO		5.14	0.16	0.70	0.08			181.70		57.79	
2080	76-04-06	SDDSO		1.78	0.14	0.75	0.06	3.70	1.39	592.40		14.22	

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

PART 2 OF 6

SITE	DATE	COL	TPTR	URANIUM		CALCIUM		CERIUM		CESIUM		CHROMIUM	
				PPM	ERR	PPK	ERR	PPM	ERR	PPM	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	33.84	1.29	42.80	0.98	2.86	0.11	12.33	1.37
326	75-11-12	SDDSO		0.88	0.07	29.28	0.94	11.60	0.39	1.96	0.08	4.75	0.59
327	75-11-12	SDDSO		0.66	0.12	31.23	1.03	11.60	0.34	2.02	0.10	3.30	0.59
329	75-11-12	SDDSO		1.72	0.10	42.75	1.03	28.25	0.75	2.58	0.13	21.83	1.07
330	75-11-12	SDDSO		0.73	0.06	36.48	1.02	11.07	0.29	1.53	0.08	2.79	0.42
331	75-11-13	SDDSO		0.91	0.17	20.59	0.66	13.65	0.45	4.69	0.15	3.96	0.79
332	75-11-13	SDDSO		1.01	0.07	19.59	0.59	13.30	0.35	3.34	0.07	3.23	0.41
333	75-11-13	SDDSO		1.08	0.08	18.73	0.64	11.49	0.30	4.40	0.08	2.75	0.53
335	75-11-13	SDDSO		1.89	0.08	20.04	2.67	9.52	0.39	3.91	0.14	3.60	0.58
366	75-09-18	SDDSO		6.13	0.26	56.85	1.93	45.32	1.25	10.23	0.20	30.82	1.94
366	75-09-18	SDDSO		6.13	0.26	56.85	1.93	45.32	1.25	10.23	0.20	30.82	1.94
368	75-09-18	SDDSO		4.26	0.27	105.80	1.90	30.64	0.87	3.50	0.13	25.57	1.48
371	75-10-17	SDDSO		1.13	0.24	64.03	6.66	62.35	1.73	1.33	0.26	109.30	2.73
372	75-10-17	SDDSO		1.64	0.23	43.71	1.49	57.97	1.74	1.46	0.16	37.30	2.35
373	75-10-17	SDDSO		1.27	0.32	36.51	3.58	55.23	1.22	1.70	0.13	33.01	1.85
374	75-10-17	SDDSO		1.74	0.22	61.79	1.61	60.39	1.44	1.48	0.21	69.41	2.22
376	75-10-17	SDDSO		2.68	0.31	39.16	1.18	72.61	2.42	2.67	0.30	22.23	2.22
2011	76-03-23	SDDSO		2.99	0.16	61.21	1.35	42.72	0.97	4.51	0.21	24.77	1.31
2013	76-03-23	SDDSO		1.34	0.14	42.50	1.49	54.79	1.18	1.81	0.24	59.31	1.66
2016	76-03-23	SDDSO		1.16	0.15	47.78	1.29	34.24	0.89	2.02	0.36	65.97	1.72
2020	76-03-23	SDDSO		1.83	0.14	48.22	1.16	48.14	1.15	2.06	0.26	44.37	1.46
2022	76-03-23	SDDSO		1.51	0.13	56.75	2.55	46.09	2.61	1.64	0.30	53.42	2.35
2039	76-03-25	SDDSO		1.96	0.20	40.52	5.96	65.62	1.96	2.55	0.38	50.85	2.29
2042	76-04-05	SDDSO		1.67	0.20	49.85	4.84	69.27	1.36	3.19	0.22	30.84	1.57
2044	76-04-06	SDDSO		4.35	0.20	27.47	0.55	22.28	0.63	8.50	0.14	11.78	0.59
2045	76-04-06	SDDSO		2.69	0.19	31.19	1.15	22.12	0.71	8.99	0.20	15.41	0.80
2046	76-04-06	SDDSO		4.50	0.27	77.86	1.95	39.20	1.28	5.27	0.18	36.89	1.51
2047	76-04-06	SDDSO		3.97	0.21	55.50	1.67	33.00	0.90	5.93	0.14	28.16	1.30
2048	76-04-06	SDDSO		1.79	0.12	17.65	1.91	16.21	0.48	5.73	0.11	4.52	0.72
2049	76-04-06	SDDSO		1.49	0.09	21.08	0.72	10.15	0.35	4.37	0.12	4.25	0.60
2050	76-04-05	SDDSO		3.10	0.14	27.02	1.00	21.88	0.54	4.15	0.06	5.39	0.66
2051	76-04-05	SDDSO		2.15	0.20	20.25	0.81	13.50	0.41	4.41	0.11	4.67	0.52
2052	76-04-05	SDDSO		2.87	0.18	23.57	0.80	13.31	0.45	3.55	0.12	3.66	0.59
2053	76-04-05	SDDSO		6.46	0.36	24.09	1.08	15.74	0.70	4.07	0.13	7.80	1.02
2055	76-04-05	SDDSO		3.21	0.21	25.65	1.36	203.56	3.93	3.93	0.22	6.32	1.16
2059	76-04-05	SDDSO		2.05	0.10	10.30	2.56	8.35	0.28	3.48	0.09	4.98	0.46
2060	76-04-05	SDDSO		2.36	0.15	164.50	2.80	45.96	1.16	1.40	0.28	57.75	1.79
2061	76-04-06	SDDSO		0.77	0.06	20.01	0.36	10.89	0.26	2.96	0.07	1.97	0.30
2062	76-04-06	SDDSO		1.26	0.07	19.37	0.46	11.69	0.34	3.67	0.08	3.66	0.33
2063	76-04-06	SDDSO		1.85	0.12	17.34	0.76	17.94	0.50	5.18	0.12	6.72	0.69
2065	76-04-06	SDDSO		3.19	0.30	16.17	4.76	78.34	2.21	3.42	0.18	3.75	0.96
2068	76-04-08	SDDSO		3.01	0.20	26.35	0.69	51.29	0.99	5.53	0.21	31.15	1.34
2069	76-04-08	SDDSO		4.87	0.24	34.41	0.93	25.66	1.26	2.46	0.08	11.91	0.68
2071	76-04-08	SDDSO		1.34	0.25	28.88	1.79	26.40	1.45	2.03	0.39	12.50	1.81
2072	76-04-12	SDDSO		1.58	0.12	32.57	1.01	14.07	0.63	2.53	0.11	8.61	0.64
2073	76-04-12	SDDSO		5.14	0.16	37.72	0.68	23.02	0.52	2.44	0.15	8.87	0.67
2080	76-04-06	SDDSO		1.78	0.14	19.72	0.77	20.90	0.82	5.29	0.13	4.09	0.56

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

PART 3 OF 6

SITE	DATE	COL	TPTR	URANIUM		COBALT		GOLD		HAFNIUM		IRON	
				PPM	ERR	PPM	ERR	PPB	ERR	PPM	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	5.68	0.13	4.84	2.65	3.72	0.09	20.17	0.20
326	75-11-12	SDDSO		0.88	0.07	3.43	0.17			0.96	0.08	10.93	0.15
327	75-11-12	SDDSO		0.66	0.12	2.97	0.09	1.78	1.77	0.97	0.04	9.87	0.13
329	75-11-12	SDDSO		1.72	0.10	7.00	0.13			1.91	0.06	20.82	0.21
330	75-11-12	SDDSO		0.73	0.06	2.65	0.07			0.70	0.03	8.33	0.09
331	75-11-13	SDDSO		0.91	0.17	3.50	0.16			1.64	0.09	13.85	0.19
332	75-11-13	SDDSO		1.01	0.07	2.54	0.07			1.53	0.05	11.02	0.12
333	75-11-13	SDDSO		1.08	0.08	2.69	0.07			1.56	0.04	11.12	0.11
335	75-11-13	SDDSO		1.89	0.08	2.21	0.15			2.69	0.09	9.79	0.16
366	75-09-18	SDDSO		6.13	0.26	6.33	0.09			5.07	0.12	26.70	0.29
366	75-09-18	SDDSO		6.13	0.26	6.33	0.09			5.07	0.12	26.70	0.29
368	75-09-18	SDDSO		4.26	0.27	4.20	0.14			2.20	0.09	21.80	0.26
371	75-10-17	SDDSO		1.13	0.24	21.62	0.45			4.09	0.17	54.67	0.60
372	75-10-17	SDDSO		1.64	0.23	9.94	0.39			3.92	0.26	28.40	0.45
373	75-10-17	SDDSO		1.27	0.32	19.00	0.25			3.80	0.10	45.08	0.41
374	75-10-17	SDDSO		1.74	0.22	21.91	0.28			3.66	0.14	50.13	0.40
376	75-10-17	SDDSO		2.68	0.31	10.36	0.24			5.23	0.16	46.80	0.47
2011	76-03-23	SDDSO		2.99	0.16	13.82	0.26			3.46	0.10	33.74	0.34
2013	76-03-23	SDDSO		1.34	0.14	37.81	0.34			2.53	0.09	80.29	0.48
2016	76-03-23	SDDSO		1.16	0.15	19.11	0.27			2.65	0.08	44.14	0.35
2020	76-03-23	SDDSO		1.83	0.14	15.19	0.26			3.54	0.11	42.47	0.38
2022	76-03-23	SDDSO		1.81	0.13	16.05	0.32			3.10	0.19	44.84	0.45
2039	76-03-25	SDDSO		1.96	0.20	17.19	0.33			4.66	0.14	56.65	0.51
2042	76-04-05	SDDSO		1.67	0.20	21.78	0.28			4.35	0.14	50.83	0.41
2044	76-04-06	SDDSO		4.35	0.20	5.21	0.09			1.89	0.05	15.95	0.14
2045	76-04-06	SDDSO		2.69	0.19	5.98	0.17			1.75	0.08	21.41	0.26
2046	76-04-06	SDDSO		4.50	0.27	7.37	0.18			3.42	0.11	27.96	0.34
2047	76-04-06	SDDSO		3.97	0.21	5.76	0.16			2.23	0.06	18.46	0.20
2048	76-04-06	SDDSO		1.79	0.12	4.51	0.11			2.31	0.07	17.46	0.21
2049	76-04-06	SDDSO		1.49	0.09	3.78	0.11			1.42	0.05	13.44	0.16
2050	76-04-05	SDDSO		3.10	0.14	2.98	0.06			1.34	0.05	11.67	0.13
2051	76-04-05	SDDSO		2.15	0.20	2.75	0.08			1.75	0.05	10.83	0.13
2052	76-04-05	SDDSO		2.87	0.18	2.86	0.10			1.95	0.05	11.02	0.13
2053	76-04-05	SDDSO		6.46	0.36	4.66	0.12			2.45	0.07	15.94	0.21
2055	76-04-05	SDDSO		3.21	0.21	2.91	0.20			2.85	0.17	10.64	0.18
2059	76-04-05	SDDSO		2.05	0.10	1.43	0.04			0.97	0.04	12.68	0.13
2060	76-04-05	SDDSO		2.36	0.15	12.38	0.27			2.71	0.13	30.67	0.37
2061	76-04-06	SDDSO		0.77	0.06	1.24	0.04			1.37	0.03	5.61	0.06
2062	76-04-06	SDDSO		1.26	0.07	2.47	0.06			1.23	0.03	10.82	0.10
2063	76-04-06	SDDSO		1.85	0.12	3.82	0.11			1.78	0.06	15.87	0.19
2065	76-04-06	SDDSO		3.19	0.30	4.82	0.09			6.31	0.15	21.24	0.30
2068	76-04-08	SDDSO		3.01	0.20	14.42	0.20			4.34	0.10	38.69	0.39
2069	76-04-08	SDDSO		4.87	0.24	6.91	0.17			2.93	0.10	24.91	0.30
2071	76-04-08	SDDSO		1.34	0.25	4.80	0.24			2.92	0.17	18.23	0.35
2072	76-04-12	SDDSO		1.58	0.12	4.60	0.13			1.31	0.08	21.11	0.23
2073	76-04-12	SDDSO		5.14	0.16	6.42	0.09			1.97	0.05	20.21	0.16
2080	76-04-06	SDDSO		1.78	0.14	3.47	0.09	20.27	2.36	1.33	0.05	11.84	0.15

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

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SITE	DATE	COL	TPTR	URANIUM		MOLYBDENUM		SODIUM		STRONTIUM	
				PPM	ERR	PPM	ERR	PPK	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	7.58	0.94	19.79	0.69	497.80	54.76
326	75-11-12	SDDSO		0.88	0.07	1.75	0.44	25.21	0.35	677.60	68.44
327	75-11-12	SDDSO		0.66	0.12	2.52	0.59	24.34	0.61	589.70	28.30
329	75-11-12	SDDSO		1.72	0.10	6.45	0.85	22.81	0.62	540.70	50.28
330	75-11-12	SDDSO		0.73	0.06	1.79	0.57	24.79	0.55	610.80	20.16
331	75-11-13	SDDSO		0.91	0.17	3.69	0.49	28.01	0.39	601.30	82.38
332	75-11-13	SDDSO		1.01	0.07	1.90	0.84	26.30	0.71	471.40	19.80
333	75-11-13	SDDSO		1.08	0.08	2.22	0.61	28.78	0.55	487.90	24.40
335	75-11-13	SDDSO		1.89	0.08	3.35	0.42	21.97	0.35	347.10	56.57
366	75-09-18	SDDSO		6.13	0.26	27.50	2.63	11.40	0.82	597.40	75.87
366	75-09-18	SDDSO		6.13	0.26	27.50	2.63	11.40	0.82	597.40	75.87
368	75-09-18	SDDSO		4.26	0.27	16.80	2.38	13.76	0.91	930.10	55.81
371	75-10-17	SDDSO		1.13	0.24			23.23	0.42	921.70	164.10
372	75-10-17	SDDSO		1.64	0.23	4.86	3.25	30.77	0.58	836.90	148.10
373	75-10-17	SDDSO		1.27	0.32	4.69	1.71	21.51	0.71	686.10	69.30
374	75-10-17	SDDSO		1.74	0.22	7.71	3.62	22.97	0.53	629.90	89.44
376	75-10-17	SDDSO		2.68	0.31	8.79	3.80	29.27	0.85	671.60	212.90
2011	76-03-23	SDDSO		2.99	0.16	25.90	1.54	16.74	0.47	610.10	71.99
2013	76-03-23	SDDSO		1.34	0.14			22.39	0.54	550.20	101.80
2016	76-03-23	SDDSO		1.16	0.15			17.77	0.46	583.80	74.73
2020	76-03-23	SDDSO		1.83	0.14			22.35	0.58	750.60	73.56
2022	76-03-23	SDDSO		1.51	0.13	9.11	1.76	20.55	0.31	715.70	65.13
2039	76-03-25	SDDSO		1.96	0.20			27.60	0.86	619.80	135.10
2042	76-04-05	SDDSO		1.67	0.20			26.90	0.97	571.20	74.26
2044	76-04-06	SDDSO		4.35	0.20	13.23	1.45	20.97	0.52	497.50	33.83
2045	76-04-06	SDDSO		2.69	0.19	10.87	1.48	21.26	0.55	576.70	29.99
2046	76-04-06	SDDSO		4.50	0.27	12.10	1.21	14.31	0.56	1081.00	78.90
2047	76-04-06	SDDSO		3.97	0.21	12.64	1.63	18.96	0.42	713.30	59.20
2048	76-04-06	SDDSO		1.79	0.12	4.09	1.23	27.96	0.62	468.70	21.56
2049	76-04-06	SDDSO		1.49	0.09	2.24	0.52	25.89	0.54	505.50	23.25
2050	76-04-05	SDDSO		3.10	0.14	6.73	1.10	23.51	0.49	563.30	26.47
2051	76-04-05	SDDSO		2.15	0.20	3.56	0.65	21.90	0.46	334.40	17.05
2052	76-04-05	SDDSO		2.87	0.18	7.41	1.42	22.44	0.70	418.30	20.53
2053	76-04-05	SDDSO		6.46	0.36	28.12	1.83	21.77	0.65	359.80	28.06
2055	76-04-05	SDDSO		3.21	0.21	14.57	5.31	22.10	1.15	470.90	60.28
2059	76-04-05	SDDSO		2.05	0.10	3.85	0.53	24.60	0.59	390.00	20.67
2060	76-04-05	SDDSO		2.36	0.15	3.58	1.69	17.41	0.26	1803.00	211.40
2061	76-04-06	SDDSO		0.77	0.06	3.04	0.83	24.74	0.59	455.50	34.62
2062	76-04-06	SDDSO		1.26	0.07	1.60	0.54	26.89	0.59	476.80	17.64
2063	76-04-06	SDDSO		1.85	0.12	4.07	0.64	23.92	0.74	438.20	22.79
2065	76-04-06	SDDSO		3.19	0.30	13.96	2.25	31.85	1.21	410.40	102.60
2068	76-04-08	SDDSO		3.01	0.20	7.07	1.55	18.29	1.01	385.80	61.33
2069	76-04-08	SDDSO		4.87	0.24	10.99	2.43	23.47	0.54	549.10	65.35
2071	76-04-08	SDDSO		1.34	0.25			28.63	1.00	785.80	124.90
2072	76-04-12	SDDSO		1.58	0.12	4.33	0.87	26.21	0.60	574.40	21.83
2073	76-04-12	SDDSO		5.14	0.16	12.16	1.79	26.42	0.53	582.90	59.45
2080	76-04-06	SDDSO		1.78	0.14	5.85	1.56	26.18	0.76	464.70	23.23

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 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

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SITE	DATE	COL	TPTR	URANIUM		TANTALUM		TERBIUM		THORIUM		TUNGSTEN	
				PPM	ERR	PPB	ERR	PPB	ERR	PPM	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	744.90	80.45	531.90	29.25	7.	0.		
326	75-11-12	SDDSO		0.88	0.07	557.60	338.50	170.40	48.04	1.	0.		
327	75-11-12	SDDSO		0.66	0.12	168.20	47.26	145.20	19.89	2.	0.		
329	75-11-12	SDDSO		1.72	0.10	376.80	58.04	482.40	56.92	5.	0.		
330	75-11-12	SDDSO		0.73	0.06	117.80	44.56	154.40	26.55	1.	0.		
331	75-11-13	SDDSO		0.91	0.17	288.80	83.18	131.20	35.55	5.	0.		
332	75-11-13	SDDSO		1.01	0.07	306.50	41.39	152.30	21.93	2.	0.		
333	75-11-13	SDDSO		1.08	0.08	226.50	37.25	100.90	19.48	3.	0.		
335	75-11-13	SDDSO		1.89	0.08	253.40	93.02	181.70	43.06	3.	0.		
366	75-09-18	SDDSO		6.13	0.26	943.20	116.00	727.70	45.11	15.	0.		
366	75-09-18	SDDSO		6.13	0.26	943.20	116.00	727.70	45.11	15.	0.		
368	75-09-18	SDDSO		4.26	0.27	638.20	86.72	639.50	59.47	6.	0.		
371	75-10-17	SDDSO		1.13	0.24	1108.00	275.80	1325.00	98.04	3.	0.		
372	75-10-17	SDDSO		1.64	0.23	1034.00	235.70	851.50	108.10	5.	0.		
373	75-10-17	SDDSO		1.27	0.32	693.50	101.30	903.70	61.45	5.	0.		
374	75-10-17	SDDSO		1.74	0.22	874.90	124.20	1115.00	53.50	5.	0.		
376	75-10-17	SDDSO		2.68	0.31	1042.00	151.10	1246.00	68.51	6.	0.		
2011	76-03-23	SDDSO		2.99	0.16	735.20	147.80	653.30	85.59	6.	0.		
2013	76-03-23	SDDSO		1.34	0.14			710.60	61.11	5.	0.		
2016	76-03-23	SDDSO		1.16	0.15	580.50	147.50	725.70	50.08	3.	0.		
2020	76-03-23	SDDSO		1.83	0.14	701.60	249.10	850.40	75.68	4.	0.		
2022	76-03-23	SDDSO		1.51	0.13	658.00	134.90	904.90	56.10	4.	0.		
2039	76-03-25	SDDSO		1.96	0.20	1025.00	189.70	1285.00	69.37	5.	0.		
2042	76-04-05	SDDSO		1.67	0.20	1126.00	109.30	1166.00	85.13	5.	0.		
2044	76-04-06	SDDSO		4.35	0.20	605.40	55.70	294.80	32.72	6.	0.		
2045	76-04-06	SDDSO		2.69	0.19	448.20	79.79	272.80	36.56	6.	0.		
2046	76-04-06	SDDSO		4.50	0.27	953.00	106.70	756.00	45.36	8.	0.		
2047	76-04-06	SDDSO		3.97	0.21	651.70	84.07	535.30	29.98	7.	0.		
2048	76-04-06	SDDSO		1.79	0.12	378.50	64.73	156.80	31.82	3.	0.		
2049	76-04-06	SDDSO		1.49	0.09	278.40	60.97	107.60	32.39	3.	0.		
2050	76-04-05	SDDSO		3.10	0.14	387.70	57.39	221.80	26.39	8.	0.		
2051	76-04-05	SDDSO		2.15	0.20	329.50	57.34	171.70	25.76	5.	0.		
2052	76-04-05	SDDSO		2.87	0.18	261.80	54.72	191.60	21.27	5.	0.		
2053	76-04-05	SDDSO		6.46	0.36	372.20	68.13	304.50	26.80	8.	0.		
2055	76-04-05	SDDSO		3.21	0.21	1776.00	158.00	711.30	67.58	5.	0.	6.19	3.37
2059	76-04-05	SDDSO		2.05	0.10	159.10	37.88	115.00	21.85	4.	1.		
2060	76-04-05	SDDSO		2.36	0.15	531.80	196.80	916.00	95.27	4.	0.		
2061	76-04-06	SDDSO		0.77	0.06	152.70	32.54	112.40	16.41	2.	0.		
2062	76-04-06	SDDSO		1.26	0.07	270.20	37.03	112.40	20.35	3.	0.		
2063	76-04-06	SDDSO		1.85	0.12	356.70	49.51	204.90	23.35	3.	0.		
2065	76-04-06	SDDSO		3.19	0.30	983.80	112.20	713.00	46.35	12.	0.		
2068	76-04-08	SDDSO		3.01	0.20	792.00	102.20	844.50	44.76	8.	0.		
2069	76-04-08	SDDSO		4.87	0.24	2457.00	125.30	932.80	44.78	4.	0.		
2071	76-04-08	SDDSO		1.34	0.25	684.40	334.00			3.	0.		
2072	76-04-12	SDDSO		1.58	0.12	340.10	79.60	247.70	46.82	4.	0.		
2073	76-04-12	SDDSO		5.14	0.16	1441.00	73.51	638.80	40.24	22.	0.	7.72	4.59
2080	76-04-06	SDDSO		1.78	0.14	206.70	96.57	104.60	35.16	11.	0.		

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TABLE 5.2 SEDIMENT ANALYSIS, DRY SITES

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SITE	DATE	COL	TPTR	URANIUM		YTTERBIUM		ZINC		ZIRCONIUM	
				PPM	ERR	PPB	ERR	PPM	ERR	PPM	ERR
321	75-08-19	SDDSO		2.81	0.23	1722.00	47.56	50.19	4.57	122.91	34.74
326	75-11-12	SDDSO		0.88	0.07	434.20	34.51	27.56	6.54		
327	75-11-12	SDDSO		0.66	0.12	481.60	31.72	21.79	3.12	38.58	22.47
329	75-11-12	SDDSO		1.72	0.10	1453.00	47.66	51.86	4.67	84.83	40.60
330	75-11-12	SDDSO		0.73	0.06	516.00	28.53	19.97	2.64		
331	75-11-13	SDDSO		0.91	0.17	463.20	29.02	42.62	6.10	102.66	53.83
332	75-11-13	SDDSO		1.01	0.07	448.90	20.67	32.84	2.60	70.46	23.30
333	75-11-13	SDDSO		1.08	0.08	334.20	19.09	37.13	2.49	77.45	22.10
335	75-11-13	SDDSO		1.89	0.08	626.90	36.62			141.28	45.25
366	75-09-18	SDDSO		6.13	0.26	2715.00	72.43	146.60	7.48	217.25	65.47
366	75-09-18	SDDSO		6.13	0.26	2715.00	72.43	146.60	7.48	217.25	65.47
368	75-09-18	SDDSO		4.26	0.27	2149.00	63.15	38.84	4.86	71.91	43.83
371	75-10-17	SDDSO		1.13	0.24	3577.00	148.20			249.53	77.72
372	75-10-17	SDDSO		1.64	0.23	2821.00	117.10			298.40	106.30
373	75-10-17	SDDSO		1.27	0.32	2867.00	67.81	89.35	7.95	129.13	64.12
374	75-10-17	SDDSO		1.74	0.22	3189.00	99.99	90.07	7.75	150.17	84.94
376	75-10-17	SDDSO		2.68	0.31	3905.00	117.00	115.40	9.23	217.22	82.92
2011	76-03-23	SDDSO		2.99	0.16	2310.00	75.62	155.10	9.62		
2013	76-03-23	SDDSO		1.34	0.14	2500.00	93.98				
2016	76-03-23	SDDSO		1.16	0.15	2116.00	80.85	82.08	9.19		
2020	76-03-23	SDDSO		1.83	0.14	2575.00	90.95	86.79	9.98		
2022	76-03-23	SDDSO		1.51	0.13	2658.00	61.73	93.22	10.07		
2039	76-03-25	SDDSO		1.96	0.20	3604.00	129.30	118.10	12.28	167.86	111.30
2042	76-04-05	SDDSO		1.67	0.20	3243.00	90.42	115.70	9.38	167.99	68.32
2044	76-04-06	SDDSO		4.35	0.20	1037.00	37.09	54.09	3.30	83.99	38.68
2045	76-04-06	SDDSO		2.69	0.19	778.70	53.01	66.53	5.39	78.84	40.65
2046	76-04-06	SDDSO		4.50	0.27	2511.00	81.48	90.39	6.78	171.04	73.52
2047	76-04-06	SDDSO		3.97	0.21	1701.00	54.25	93.19	5.31	84.26	41.99
2048	76-04-06	SDDSO		1.79	0.12	522.70	35.63	56.53	4.02	86.26	33.79
2049	76-04-06	SDDSO		1.49	0.09	373.90	28.48	47.19	3.35	85.69	28.61
2050	76-04-05	SDDSO		3.10	0.14	683.20	24.76	35.89	3.16	61.32	26.15
2051	76-04-05	SDDSO		2.15	0.20	613.80	27.26	39.80	3.27	67.60	29.79
2052	76-04-05	SDDSO		2.87	0.18	642.60	28.81	32.40	3.37	84.30	32.88
2053	76-04-05	SDDSO		6.46	0.36	1103.00	34.98	45.71	4.21	108.26	36.01
2055	76-04-05	SDDSO		3.21	0.21	1947.00	68.54			191.19	55.66
2059	76-04-05	SDDSO		2.05	0.10	440.50	21.48	14.88	2.43	29.86	19.55
2060	76-04-05	SDDSO		2.36	0.15	2880.00	85.49	75.10	12.84		
2061	76-04-06	SDDSO		0.77	0.06	407.90	23.29	14.71	1.92	55.72	17.64
2062	76-04-06	SDDSO		1.26	0.07	393.30	21.79	24.80	2.36	60.70	19.77
2063	76-04-06	SDDSO		1.85	0.12	634.30	33.05	37.18	3.83	72.20	30.97
2065	76-04-06	SDDSO		3.19	0.30	2452.00	83.08	84.14	6.99	280.08	60.42
2068	76-04-08	SDDSO		3.01	0.20	2663.00	79.44	99.12	6.25	192.75	58.94
2069	76-04-08	SDDSO		4.87	0.24	2966.00	75.73			154.01	65.40
2071	76-04-08	SDDSO		1.34	0.25	759.70	120.30	20.81	8.31		
2072	76-04-12	SDDSO		1.58	0.12	699.70	47.23	30.30	4.06	65.60	35.51
2073	76-04-12	SDDSO		5.14	0.16	2042.00	50.14			67.40	36.95
2080	76-04-06	SDDSO		1.78	0.14	324.50	30.68	36.43	3.72	57.99	41.07

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 6.1 ROCK SITES

SITE	LOCATION	
	NORTH-SOUTH	EAST-WEST
310	4423900N	305200E
337	4442250N	297700E
2014	4423900N	304700E
2015	4423650N	304800E
2058	4445500N	303050E

1 WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 1 OF 6

SITE	DATE	COL	TPTR	URANIUM		ANTIMONY		ARSENIC		BARIUM		BROMINE	
				PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR
310	75-09-05	R0N00		5.26	0.16	10.43	0.14	48.44	0.99	551.90	31.16	1.75	0.42
310	75-09-05	R0N01		80.07	1.18	4.40	0.12	50.02	1.75	774.60	35.26		
337	75-11-19	R0N00		2.13	0.09	0.49	0.03	13.17	0.49	1337.00	22.73	1.86	0.12
2014	76-03-23	R0N00		5.35	0.21	65.43	0.53	107.30	4.29				
2015	76-03-23	R0N00		17.36	0.59	20.01	0.36	690.20	14.50	113.30	41.36		
2058	76-04-05	R0N00		59.33	0.71	7.57	0.13	972.10	10.69	272.10	24.22		

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WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 2 OF 6

SITE	DATE	COL	TPTR	URANIUM		CALCIUM		CERIUM		CESIUM		CHROMIUM	
				PPM	ERR	PPK	ERR	PPM	ERR	PPM	ERR	PPM	ERR
310	75-09-05	R0N00		5.25	0.16	101.70	1.99	22.39	0.66	3.76	0.15	23.05	1.12
310	75-09-05	R0N01		80.07	1.18	48.25	1.15			15.85	0.22		
337	75-11-19	R0N00		2.13	0.09	330.40	4.63	7.52	0.54	0.97	0.09	5.81	0.65
2014	76-03-23	R0N00		5.35	0.21	79.32	1.59			1.49	0.37	2.26	0.82
2015	76-03-23	R0N00		17.36	0.59	94.25	2.83			2.60	0.46		
2058	76-04-05	R0N00		59.33	0.71					6.33	0.17		

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 3 OF 6

SITE	DATE	COL	TPTR	URANIUM		COBALT		GOLD		HAFNIUM		IRON	
				PPM	ERR	PPM	ERR	PPB	ERR	PPM	ERR	PPK	ERR
310	75-09-05	RON00		5.26	0.16	4.82	0.15			1.86	0.09	24.95	0.29
310	75-09-05	RON01		80.07	1.18	2.48	0.06			4.35	0.11	7.68	0.13
337	75-11-19	RON00		2.13	0.09	2.42	0.09			0.53	0.05	5.11	0.08
2014	76-03-23	RON00		5.35	0.21	61.45	0.55	361.70	10.15	0.70	0.12	223.40	4.25
2015	76-03-23	RON00		17.36	0.59	41.62	0.58			0.37	0.13	261.10	4.96
2058	76-04-05	RON00		59.33	0.71	2.34	0.08	8.80	3.17	1.47	0.08	26.30	0.34

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 4 OF 6

SITE	DATE	COL	TPTR	URANIUM		MOLYBDENUM		SODIUM		STRONTIUM	
				PPM	ERR	PPM	ERR	PPM	ERR	PPM	ERR
310	75-09-05	RON00		5.26	0.16	25.61	2.08	6.99	0.12	150.20	83.05
310	75-09-05	RON01		80.07	1.18	127.29	6.70	10.11	0.18	119.50	45.54
337	75-11-19	RON00		2.13	0.09	1.72	0.86	2.12	0.05	2001.00	34.02
2014	75-03-23	RON00		5.35	0.21	24.22	3.97				
2015	76-03-23	RON00		17.36	0.59	1669.28	38.78				
2058	76-04-05	RON00		59.33	0.71	186.57	7.15	14.98	0.30		

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 5 OF 6

SITE	DATE	COL	TPTR	URANIUM		TANTALUM		TERBIUM		THORIUM		TUNGSTEN	
				PPM	ERR	PPB	ERR	PPB	ERR	PPM	ERR	PPM	ERR
310	75-09-05	R0N00		5.26	0.16	548.80	85.06	397.60	39.76	2.	0.	12.00	0.77
310	75-09-05	R0N01		80.07	1.18	1341.00	106.00	636.80	50.30	25.	0.	9.81	1.58
337	75-11-19	R0N00		2.13	0.09	132.50	52.87	184.80	25.69	2.	0.	2.67	0.70
2014	76-03-23	R0N00		5.35	0.21					2.	0.	187.80	5.26
2015	76-03-23	R0N00		17.36	0.59			423.90	120.00	0.	0.	32.73	9.43
2058	76-04-05	R0N00		59.33	0.71	1764.00	114.70			40.	0.	43.59	1.79

WINNEMUCCA DRY LAKE PILOT STUDY PRELIMINARY REPORT, LAWRENCE LIVERMORE LABORATORY
 TABLE 6.2 SEDIMENT ANALYSIS, ROCK SITES

PART 6 OF 6

SITE	DATE	COL	TPTR	URANIUM		YTTERBIUM		ZINC		ZIRCONIUM	
				PPM	ERR	PPB	ERR	PPM	ERR	PPM	ERR
310	75-09-05	RON00		5.26	0.16	1421.00	60.11	292.10	8.11	93.54	66.36
310	75-09-05	RON01		80.07	1.18	2130.00	62.09	35.04	4.70	493.67	55.23
337	75-11-19	RON00		2.13	0.09	968.40	32.28	17.76	2.93	36.46	23.51
2014	76-03-23	RON00		5.35	0.21	718.70	84.21	154.10	11.87		
2015	76-03-23	RON00		17.36	0.59	1797.00	126.80	519.90	17.16		
2058	76-04-05	RON00		59.33	0.71	1057.00	59.99	23.73	3.49	342.57	66.99

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B. Holder, L-404 (5) T-149, Rm. 102
D. Ries, L-380
D. Leach/K. Puchlik/D. Emerson, L-10
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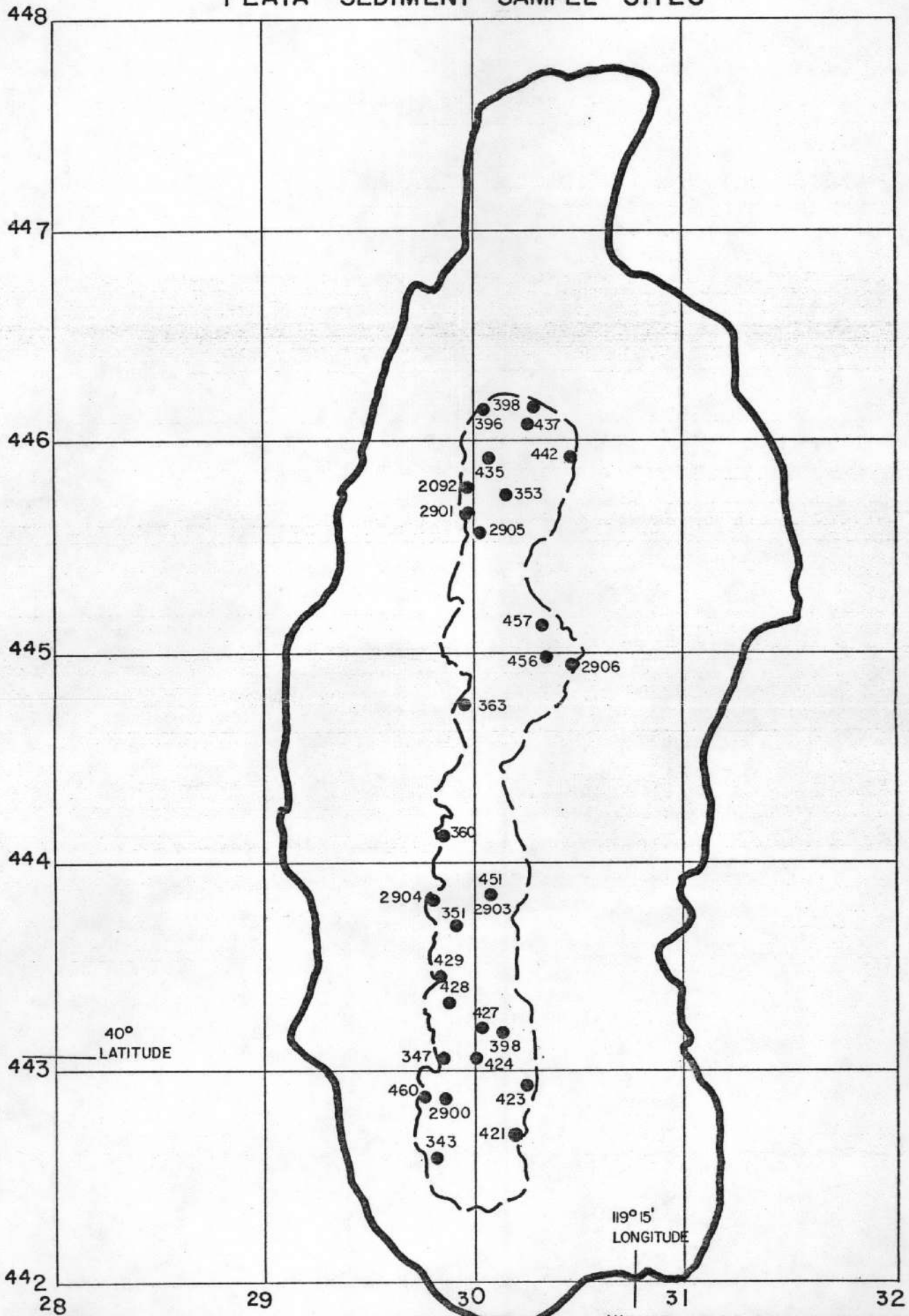
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FIGURE 3

PLAYA SEDIMENT SAMPLE SITES



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