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**Raw Data Report of Elemental Analyses
From Hydrogeochemical and Stream Sediment Samples
Taken Near Sterling and Fort Morgan, Northeastern Colorado
December 1976 and January 1977**

by

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PLATE I **Sample Location Overlay, Dec. 1976-Jan. 1977** **In Pocket**

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RAW DATA REPORT OF ELEMENTAL ANALYSES
FROM HYDROGEOCHEMICAL AND STREAM SEDIMENT SAMPLES
TAKEN NEAR STERLING AND FORT MORGAN, NORTHEASTERN COLORADO,
DECEMBER 1976 AND JANUARY 1977

SUMMARY

The University of Colorado, under contract with the Los Alamos Scientific Laboratory (LASL), is currently performing an evaluation of geochemical relationships of water and sediments and seasonal variations to uranium for the South Platte drainage of northeastern Colorado. As a preliminary part of this study, samples were collected from 125 sites near Sterling and Fort Morgan, Colorado, during the period from December 20, 1976, to January 15, 1977. During this period the weather in the area was clear to partly cloudy, with daytime temperatures ranging from -12 to 12 C. Only a trace of precipitation, in the form of very light snow flurries, occurred during the sampling period. The sample site locations and numbers (the first two digits have been omitted) are shown on Plate I.

The treatment given the samples is specified by the "sample type" coded in the appended data listings. The samples were analyzed for uranium using fluorometry for the water samples and delayed-neutron counting for sediments and those water samples which had more than 10 ppb uranium or interfering elements. Water samples were analyzed for arsenic, calcium, cobalt, copper, chromium, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, silicon, sodium, and zinc using emission spectrometry. The sediment samples were analyzed for bismuth, cadmium, lead, nickel, niobium, scandium, silver, tin, and tungsten by energy-dispersive x-ray fluorometry. Neutron activation analysis was used to analyze the sediment samples for aluminum, antimony, arsenic, barium, bromine, calcium, cerium, cesium, chromium, chlorine, cobalt, copper, dysprosium, europium, gallium, gold, hafnium, iron, lanthanum, lutetium, magnesium, manganese, mercury, potassium, rubidium, scandium, silver, sodium, strontium, tantalum, terbium, thorium, titanium, tungsten, vanadium, ytterbium, and zinc. For all the analyses, the relative errors are approximately 40% near the lower detection limits, and less than 10% at the concentrations one order of magnitude greater than the detection limits. The site descriptions and analyses for the water samples are listed in Appendix A. Data for the sediment samples are given in Appendix B. Several parameters were measured at each sample site during the sampling. These are listed in Appendix C. The coding used in the Appendices is explained in Appendix D.

The data from each sample site and for the elemental analyses are provided here without comment for public convenience. The significance of these data and their relationships to the observed areal and seasonal distribution of uranium will be discussed, with forthcoming data, in a later report of this project.

APPENDIX A-1

**Data Listing of Water Samples Analyzed by
Fluorometry and Emission Spectrometry**

(See Appendix D for code to listings)

APPENDIX A-1. Water Samples Analyzed for Uranium by Fluorometry

[illegible]

APPENDIX A-1 (continued). Water Samples Analyzed for Uranium by Fluorometry

ERDA SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS IN WATER SAMPLES ANALYZED BY EMISSION SPECTROMETRY													
STATE	LATITUDE	LONGITUDE	ERDA LAB SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Fe	Ca	Mg	K	Na	Li	Mn	Co	Ni	Cu	Zn			
AR	40.1678	-103.4641	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0730	-104.7532	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0527	-104.7472	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.1148	-103.4332	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0625	-104.0941	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.1022	-104.7112	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.1744	-104.5432	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.2183	-104.3412	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0800	-103.0744	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0386	-103.1141	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0672	-103.1531	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0676	-103.2394	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0675	-103.2014	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7811	-103.1275	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7754	-103.1767	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7752	-103.2346	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7049	-103.2372	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8541	-103.2375	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0022	-103.1177	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8577	-103.1072	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0791	-103.2075	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8804	-103.1075	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8884	-103.1844	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.9541	-103.1043	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8316	-102.4577	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8316	-102.4577	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8011	-103.2443	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0675	-103.2478	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.9444	-103.1825	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0676	-103.2546	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.0200	-103.2041	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7602	-103.1043	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7755	-103.1152	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8213	-103.1122	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8416	-103.1202	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7016	-103.2561	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7016	-103.2541	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8125	-103.2744	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7880	-103.2610	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7688	-103.0438	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7881	-103.2644	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.8188	-103.1914	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000	10000	1	40	40000	2000			
AR	40.7611	-103.2011	2-NH	1	100000	5000	40000	1	10	40	5000								

APPENDIX A-2

Data Listing of Water Samples Analyzed by Delayed Neutron Counting and Emission Spectrometry

(See Appendix D for code to listings)

APPENDIX A-2. Water Samples Analyzed for Uranium by Delayed Neutron Counting

[illegible]

APPENDIX A-2 (continued). Water Samples Analyzed for Uranium by Delayed Neutron Counting

ERDA SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS IN WATER SAMPLES ANALYZED BY EMISSION SPECTROMETRY															
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	As	Ca	Co	Cu	Cr	Fe	K	Mg	Mn	Mo	Na	Ni	Pb	Si	Zn
All results are given as parts per billion, ppb, of element in water.																					
AR	40.2083	-103.8875	2-AR	0-108901		500	49000	3	20	3	30	8000	25000	5	5	15000	5	30	20000	50	
AR	40.1677	-103.4172	2-AR	0-108902		500	30000	3	10	3	300	8000	30000	100	5	80000	5	30	20000	50	
AR	40.1511	-103.9108	2-AR	0-108903		500	30000	3	20	3	200	8000	25000	8	5	70000	5	30	20000	50	
AR	40.1308	-103.4648	2-AR	0-108904		500	80000	3	20	3	400	15000	40000	8	5	100000	5	30	30000	1000	
AR	40.1308	-103.4186	2-AR	0-108905		500	50000	3	15	3	50	10000	30000	80	5	70000	5	30	20000	50	
AR	40.1166	-103.9050	2-AR	0-108906		500	300000	3	20	3	40	10000	200000	300	5	200000	5	30	40000	50	
AR	40.1166	-103.9050	2-AR	0-108906		500	300000	3	15	3	10	10000	200000	300	5	200000	5	30	40000	50	
AR	40.1141	-103.9108	2-AR	0-108907		500	300000	3	50	3	100	10000	250000	5	7	300000	5	30	40000	50	
AR	40.0747	-104.0741	2-AR	0-108911		500	300000	3	4	3	1000	8000	80000	3000	5	105000	5	30	25000	50	
AR	40.1158	-103.4333	2-AR	0-108912		500	20000	3	5	3	100	10000	50000	60	5	60000	5	30	25000	50	
AR	40.0663	-103.9043	2-AR	0-108913		500	250000	3	5	3	100	15000	150000	5	5	150000	5	30	25000	1000	
AR	40.0152	-104.0750	2-AR	0-108914		500	100000	3	5	3	20	8000	50000	15	5	60000	5	30	20000	50	
AR	40.0705	-103.8886	2-AR	0-108915		500	250000	3	5	3	20	8000	250000	5	5	200000	5	30	40000	50	
AR	40.0150	-104.0941	2-AR	0-108917		500	150000	3	3	4	3000	7000	50000	1500	5	120000	5	30	20000	1500	
AR	40.1022	-104.0241	2-AR	0-108919		500	100000	3	5	3	20	7000	50000	400	5	70000	5	30	20000	300	
AR	40.1352	-104.0543	2-AR	0-108926		500	250000	3	30	3	15	15000	70000	30	5	80000	8	30	20000	50	
AR	40.2177	-104.0780	2-AR	0-108928		500	40000	3	6	3	10	10000	25000	20	5	40000	5	30	10000	400	
AR	40.2048	-104.0938	2-AR	0-108929		500	50000	3	4	3	15	15000	30000	30	5	40000	5	30	10000	50	
AR	40.1442	-104.0938	2-AR	0-108930		500	60000	3	20	3	40	7000	30000	5	5	40000	5	30	20000	50	
AR	40.1442	-104.0938	2-AR	0-108931		500	50000	3	4	3	30	7000	20000	5	5	40000	5	30	15000	150	
AR	40.1442	-104.0938	2-AR	0-108931		500	50000	3	3	3	40	7000	25000	60	5	40000	5	30	15000	150	
AR	40.2250	-103.4430	2-AR	0-108933		500	500000	3	4	3	50	20000	400000	10	5	500000	5	30	30000	600	
AR	40.2250	-103.4430	2-AR	0-108934		500	150000	3	40	3	30	20000	60000	5	5	80000	5	30	20000	50	
AR	40.7755	-103.0752	2-AR	0-108935		500	400000	3	7	3	15	30000	200000	5	5	200000	5	30	40000	50	
AR	40.8211	-103.2850	2-AR	0-108947		500	60000	3	30	3	30	10000	50000	5	5	100000	5	30	30000	700	
AR	40.9201	-103.4033	2-AR	0-108954		500	30000	3	3	3	40	4000	15000	5	5	70000	5	30	30000	50	
AR	40.8386	-102.9675	2-AR	0-108956		500	200000	3	8	3	30	20000	100000	5	5	100000	5	30	50000	50	
AR	40.8483	-102.9638	2-AR	0-108963		500	200000	3	6	3	40	20000	80000	5	5	100000	5	30	50000	50	
AR	40.7613	-103.1022	2-AR	0-108970		500	300000	3	6	3	30	30000	100000	100	5	200000	5	30	40000	50	
AR	40.7613	-103.1022	2-AR	0-108970		500	300000	3	6	3	40	30000	100000	100	5	200000	5	30	40000	50	
AR	40.7943	-103.1038	2-AR	0-108973		500	200000	3	3	3	40	25000	70000	80	5	100000	5	30	25000	50	
AR	40.8222	-103.1152	2-AR	0-108975		500	200000	3	5	3	30	20000	25000	200	5	150000	5	30	25000	50	
AR	40.8541	-103.0563	2-AR	0-108981		500	60000	3	80	3	30	12000	30000	5	5	40000	5	30	25000	100	
AR	40.8378	-103.0272	2-AR	0-108983		500	200000	3	8	3	80	15000	50000	5	5	50000	5	30	25000	100	
AR	40.8441	-103.0253	2-AR	0-108984		500	300000	3	20	3	15	20000	70000	40	5	150000	5	50	15000	50	
AR	40.7816	-103.0552	2-AR	0-108985		500	500000	3	25	3	20	30000	300000	5	5	300000	8	300	40000	50	
AR	40.7611	-103.1341	2-AR	0-108991		500	300000	3	10	3	20	40000	200000	80	5	300000	5	300	35000	50	
AR	40.8547	-103.1783	2-AR	0-108995		500	30000	3	25	3	15	3000	15000	5	5	25000	5	30	30000	600	
AR	40.8475	-102.9725	2-AR	0-109007		500	300000	3	25	3	20	15000	60000	5	5	80000	5	30	40000	200	
AR	40.8308	-102.9800	2-AR	0-109009		500	400000	3	20	3	15	30000	100000	5	5	150000	5	40	40000	50	

APPENDIX B

Data Listing of Sediment Samples Analyzed by Delayed Neutron Counting, Neutron Activation Analysis, and X-Ray Fluorometry

(See Appendix D for code to listings)

APPENDIX B. Sediment Samples Analyzed for Uranium by Delayed Neutron Counting

ERDA SAMPLE NUMBER				LASL SAMPLE NUMBER AND FIELD DATA																U CONCENTRATION														
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	DATE	HOUR	AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE ($\mu\text{mhos/cm}$)	SCINTILLOMETER (eU ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	SAMPLE TYPE	U CONCENTRATION (ppm)
08-40	9022-103	1177-2-11				0-108946-12/28/75-16	5-5-n-C-5	6-4-470-							24-1-1-6-8-1-3-1-3-4-3-2-1-1-																		9.60	
08-40	8577-103	3072-2-11				0-108948-12/29/75-10	11-3-n-C-5	7-8-470-							12-1-1-5-9-1-2-2-2-4-3-2-1-1-																	4.30		
08-40	9266-103	3425-2-11				0-108949-12/29/75-14	12-2-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.30		
08-40	8386-103	9475-2-11				0-108956-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.60		
08-40	9147-103	9819-2-11				0-108957-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.60		
08-40	9494-103	9866-2-15				0-108958-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	18.30		
08-40	9505-103	9836-2-15				0-108959-01/17/77-14	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	12.00		
08-40	9466-103	9402-2-15				0-108960-01/17/77-14	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.30		
08-40	9366-103	1236-2-15				0-108961-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.90		
08-40	9136-103	1441-2-15				0-108962-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.40		
08-40	9216-103	9877-2-15				0-108969-01/17/77-16	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	12.70		
08-40	7613-103	1022-2-12				0-108970-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.90		
08-40	7663-103	1038-2-12				0-108973-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	78.00		
08-40	8822-103	1152-2-12				0-108975-01/17/77-17	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.00		
08-40	8341-103	1086-2-15				0-108976-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	18.00		
08-40	8416-103	1155-2-15				0-108977-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	28.00		
08-40	8633-103	1022-2-15				0-108979-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.30		
08-40	8327-103	0827-2-15				0-108980-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.10		
08-40	8547-103	0827-2-15				0-108982-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	6.30		
08-40	8341-103	0258-2-12				0-108984-01/17/77-16	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.10		
08-40	8058-103	1016-2-36				0-108987-01/17/77-10	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	15.20		
08-40	8058-103	1016-2-36				0-108987-01/17/77-10	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	15.80		
08-40	6111-103	1341-2-12				0-108991-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.60		
08-40	7611-103	1341-2-12				0-108991-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.60		
08-40	8050-103	1263-2-15				0-108993-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	11.70		
08-40	8352-103	1463-2-15				0-108994-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	11.70		
08-40	7616-103	2016-2-15				0-108998-01/17/77-10	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	10.00		
08-40	8052-103	2413-2-15				0-109000-01/17/77-14	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	3.40		
08-40	9522-103	3963-2-15				0-109003-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.10		
08-40	9472-103	3911-2-15				0-109004-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.00		
08-40	9502-103	3869-2-15				0-109005-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.00		
08-40	9502-103	3869-2-15				0-109005-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.00		
08-40	9500-103	3311-2-15				0-109005-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.00		
08-40	9191-103	9569-2-15				0-109011-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	10.10		
08-40	9191-103	9569-2-15				0-109011-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.00		
08-40	9252-103	9311-2-15				0-109012-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	13.90		
08-40	9244-103	9338-2-15				0-109013-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	8.70		
08-40	9488-103	9338-2-15				0-109014-01/17/77-11	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.20		
08-40	9386-103	9347-2-15				0-109015-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.20		
08-40	9386-103	9347-2-15				0-109015-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	4.20		
08-40	9563-103	9450-2-15				0-109016-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	6.70		
08-40	9563-103	9450-2-15				0-109016-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	6.70		
08-40	9650-103	9511-2-15				0-109018-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	24.30		
08-40	9650-103	9511-2-15				0-109018-01/17/77-13	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	12.70		
08-40	9652-103	9547-2-15				0-109019-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	5.70		
08-40	9652-103	9547-2-15				0-109019-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	11.76		
08-40	9736-103	9564-2-15				0-109020-01/17/77-15	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	15.90		
08-40	8191-103	2330-2-15				0-109021-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-2-2-1-1-																	3.50		
08-40	8191-103	2330-2-15				0-109021-01/17/77-12	1-2-1-5-C-5	6-7-270-							24-1-1-4-1-1-2-3-1-1-																			

APPENDIX B (continued). Sediment Samples Analyzed for Uranium by Delayed Neutron Counting

ERDA SAMPLE NUMBER							ELEMENTAL CONCENTRATIONS IN SEDIMENT SAMPLES ANALYZED BY X-RAY FLUORESCENCE									
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm)									
							Ag	Bi	Cd	Nb	Ni	Pb	Se	Sn	W	
AR-40.9022-103.1177-2-11						0-10R94A	<5	16	<5	<20	15	13	<80	<10	<15	
AR-40.8577-103.3072-2-11						0-10R94B	<5	10	<5	<20	<15	13	<80	<10	<15	
AR-40.9246-103.3425-2-15						0-10R949	<5	17	<5	<20	15	19	<80	<10	<15	
AR-40.8346-102.9475-2-11						0-10R95A	<5	20	<5	<20	15	20	<80	<10	<15	
AR-40.9147-102.9819-2-15						0-10R957	<5	60	<5	30	50	44	<80	<10	<15	
AR-40.9494-102.9666-2-15						0-10R958	<5	100	<5	70	55	57	<80	<10	<15	
AR-40.9505-102.9836-2-15						0-10R959	<5	50	<5	50	35	30	<80	<10	<15	
AR-40.9446-102.9402-2-15						0-10R960	<5	20	<5	<20	15	18	<80	<10	<15	
AR-40.9346-103.1538-2-15						0-10R961	<5	15	<5	<20	15	12	<80	<10	<15	
AR-40.9136-103.1541-2-15						0-10R962	<5	40	<5	30	20	20	<80	<10	<15	
AR-40.9216-102.9877-2-15						0-10R969	<5	58	<5	30	35	34	<80	<10	<15	
AR-40.7613-103.1022-2-12						0-10R970	<5	<5	<5	<20	<15	<5	<80	<10	<15	
AR-40.7963-103.1038-2-12						0-10R973	<5	10	<5	<20	<15	<5	<80	<10	<15	
AR-40.8222-103.1152-2-12						0-10R975	<5	13	<5	<20	<15	12	<80	<10	<15	
AR-40.8241-103.1086-2-15						0-10R976	<5	81	<5	40	55	59	<80	<10	<15	
AR-40.8416-103.1155-2-15						0-10R977	<5	20	<5	<20	25	13	<80	<10	<15	
AR-40.8433-103.1022-2-15						0-10R979	<5	22	<5	<20	15	16	<80	<10	<15	
AR-40.8227-103.0627-2-15						0-10R980	<5	9	<5	<20	<15	6	<80	<10	<15	
AR-40.8454-103.0575-2-15						0-10R982	<5	20	<5	<20	<15	15	<80	<10	<15	
AR-40.8341-103.0258-2-12						0-10R984	<5	13	<5	<20	<15	15	<80	<10	<15	
AR-40.8058-103.0616-2-06						0-10R987	<5	12	<5	<20	<15	13	<80	<10	<15	
AR-40.8058-103.0616-2-06						1-10R987	<5	7	<5	<20	15	14	<80	<10	<15	
AR-40.7611-103.1341-2-12						0-10R991	<5	13	<5	<20	<15	8	<80	<10	<15	
AR-40.7611-103.1341-2-12						1-10R991	<5	15	<5	<20	15	12	<80	<10	<15	
AR-40.8058-103.1253-2-15						0-10R993	<5	50	<5	30	40	32	<80	<10	<15	
AR-40.8352-103.1443-2-15						0-10R994	<5	20	<5	<20	<15	17	<80	<10	<15	
AR-40.7616-103.2016-2-12						0-10R998	<5	20	<5	<20	15	19	<80	<10	<15	
AR-40.8052-103.2413-2-15						0-10R990	<5	15	<5	<20	15	17	<80	<10	<15	
AR-40.9522-103.3963-2-15						0-10R993	<5	16	<5	<20	15	14	<80	<10	<15	
AR-40.9472-103.3911-2-15						0-10R994	<5	17	<5	<20	15	15	<80	<10	<15	
AR-40.9502-103.3869-2-15						0-10R995	<5	22	<5	<20	15	23	<80	<10	<15	
AR-40.9502-103.3869-2-15						1-10R995	<5	15	<5	<20	20	10	<80	<10	<15	
AR-40.9500-103.3911-2-15						0-10R996	<5	23	<5	<20	20	24	<80	<10	<15	
AR-40.9191-102.9269-2-15						0-10R991	<5	53	<5	35	40	29	<80	<10	<15	
AR-40.9191-102.9269-2-15						1-10R991	<5	41	<5	25	25	35	<80	<10	<15	
AR-40.9252-102.9311-2-15						0-10R992	<5	55	<5	50	45	30	<80	<10	<15	
AR-40.9294-102.9338-2-15						0-10R993	<5	48	<5	30	15	34	<80	<10	<15	
AR-40.9446-102.9536-2-15						0-10R994	<5	19	<5	<20	15	13	<80	<10	<15	
AR-40.9386-102.9347-2-15						0-10R995	<5	30	<5	<20	15	26	<80	<10	<15	
AR-40.9386-102.9347-2-15						1-10R995	<5	21	<5	<20	20	12	<80	<10	<15	
AR-40.9453-102.9450-2-15						0-10R996	<5	138	<5	50	65	69	<80	<10	<15	
AR-40.9547-102.9450-2-15						1-10R996	<5	60	<5	30	35	30	<80	<10	<15	
AR-40.9548-102.9511-2-15						0-10R998	<5	36	<5	26	20	36	<80	<10	<15	
AR-40.9452-102.9547-2-15						0-10R999	<5	55	<5	20	30	27	<80	<10	<15	
AR-40.9452-102.9547-2-15						1-10R999	<5	81	<5	30	36	45	<80	<10	<15	
AR-40.9736-102.9569-2-15						0-10R990	<5	66	<5	55	45	34	<80	<10	<15	
AR-40.8191-103.2330-2-15						0-10R991	<5	19	<5	<20	<15	25	<80	<10	<15	
AR-40.8191-103.2330-2-15						1-10R991	<5	9	<5	<20	<15	5	<80	<10	<15	
AR-40.8460-103.2261-2-15						0-10R992	<5	25	<5	<20	15	24	<80	<10	<15	
AR-40.8702-103.2258-2-15						0-10R993	<5	6	<5	<20	<15	<5	<80	<10	<15	
AR-40.8702-103.2258-2-15						0-10R994	<5	19	<5	<20	15	28	<80	<10	<15	
AR-40.8191-103.3108-2-15						0-10R995	<5	6	<5	<20	15	<5	<80	<10	<15	
AR-40.8483-103.3877-2-15						0-10R997	<5	19	<5	<20	25	22	<80	<10	<15	
AR-40.8046-103.3825-2-15						0-10R998	<5	<5	<5	<20	<15	<5	<80	<10	<15	
AR-40.9772-102.9469-2-15						0-10R999	<5	34	<5	25	20	23	<80	<10	<15	

APPENDIX 3 (continued). Sediment Samples Analyzed for Uranium by Delayed Neutron Counting

ERDA SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS IN SEDIMENT SAMPLES ANALYZED BY NEUTRON ACTIVATION ANALYSIS																			
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm)																		
							Ag	Al	As	Au	Ba	Br	Ca	Ce	Cl	Co	Cr	Cs	Cu	Dy	Eu	Fe	Ga	Hf	Hg
AR-40	9022-103.1177-2-11		0-100944				<5.0	37600	10.5	<0.1	572	4.6	31800	<40	<100	21.2	<10	8.0	<130	5	<0.7	19900	11.2	0.9	<8.0
AR-40	9077-103.3072-2-11		0-100948				<5.0	52800	6.9	<0.1	696	8.7	72400	<40	<100	1.2	19	<2.0	<130	4	0.7	14200	7.7	0.5	<8.0
AR-40	9066-103.3425-2-15		0-100949				<5.0	60400	7.1	<0.1	842	<4.0	38600	<40	<100	5.7	19	3.5	<130	<3	0.9	14900	18.8	0.7	<8.0
AR-40	9066-102.9475-2-11		0-100954				<5.0	63200	3.4	<0.1	749	5.6	25700	<40	<100	5.4	26	4.3	<130	4	1.1	17600	17.7	1.4	<8.0
AR-40	9147-102.9819-2-15		0-100957				<5.0	41500	<3.0	<0.1	1280	<4.0	16700	119	<100	8.8	64	<2.0	<130	15	3.5	51600	<5.0	4.9	<8.0
AR-40	9494-102.9666-2-15		0-100958				<5.0	42600	<3.0	<0.1	1150	<4.0	14000	<40	<100	11.2	84	<2.0	<130	45	1.6	70800	<5.0	5.7	<8.0
AR-40	9555-102.9836-2-15		0-100959				<5.0	45800	<3.0	<0.1	791	<4.0	10800	<40	<100	5.8	43	<2.0	<130	24	3.4	42500	<5.0	5.1	<8.0
AR-40	9466-102.9402-2-15		0-100960				<5.0	57600	<3.0	<0.1	981	<4.0	26700	<40	<100	4.3	29	<2.0	<130	12	2.1	19300	15.1	7.8	<8.0
AR-40	9366-103.1538-2-15		0-100961				<5.0	59200	3.3	<0.1	961	<4.0	16500	41	128	<1.0	28	2.3	<130	8	1.5	17100	14.6	1.5	<8.0
AR-40	9316-103.1541-2-15		0-100962				<5.0	59700	<1.0	<0.1	1330	<4.0	30600	82	<100	4.9	27	<2.0	<130	11	3.8	26700	<5.0	2.8	<8.0
AR-40	9216-102.9877-2-15		0-100969				<5.0	44500	<3.0	<0.1	971	<4.0	18800	135	<100	6.4	64	<2.0	<130	15	3.6	49200	13.3	4.7	<8.0
AR-40	7613-103.1022-2-12		0-100970				<5.0	46900	7.4	<0.1	917	6.4	46900	<40	224	5.5	35	3.4	<130	8	1.4	19900	9.6	7.0	<8.0
AR-40	7043-103.1038-2-12		0-100973				<5.0	52800	3.4	<0.1	357	7.5	78700	N.A.	275	N.A.	N.A.	N.A.	<4	N.A.	N.A.	<5.0	N.A.	<8.0	
AR-40	9222-103.1152-2-12		0-100975				<5.0	60300	6.2	<0.1	496	7.4	51300	<40	176	<1.0	19	<2.0	<130	<3	0.7	12900	18.2	0.6	<8.0
AR-40	9341-103.1086-2-15		0-100976				<5.0	35200	5.2	<0.1	6030	<4.0	21600	235	349	15.0	48	<2.0	<130	31	4.3	106000	18.8	7.2	<8.0
AR-40	9416-103.1155-2-15		0-100977				<5.0	50800	<3.0	<0.1	1510	<4.0	27700	<40	<100	14.3	<10	2.1	<130	7	<0.7	25900	9.8	3.0	<8.0
AR-40	9613-103.1022-2-15		0-100979				<5.0	51100	<3.0	<0.1	1110	<4.0	29000	<40	<100	3.5	25	<2.0	<130	<3	1.8	15800	<5.0	1.9	<8.0
AR-40	9327-103.0627-2-15		0-100980				<5.0	68600	<3.0	<0.1	985	7.3	42400	56	1040	5.8	26	2.9	<130	7	1.5	23900	13.2	1.2	<8.0
AR-40	9547-103.0575-2-15		0-100982				<5.0	69200	3.6	<0.1	1310	<4.0	40400	<40	161	5.6	<10	2.0	<130	8	<0.7	30100	18.4	3.3	<8.0
AR-40	9341-103.0258-2-12		0-100984				<5.0	58600	6.9	<0.1	727	20.6	45100	<40	<100	1.1	23	<2.0	<130	<3	<0.7	12200	9.4	0.6	<8.0
AR-40	9058-103.0616-2-06		0-100987				<5.0	60500	8.3	<0.1	458	7.9	42300	<40	614	19.0	<10	2.1	<130	5	1.5	17200	11.7	<0.2	<8.0
AR-40	9058-103.0616-2-06		0-100987				<5.0	60200	11.6	<0.1	348	8.2	46500	<40	360	1.1	12	2.1	<130	4	<0.7	15100	12.9	0.5	<8.0
AR-40	7611-103.1341-2-12		0-100991				<5.0	52700	<3.0	<0.1	760	<4.0	28300	<40	174	<1.0	25	<2.0	<130	5	1.5	12200	12.7	1.5	<8.0
AR-40	7411-103.1341-2-12		0-100991				<5.0	60300	<3.0	<0.1	795	<4.0	34100	50	<100	5.2	39	2.2	<130	9	2.6	26000	<5.0	3.1	<8.0
AR-40	9058-103.1263-2-15		0-100993				<5.0	14000	3.6	<0.1	1200	<4.0	29600	<40	272	12.5	82	<2.0	<130	12	<0.7	50600	9.7	7.2	<8.0
AR-40	9058-103.1463-2-15		0-100994				<5.0	67700	3.9	<0.1	1050	<4.0	39000	69	<100	5.1	41	3.6	<130	12	1.4	31700	17.4	2.3	<8.0
AR-40	7616-103.2016-2-12		0-100998				<5.0	68500	10.4	<0.1	603	21.1	<5000	<40	1260	1.3	<10	2.4	<130	6	<0.7	23900	23.6	1.1	<8.0
AR-40	9058-103.2413-2-15		0-100900				<5.0	56500	3.7	<0.1	854	<4.0	23100	42	294	14.7	<10	3.0	<130	4	1.5	15200	8.1	1.2	<8.0
AR-40	9058-103.2413-2-15		0-100900				<5.0	59100	4.7	<0.1	701	<4.0	34300	<40	<100	1.1	24	2.7	<130	<3	1.9	13900	9.6	1.1	<8.0
AR-40	9472-103.3911-2-15		0-100904				<5.0	59100	7.0	<0.1	736	<4.0	36400	<40	<100	5.5	74	<1.0	138	4	0.7	12700	10.6	0.8	<8.0
AR-40	9502-103.3849-2-15		0-100905				<5.0	71300	7.9	<0.1	1620	<4.0	41400	48	91	9.6	26	7.6	<130	7	2.1	30200	11.8	1.4	<8.0
AR-40	9502-103.3849-2-15		0-100905				<5.0	68900	7.6	<0.1	1730	<4.0	39500	41	<100	5.4	39	5.0	<130	8	1.7	30800	20.1	1.5	<8.0
AR-40	9502-103.3911-2-15		0-100906				<5.0	62000	5.8	<0.1	1240	<4.0	41600	<40	<100	1.1	25	2.5	<130	5	1.3	17500	10.5	6.9	<8.0
AR-40	9191-102.9269-2-15		0-100911				<5.0	52200	<3.0	<0.1	1550	<4.0	22700	<40	<100	11.2	<10	2.9	<130	18	<0.7	73200	6.3	8.4	<8.0
AR-40	9191-102.9269-2-15		0-100911				<5.0	57200	5.3	<0.1	1400	<4.0	25300	<40	<100	10.9	65	4.0	<130	22	4.1	60400	22.1	5.4	<8.0
AR-40	9262-102.9311-2-15		0-100912				<5.0	51100	3.8	<0.1	2370	<4.0	24700	261	<100	16.0	106	3.6	<130	28	6.6	98100	<5.0	9.9	<8.0
AR-40	9262-102.9338-2-15		0-100913				<5.0	50900	6.9	<0.1	1480	5.4	21700	156	<100	10.1	74	<2.0	<130	16	5.2	70200	5.2	6.7	<8.0
AR-40	9488-102.9536-2-15		0-100914				<5.0	45300	<3.0	<0.1	1290	<4.0	130000	54	<100	7.7	33	<2.0	<130	10	2.6	24700	11.7	2.5	<8.0
AR-40	9386-102.9347-2-15		0-100915				<5.0	72500	6.9	<0.1	1080	<4.0	33300	79	<100	9.6	42	3.5	<130	14	3.3	32800	15.1	1.8	<8.0
AR-40	9386-102.9347-2-15		0-100915				<5.0	72600	9.3	<0.1	863	<4.0	34800	70	<100	7.2	37	5.0	<130	7	2.1	35600	14.9	1.9	<8.0
AR-40	9453-102.9450-2-15		0-100916				<5.0	42400	3.3	<0.1	955	<4.0	16800	604	<100	18.0	193	<2.0	<130	56	6.4	179000	11.7	9.4	<8.0
AR-40	9453-102.9511-2-15		0-100918				<5.0	58800	4.2	<0.1	874	<4.0	21700	<40	<100	7.7	<10	2.6	<130	26	<0.7	63500	12.6	4.6	<8.0
AR-40	9453-102.9547-2-15		0-100919				<5.0	62400	4.7	<0.1	1320	<4.0	38100	70	<100	6.0	46	3.0	<130	14	2.7	30800	15.6	2.7	<8.0
AR-40	9453-102.9547-2-15		0-100919				<5.0	57200	<3.0	<0.1	4210	<4.0	59600	<40	<100	8.4	<10	3.5	<130	16	<0.7	51800	14.5	4.4	<8.0
AR-40	9453-102.9547-2-15		0-100919				<5.0	47800	<3.0	<0.1	2990	<4.0	40300	<40	<100	12.1	<10	3.3	<130	31	<0.7	87700	<5.0	6.7	<8.0
AR-40	9376-102.9569-2-15		0-100920				<5.0	44500	8.2	<0.1															

APPENDIX B (continued). Sediment Samples Analyzed for Uranium by Delayed Neutron Counting

STATE	ERDA SAMPLE NUMBER					K	La	Lu	Mg	Mn	Na	Rb	Sb	Sc	Sr	Ta	Tb	Th	Ti	V	W	Yb	Zn		
	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE																			LAST SAMPLE NUMBER	
ELEMENTAL CONCENTRATIONS IN SEDIMENT SAMPLES ANALYZED BY NEUTRON ACTIVATION ANALYSIS																									
Concentrations reported in weight parts per million (ppm)																									
AR-40	9022-103.1177-2-11-	0-108946	21300	N.A.	0.2	1900	271	9350	<20	<2.0	6.0	<300	<1.0	<1.5	9	2700	99	<1.0	<2.0	<50					
AR-40	9577-103.3572-2-11-	0-108948	22500	103	0.5	2620	562	6830	<20	<2.0	4.4	816	2.8	<1.5	6	1970	67	<1.0	<2.0	<25					
AR-40	9266-103.3472-2-15-	0-108949	29900	117	0.2	2130	478	11060	49	<2.0	5.2	<300	1.8	<1.5	6	2620	62	<1.0	<2.3	<50					
AR-40	9386-102.9472-2-11-	0-108956	35000	164	0.4	2520	612	13660	49	<2.0	4.9	<300	<1.0	<1.5	7	3750	60	<1.0	<3.2	<50					
AR-40	9147-102.9410-2-15-	0-108957	<200	574	1.3	987	865	13300	63	<2.0	5.7	<300	2.5	3.3	39	8120	172	<1.0	8.0	<50					
AR-40	9494-102.9454-2-15-	0-108958	<200	1010	2.1	976	1090	12100	31	<2.0	7.1	<300	12.0	6.0	71	10900	225	<1.0	14.0	<50					
AR-40	9505-102.9434-2-15-	0-108959	1760	570	1.5	1260	854	14000	55	<2.0	5.7	<300	5.1	3.5	40	8120	139	<1.0	10.0	<50					
AR-40	9464-102.9402-2-15-	0-108960	25400	198	0.7	1460	519	11900	68	<2.0	5.5	<300	1.6	<1.5	9	3950	73	<1.0	3.1	<50					
AR-40	9366-103.1538-2-15-	0-108961	24700	215	0.5	1180	558	13600	88	<2.0	4.9	331	<1.0	<1.5	11	3690	69	<1.0	3.2	<50					
AR-40	9134-103.1541-2-15-	0-108962	27400	487	0.9	1840	785	11800	99	<2.0	5.9	<300	3.9	1.8	30	5820	117	<1.0	7.3	<50					
AR-40	9214-102.9472-2-15-	0-108969	16400	623	1.1	817	884	13300	44	<2.0	5.9	<300	3.4	3.2	41	8130	183	<1.0	6.0	<50					
AR-40	9613-103.1472-2-12-	0-108970	35500	67	0.5	2300	399	11960	153	<2.0	7.1	<300	<1.0	<1.5	9	3060	60	<1.0	2.6	<50					
AR-40	9793-103.1472-2-12-	0-108973	4070	N.A.	N.A.	2170	225	814	N.A.	N.A.	N.A.	1130	N.A.	N.A.	N.A.	2220	77	N.A.	N.A.	N.A.					
AR-40	9222-103.1152-2-12-	0-108975	27800	103	0.3	2450	419	11100	51	<2.0	4.6	<300	<1.0	<1.5	6	2180	55	<1.0	<2.0	<50					
AR-40	9361-103.1194-2-15-	0-108976	15400	1250	1.9	1730	1790	8740	<20	<2.0	8.0	837	10.7	7.8	80	14800	352	<1.0	13.0	<50					
AR-40	9414-103.1155-2-15-	0-108977	17900	N.A.	<0.2	1710	518	11300	<20	<2.0	6.4	501	<1.0	<1.5	14	4090	72	<1.0	<2.6	<50					
AR-40	9633-103.1122-2-15-	0-108979	9730	216	0.5	1200	409	14500	37	<2.0	4.5	302	<1.0	<1.5	9	3510	63	<1.0	3.4	<50					
AR-40	9327-103.0622-2-15-	0-108980	34700	73	0.6	3680	540	15600	84	<2.0	7.8	<300	<1.0	1.7	15	2530	59	<1.0	2.4	<50					
AR-40	9547-103.0575-2-15-	0-108982	26200	91	<0.2	2560	584	16100	<20	<2.0	8.3	<300	2.2	<1.5	17	4820	91	<1.0	<2.0	<50					
AR-40	9341-103.0254-2-12-	0-108984	27600	112	0.2	2020	424	9980	55	<2.0	4.1	<300	<1.0	<1.5	6	2120	60	<1.0	<2.0	<50					
AR-40	9058-103.0614-2-06-	0-108987	19600	N.A.	<0.2	2820	462	8100	<20	<2.0	6.6	504	<1.0	<1.5	10	2820	64	<1.0	<2.0	<50					
AR-40	9058-103.0614-2-06-	1-108987	23200	133	0.3	2640	436	7860	51	<2.0	5.2	593	<1.0	1.6	6	2400	65	<1.0	2.2	<50					
AR-40	9611-103.1741-2-12-	0-108991	25900	130	0.4	1310	329	12700	53	<2.0	4.1	<300	<1.0	<1.5	6	3150	52	<1.0	<2.0	<50					
AR-40	9611-103.1741-2-12-	1-108991	6880	72	0.6	1790	430	15300	119	<2.0	7.4	<300	<1.0	2.1	13	3820	63	<1.0	2.9	<50					
AR-40	9058-103.1762-2-15-	0-108993	16200	N.A.	1.4	1630	1020	13500	76	<2.0	9.6	<300	4.1	2.4	30	8280	130	<1.0	<2.0	<91					
AR-40	9332-103.1467-2-15-	0-108994	35400	98	0.5	2890	664	13500	161	<2.0	8.8	<300	1.9	1.5	17	3950	77	<1.0	<2.8	<50					
AR-40	9614-103.2614-2-15-	0-108998	29500	49	<0.2	3200	708	12000	99	<2.0	8.8	1120	<1.0	<1.5	10	2870	81	<1.0	<2.0	<95					
AR-40	9052-103.2412-2-15-	0-109000	23100	N.A.	<0.2	2000	359	12600	<20	<2.0	5.8	<300	<1.0	<1.5	9	2500	50	<1.0	<2.0	<50					
AR-40	9522-103.2942-2-15-	0-109003	23900	92	0.3	2070	468	11200	80	<2.0	4.3	<300	<1.0	<1.5	6	2650	57	<1.0	3.0	<50					
AR-40	9472-103.2911-2-15-	0-109004	24000	90	0.4	2130	483	11900	78	<2.5	4.2	344	<1.0	<1.5	6	2850	55	<1.0	<3.0	<50					
AR-40	9502-103.3842-2-15-	0-109005	39800	67	0.4	2430	598	11100	117	<2.0	8.8	<300	<1.0	<1.5	12	2630	85	<1.0	<2.0	<50					
AR-40	9502-103.3842-2-15-	1-109005	37500	76	0.5	2460	597	12900	121	<2.0	9.1	402	<1.0	<1.5	12	3640	84	<1.0	<2.0	<50					
AR-40	9500-103.3911-2-15-	0-109006	21600	113	0.4	2490	524	10500	78	<2.6	5.8	<300	<1.0	<1.5	7	2700	64	<1.0	<2.0	<50					
AR-40	9101-102.9260-2-15-	0-109011	25900	260	<0.2	1060	915	16900	122	<2.0	9.8	<300	8.4	3.8	49	9630	166	<1.0	<2.0	<50					
AR-40	9101-102.9260-2-15-	1-109011	35400	240	1.8	1360	797	14700	83	<2.0	9.6	<300	7.9	4.5	43	7350	126	<1.0	11.7	<50					
AR-40	9252-102.9311-2-15-	0-109012	36500	397	2.2	1690	1320	13400	185	<2.0	13.9	<300	11.3	6.7	77	11800	204	<1.0	13.9	<50					
AR-40	9294-102.9334-2-15-	0-109013	25400	250	1.3	1410	845	15400	119	<2.0	8.9	<300	16.0	3.7	50	8240	160	<1.0	<6.8	<50					
AR-40	9484-102.9534-2-15-	0-109014	23400	84	0.7	2030	553	12400	69	<2.0	5.3	<300	<1.0	3.0	16	4550	84	<1.0	3.9	<50					
AR-40	9386-102.9347-2-15-	0-109015	34300	119	0.7	2370	663	13100	145	<2.0	9.6	<300	2.8	2.3	21	4460	86	<1.0	3.2	<50					
AR-40	9386-102.9347-2-15-	1-109015	38800	100	0.5	2300	653	10600	85	<2.1	9.6	<300	2.6	1.5	21	4850	88	<1.0	4.3	<50					
AR-40	9543-102.9454-2-15-	0-109016	31200	941	2.2	1780	1376	10800	107	<2.0	12.0	<300	22.5	12.1	203	15600	356	<1.0	22.0	<92					
AR-40	9563-102.9454-2-15-	1-109016	26400	369	<0.2	1510	715	12100	94	<2.0	8.6	<300	7.6	4.8	80	7100	151	<1.0	<2.0	<50					
AR-40	9664-102.9511-2-15-	0-109018	33300	118	0.6	2030	553	12400	64	<2.0	8.4	<300	1.5	<1.5	21	4550	84	<1.0	3.9	<50					
AR-40	9662-102.9547-2-15-	0-109019	24300	226	<0.2	1620	646	13500	101	<2.0	7.9	<300	<1.0	3.0	48	6150	120	<1.0	<2.0	<50					
AR-40	9662-102.9547-2-15-	1-109019	30800	427	<0.2	1120	934	14200	122	<2.0	8.6	<300	2.9	6.9	96	9250	188	<1.0	<2.0	<50					
AR-40	9736-102.9560-2-15-	0-109020	37800	472	2.4	874	1340	14500	106	<2.0	12.3	<300	19.1	6.8	87	17800	217	<1.0	14.8	<50					
AR-40	9101-103.2733-2-15-	0-109021	46100	69	0.4	3640	489	7310	171	<2.0	11.0	<300	<1.0	<1.5	12	3423	87	<1.0	3.6	<50					
AR-40	9101-103.2733-2-15-	1-109021	50800	63	0.6	3310	462	6900	98	<2.2	9.3	<300	<1.0	2.4	10	2980	81	<1.0	3.0	<50					
AR-40	9601-103.2741-2-15-	0-109022	27600	117	0.7	2310	612	12300	110	<2.0	9.2	208	1.1	2.5	22	3490	87	<1.0	3.5	<50					

APPENDIX C

Data Listing of Measurements Performed During Field Sampling

(See Appendix D for code to listings)

APPENDIX C. Water Quality Measurements Performed During Field Sampling

ERDA SAMPLE NUMBER							WATER SAMPLES ANALYZED FOR URANIUM BY FLUOROMETRY								
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Alkalinity	Hardness	Ca	Mg	Chloride	Phosphate	Nitrate	Nitrite	Fe ⁴⁺
All results are given in milligrams per liter, mg/l, of ion in water.															
0-40	1470-103	0467-20-00	0-100000				170	200	150	50	1	0.30	6.0	0.01	0.09
0-40	1470-104	0567-20-00	0-100000				220	362	296	66	25				
0-40	1470-105	0747-20-00	0-100010				170	140	108	32	13				
0-40	1470-106	0937-20-00	0-100012				240	326	230	96	10	0.27	6.7	0.02	0.02
0-40	1470-107	0937-20-00	0-100016				160	410	330	80	13				
0-40	1470-108	0937-20-00	0-100020				220	204	176	28	15				
0-40	1470-109	0937-20-00	0-100027				180	314	240	74	8				
0-40	1470-110	0937-20-00	0-100032				170	278	204	74	5				
0-40	1470-111	0937-20-00	0-100036				510	100	60	40	140	0.12			0.18
0-40	1470-112	0937-20-00	0-100037				175	165	115	50	20	0.08			
0-40	1470-113	0937-20-00	0-100038				155	155	105	50	23	0.07			
0-40	1470-114	0937-20-00	0-100039				160	170	115	55	40	0.10			
0-40	1470-115	0937-20-00	0-100040				130	90	60	30	5	0.12			
0-40	1470-116	0937-20-00	0-100041				680	70	50	20	260				
0-40	1470-117	0937-20-00	0-100042				460	100	65	35	170				
0-40	1470-118	0937-20-00	0-100043				620	50	30	20	90				
0-40	1470-119	0937-20-00	0-100044				670	45	25	20	70				
0-40	1470-120	0937-20-00	0-100045				135	130	100	30	5				
0-40	1470-121	0937-20-00	0-100046				190	160	120	40	8				
0-40	1470-122	0937-20-00	0-100049				420	260	170	90	15				
0-40	1470-123	0937-20-00	0-100050				160	160	110	50	15				
0-40	1470-124	0937-20-00	0-100051				110	105	90	15	3				
0-40	1470-125	0937-20-00	0-100052				140	110	70	40	5				
0-40	1470-126	0937-20-00	0-100053				160	125	80	45	8				
0-40	1470-127	0937-20-00	0-100055				440	18	4	14	48				
0-40	1470-128	0937-20-00	0-100055												
0-40	1470-129	0937-20-00	0-100056				153	78	48	30	5				
0-40	1470-130	0937-20-00	0-100057				148	70	45	25	25				
0-40	1470-131	0937-20-00	0-100058				142	85	65	20	18				
0-40	1470-132	0937-20-00	0-100059				137	78	55	23	10				
0-40	1470-133	0937-20-00	0-100060				137	75	57	18	5				
0-40	1470-134	0937-20-00	0-100071				504	55	35	20	100				
0-40	1470-135	0937-20-00	0-100072				520	60	35	25	700				
0-40	1470-136	0937-20-00	0-100074				584	65	45	20	3				
0-40	1470-137	0937-20-00	0-100078				600	30	30	0	5				
0-40	1470-138	0937-20-00	0-100086				570	70	50	20	202				
0-40	1470-139	0937-20-00	0-100086												
0-40	1470-140	0937-20-00	0-100089				540	50	40	10	130				
0-40	1470-141	0937-20-00	0-100089				638	60	40	20	210				
0-40	1470-142	0937-20-00	0-100090				600	50	30	20	345				
0-40	1470-143	0937-20-00	0-100092				430	83	60	23	24				
0-40	1470-144	0937-20-00	0-100096				175	252	192	60	48				
0-40	1470-145	0937-20-00	0-100097				635	80	40	40	110				
0-40	1470-146	0937-20-00	0-100097												
0-40	1470-147	0937-20-00	0-100099				640	86	53	33	95				
0-40	1470-148	0937-20-00	0-100101				466	40	44	0	41				
0-40	1470-149	0937-20-00	0-100102				420	15	15	0	39				
0-40	1470-150	0937-20-00	0-100104				400	33	20	13	40				
0-40	1470-151	0937-20-00	0-100110				660	80	40	40	348				
0-40	1470-152	0937-20-00	0-100117				150	139	106	33	8				
0-40	1470-153	0937-20-00	0-100126				670	10	9	1	23				
0-40	1470-154	0937-20-00	0-100129				510	43	26	17	20				

APPENDIX C (continued) Water Quality Measurements Performed During Field Sampling

ERDA SAMPLE NUMBER							WATER SAMPLES ANALYZED FOR URANIUM BY DELAYED NEUTRON COUNTING								
STATE	LATITUDE	LONGITUDE	ERDA LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	All results are given in milligrams per liter, mg/l, of ion in water.								
							Alkalinity	Hardness	Ca	Mg	Chloride	Phosphate	Nitrate	Nitrite	Fe ⁺⁺
0-40	7703-1N7	0070-2-WR	0-100001				200	290	230	60		0.58	5.8	0.02	0.00
0-40	7703-1N7	0070-2-WR	0-100002				210	252	151	101	3	0.34	2.0	0.02	0.00
0-40	7511-1N7	0100-2-WR	0-100003				250	248	130	118	7	1.82	2.2	0.04	
0-40	7300-1N7	0450-2-WR	0-100004				309	473	313	60	19	0.27	3.2		0.00
0-40	7300-1N7	0100-2-WR	0-100005				248	264	164	100	68	0.77	0.9		0.00
0-40	7164-1N7	0050-2-WR	0-100006				238	958	614	344	30	0.17	2.3		0.00
0-40	7164-1N7	0050-2-WR	0-100007				220	940	620	320	30	0.30	1.6		0.00
0-40	7161-1N7	0100-2-WR	0-100008				270	1120	660	560	63	0.06	1.3	0.01	0.00
0-40	7167-1N7	0100-2-WR	0-100009				250	918	540	378	30				
0-40	7150-1N7	0230-2-WR	0-100010				254	330	231	99	30	0.48	5.5	0.03	0.10
0-40	7164-1N7	0050-2-WR	0-100011				258	1060	630	430	127	0.03	2.2		0.00
0-40	7150-1N7	0150-2-WR	0-100012				100	494	414	80	18				
0-40	7105-1N7	0066-2-WR	0-100013				260	1220	680	540	55	0.28	7.0		
0-40	7150-1N7	0161-2-WR	0-100014				340	714	581	133	50				
0-40	7070-1N7	0160-2-WR	0-100015				200	438	340	98	15				
0-40	7070-1N7	0160-2-WR	0-100016				310	972	708	264	30				
0-40	7150-1N7	0156-2-WR	0-100017				190	330	272	58	23				
0-40	7170-1N7	0100-2-WR	0-100018				200	348	298	50	10				
0-40	7000-1N7	0070-2-WR	0-100019				270	440	320	120	25				
0-40	7164-1N7	0070-2-WR	0-100020				240	266	228	38	25				
0-40	7140-1N7	0166-2-WR	0-100021				200	354	256	98	15				
0-40	7050-1N7	0160-2-WR	0-100022				410	974	714	260	1600				
0-40	7070-1N7	0100-2-WR	0-100023				280	640	484	156	100				
0-40	7050-1N7	0150-2-WR	0-100024				340	990	720	270	120	0.21			
0-40	7070-1N7	0050-2-WR	0-100025				300	260	180	80	65				
0-40	7001-1N7	0160-2-WR	0-100026				180	95	60	35	43				
0-40	7000-1N7	0160-2-WR	0-100027				230	445	356	89	93				
0-40	7000-1N7	0160-2-WR	0-100028				240	416	350	66	90				
0-40	7010-1N7	0100-2-WR	0-100029				320	562	390	172	130				
0-40	7010-1N7	0100-2-WR	0-100030												
0-40	7060-1N7	0100-2-WR	0-100031				146	445	320	125	57				
0-40	7060-1N7	0100-2-WR	0-100032				116	420	320	100	119				
0-40	7060-1N7	0100-2-WR	0-100033				146	180	140	40	35				
0-40	7070-1N7	0100-2-WR	0-100034				240	927	795	132	103				
0-40	7040-1N7	0250-2-WR	0-100035				204	615	503	112	78				
0-40	7010-1N7	0150-2-WR	0-100036				330	1855	1325	530	410				
0-40	7010-1N7	0160-2-WR	0-100037				320	980	689	291	134				
0-40	7040-1N7	0100-2-WR	0-100038				215	146	106	40	8				
0-40	7060-1N7	0100-2-WR	0-100039				210	636	510	126	70				
0-40	7000-1N7	0100-2-WR	0-100040				260	1067	901	166	105				

APPENDIX D

Explanation of Code Used in Data Listings

EXPLANATION OF CODE USED
IN
OPEN-FILE LISTINGS OF HSSR SURVEY DATA
PROVIDED BY
THE LOS ALAMOS SCIENTIFIC LABORATORY

ERDA SAMPLE NUMBER

STATE: A two-digit Federal Information Processing Standards (FIPS) code, designating the state from which each sample came. For the states being covered by the LASL, the code numbers are:

Alaska . = 02	New Mexico = 35
Colorado = 08	Wyoming = 56
Montana = 30	

LATITUDE AND LONGITUDE: Sample location, in degrees and decimal degrees to four places. However, though generally much better, locational accuracy cannot be guaranteed closer than about 300 meters (1000 feet).

ERDA LAB: An Energy Research and Development Administration (ERDA) one-digit identifier designating the national laboratory responsible for taking the sample and the data shown in the listing, as well as providing the analysis giving the uranium and other elemental concentrations, if any. The LASL is designated by the Number 2.

SAMPLE TYPE: A two-digit identifier which specifically designates the pertinent properties defining the sample type to which the listed data relate. For explanation of the code used, refer to the attached "Numerical Key and Specifications for Sample Types Taken by the LASL".

REPLICATE: A three-digit sequential number assigned to indicate a multiple sample of a single sample type from a single location. The largest number in use indicates the most recent sample taken, and there will always be smaller sequential numbers representing earlier samples back to 000, which is the initial sample from any given location. Except in the case of special studies, there will be no replicate samples and this entry will therefore be 000.

LASL SAMPLE NUMBER AND FIELD DATA

LASL SAMPLE NUMBER: A unique six-digit number permanently assigned by the LASL to every location sampled in each state. For internal use, these numbers are assigned in blocks to the various areas individually treated and reported upon, and therefore serve to generally locate the samples within the various states as follows.

	<u>Location Numbers</u>		<u>State</u>
from	000 001 through 099 999	=	New Mexico
from	100 001 through 199 999	=	Colorado
from	200 001 through 299 999	=	Wyoming
from	300 001 through 399 999	=	Montana
from	400 001 through and above	=	Alaska

TIME SAMPLED: The DATE that the sample was taken, in terms of the number of the MONTH, followed by the DAY and finally the YEAR, separated by slashes, and then the TIME it was taken on that data to the nearest whole HOUR on a military (24-hour) clock.

AIR TEMPERATURE: The temperature that was measured in the shade at the time of sampling, to the nearest whole degree Celsius (C).

WATER TEMPERATURE: The temperature that was measured in the sample water (in situ whenever possible) at the time of sampling, to the nearest one-tenth of a degree Celsius (0.1 C).

COMMENTS: A "C" in this column indicates that some secondary comment not included in the listing was recorded at the sample location. This information will be used by the LASL in evaluating the data and, if appropriate, it will be mentioned in the final report.

SPECIAL MEASUREMENTS: An "S" in this column indicates that one or more field measurements in addition to those listed were made at the sample location. A description of any special parameters measured, and the measured value at each sample location, will be included in the final HSSR survey report on the area by the LASL.

pH: The pH, to the nearest one-tenth (0.1) of a pH unit, that was measured in the water at the sample location at the time of sampling.

SPECIFIC CONDUCTANCE: The conductivity, in mhos/cm, that was measured in the water at the sample location at the time of sampling.

SCINTILLOMETER: The equivalent uranium (eU), in parts per million (ppm), as measured on a flat ground surface within ten meters of the sample location using a scintillometer fitted with a differential gamma sampler (DGS). The effect of the DGS is to introduce a fixed geometry into the measurement and remove the background.

ROCK TYPE: The single digit in this column provides a general description of the dominant lithologic regime at or near the sample location as given below.

1 = Sedimentary
2 = Metamorphic

3 = Igneous
4 = Unknown

ROCK COLOR: The single digit in this column provides an indication of the observed dominant color of local bedrock exposures at or near the sample location as given below.

1 = White/Bluff
2 = Yellow
3 = Orange

4 = Pink/Red
5 = Green
6 = Brown

7 = Gray
8 = Black
9 = Other

SEDIMENT TYPE: The single digit in this column provides a subjective evaluation of the dominant sediment type at the sample location as given below.

1 = Boulders
2 = Cobbles
3 = Gravel

4 = Sand
5 = Mud
6 = Muck

7 = Other

SEDIMENT COLOR: The single digit in this column indicates the observed dominant color of the bottom sediment (stream channel, lake bed, etc.) at the sample location at the time of sampling as given below.

1 = White/Buff	4 = Pink/Red	7 = Gray
2 = Yellow	5 = Green	8 = Black
3 = Orange	6 = Brown	9 = Other

WATER FLOW: The single digit in this column provides a subjective evaluation of the water movement at the sample location at the time of sampling as given below.

1 = Stagnant	3 = Moderate	5 = Torrent
2 = Slow	4 = Fast	

WATER LEVEL: The single digit in this column provides a subjective estimate of water quantity at the time of sampling relative to its usual condition at the sample location as given below.

1 = Dry	3 = Normal	5 = Flood
2 = Low	4 = High	

WATER COLOR: The single digit in this column provides a subjective evaluation of suspended load in the sample water as given below.

1 = Clear	3 = Cloudy	5 = Algal
2 = Murky	4 = Muddy	6 = Other

STREAM CHANNEL: The single digit here gives a subjective evaluation of stream channel character at the sample location at the time of sampling as given below.

1 = Depositing	2 = Eroding	3 = Unknown
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VEGETATION TYPE: The single digit in this column provides a subjective evaluation of the dominant plant type in the vicinity of the sample location according to the key below.

1 = Conifers	4 = Grass	7 = Other
2 = Deciduous	5 = Moss	
3 = Brush	6 = Marsh	

VEGETATION DENSITY: The single digit in this column provides a subjective estimate of the amount of plant cover in the vicinity of the sample location according to the key below.

1 = Barren	3 = Moderate	5 = Very Dense
2 = Sparse	4 = Dense	

RELIEF: The single digit in this column provides a subjective evaluation of the topography within a few hundred meters of the sample location according to the key below.

1 = Flat	3 = Gentle (15-60 m)	5 = High (300 m)
2 = Low (15 m)	4 = Moderate (60-300 m)	6 = Other

WEATHER: The single digit in this column gives the observed climatic condition at the sample location at the time of sampling as given by the key below.

1 = Clear	3 = Overcast	5 = Snowy
2 = Partly cloudy	4 = Rainy	6 = Other

OWNERSHIP: The single digit here gives a broad classification of administrative responsibility or general ownership of the land at the sample location according to the key below.

1 = Federal	3 = Private	5 = Other
2 = State	4 = Indian	

CONTAMINANTS: The single digit here indicates known or suspected local factors likely to influence analytical results according to the key below.

1 = None	4 = Industry	7 = Urban
2 = Mining	5 = Seward	8 = Recreation
3 = Agriculture	6 = Power generation	9 = Other

WELL TYPE: The single digit in this column provides a general description of the type of water well from which the sample was taken (if, in fact, it was a well sample) according to the key below.

1 = Windmill-stock	4 = Suction pump	7 = Hand bail
2 = Windmill-domestic	5 = Jet pump	8 = Unknown
3 = Submersible pump	6 = Large turbine	9 = Other

WELL DIAMETER: The one or two digits (if any) in this column give the measured or estimated inside diameter, in inches, of the casing of the well from which the sample (if taken from a well) came.

WELL DEPTH: The one, two, or three digits (if any) in this column give the total drilled depth from the surface, in feet, of the well from which the sample (if taken from a well) came. Three 9s in this column indicates a well depth greater than 1000 feet.

WATER DEPTH: The one, two, or three digits in this column give the depth, in feet, from the surface to the standing water in the well, if known (if the sample was taken from a well). A -1 in this column indicates a flowing artesian well.

URANIUM CONCENTRATION: The value given in this column is the analytically derived value of the uranium concentration found in the water sample in parts per billion (ppb), or in the sediment sample in parts per million (ppm). Sample Types No. 1 through 10 and 21 through 30 are water samples, with their uranium concentrations given in ppb, while Sample Types No. 11 through 20 and 31 through 40 are sediment samples, with their uranium concentration given in ppm.

NUMERICAL KEY AND SPECIFICATIONS
FOR SAMPLE TYPES COLLECTED FOR
THE LOS ALAMOS SCIENTIFIC LABORATORY (LASL)
FROM THE STERLING AND FORT MORGAN AREA, COLORADO
DECEMBER, 1976, AND JANUARY, 1977

This numerical key provides the necessary tie between the specific type or form of each sample taken in the LASL HSSR program and each individual suite of field and laboratory data to which the sample relates. It defines the various sample types generally to be collected by the LASL in the ERDA HSSR for uranium.

The two-digit key number assigned to each sample type herein designates three distinct properties of the most common types of samples taken by the LASL in the NURE HSSR project. These properties are: (A) The general sample source (i.e., spring or stream or dry stream, etc.); (B) The sample medium (i.e., water or sediment, etc.); and (C) The treatment given the sample in the field or laboratory prior to its analysis by the LASL.

The key numbers are inserted in the appropriate columns of the specially formatted ERDA sample numbering system to positively identify the sample type for all LASL sample data submitted. An expanded version of this key, which includes sample types less commonly used than the LASL, will be provided whenever data from such samples are submitted.

KEY NO.

SOURCE / MEDIUM / TREATMENT

- 06 - Spring water sample filtered through a 0.45 micron membrane filter and acidified to a pH of ≤ 1 with reagent grade nitric acid (HNO_3)
- 07 - Stream water sample filtered through a 0.45 micron membrane filter and acidified to a pH of ≤ 1 with reagent grade nitric acid (HNO_3)
- 08 - Well water sample filtered through a 0.45 micron membrane filter and acidified to a pH of ≤ 1 with reagent grade nitric acid (HNO_3)
- 11 - Wet spring sediment sample dried at $\leq 100^\circ\text{C}$ and sieved to -100 mesh through stainless steel sieves
- 12 - Wet stream sediment sample dried at $\leq 100^\circ\text{C}$ and sieved to -100 mesh through stainless steel sieves
- 15 - Dry stream sediment sample dried at $\leq 100^\circ\text{C}$ (if necessary) and sieved to -100 mesh through stainless steel sieves
- 28 - Well water sample acidified to a pH of ≤ 1 with reagent grade nitric acid (HNO_3)
- 96 - Dry natural pond sediment sample dried at $\leq 100^\circ\text{C}$ (if necessary) and sieved to -100 mesh through stainless steel sieves

104°07'30" 104°00' 45' 30'

41°00'

45'

30'

F
SAMPLE L

PLATE I

2

30'

30'

15'

40° 00'

104° 07' 30"

104° 00'

45'

30'

SAMPLE L
STERLING
NORTHEA
DEC.

3

PLATE I
LOCATION OVERLAY
AND FORT MORGAN
EASTERN COLORADO
EC. 1976 - JAN. 1977

4

30'

15'

103°00'

4

ATE I
ATION OVERLAY
D FORT MORGAN
ERN COLORADO
6-JAN. 1977

5

30'

15'

40°00'

103°00'

102°52'30"