Informal Report

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**NURE Hydrogeochemical and Stream Sediment
Data Release for Pilot Study Samples from Portions of the
Sterling and Greeley NTMS Quadrangles, Colorado**

University of California

LOS ALAMOS SCIENTIFIC LABORATORY

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**NURE Hydrogeochemical and Stream Sediment
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Sterling and Greeley NTMS Quadrangles, Colorado**

Henry Paul Nunes

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CONTENTS

LIST OF ILLUSTRATIONS	vi
LIST OF TABLES	vi
SUMMARY	1
ACKNOWLEDGMENTS	5
APPENDIX A - Summary of Standard LASL HSSR Field and Analytical Procedures	7
APPENDIX B - Listings of Elemental Concentrations for Water Samples	13
B-I Elemental Concentrations for Water Samples, Phase I, December 1976 into January 1977	13
B-II Elemental Concentrations for Water Samples, Phase II, March into April 1977	19
B-III Elemental Concentrations for Water Samples, Phase III, April into May 1977	27
B-IV Elemental Concentrations for Water Samples, Phase IV, July into August, 1977	37
APPENDIX C - Listings of Elemental Concentrations for Sediment Samples	45
C-I Elemental Concentrations for Sediment Samples, Phase I, December 1976 into January 1977	45
C-II Elemental Concentrations for Sediment Samples, Phase II, March into April 1977	51
C-III Elemental Concentrations for Sediment Samples, Phase III, April into May 1977	57
C-IV Elemental Concentrations for Sediment Samples, Phase IV, July into August 1977	71
APPENDIX D - Code to Data Listings	81
D-I Explanation of Codes Used	82
D-II Key to Sample Types	86
APPENDIX E - Summary of University of Colorado Field and Analytical Procedures	89

APPENDIX F - Listings of Field Analytical Data for Unfiltered Water Samples	91
F-I Field Analytical Chemistry Results for Unfiltered Water Samples - Phase I	91
F-II Field Analytical Chemistry Results for Unfiltered Water Samples - Phase II	95
APPENDIX G - Sampling Phase Correlation Code	99
REFERENCES	106

LIST OF ILLUSTRATIONS

Fig. No.

1. Location map for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado.	2

Plate No.

I. Sample location overlay for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado, Phase I, December 1976 into January 1977.	Pocket
II. Sample location overlay for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado, Phase II, March into April 1977.	Pocket
III. Sample location overlay for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado, Phase III, April into May 1977.	Pocket
IV. Sample location overlay for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado, Phase IV, July into August 1977.	Pocket

LIST OF TABLES

Table No.

I. Statistical Results for Uranium Reported by Phase and Sample Type	3
II. Elements Reported and Analytical Methods Used for the Sterling and Greeley Pilot Study Samples	4

NURE HYDROGEOCHEMICAL AND STREAM SEDIMENT
DATA RELEASE FOR PILOT STUDY SAMPLES FROM PORTIONS OF THE
STERLING AND GREELEY NTMS QUADRANGLES, COLORADO

by

Henry P Nunes

SUMMARY

This data release presents analytical results obtained for a pilot study being done in portions of the Sterling and Greeley, Colorado, National Topographic Map Series (NTMS) quadrangles (Fig. 1) by the University of Colorado under contract to the Los Alamos Scientific Laboratory (LASL) as part of the nationwide Hydrogeochemical and Stream Sediment Reconnaissance (HSSR). The HSSR, a part of the National Uranium Resource Evaluation (NURE) sponsored by the US Department of Energy (DOE), is designed to identify areas having higher than normal concentrations of uranium in ground waters, surface waters, and water-transported sediments. The HSSR data will ultimately be combined with data from other NURE programs (e.g., from airborne radiometric surveys and geological investigations) to prepare an improved assessment of the potential uranium resources in the US and to indicate areas favorable for uranium exploration by the private sector. The LASL is responsible for conducting the HSSR primarily in the Rocky Mountain states of New Mexico, Colorado, Wyoming, and Montana, and in Alaska.

During four distinct time periods between December 1976 and August 1977, students from the University of Colorado (under the guidance of the Department of Geophysical Sciences) collected samples from the two areas shown in Fig. 1. One purpose of the study for which this sampling was done is to determine the effect of seasonal variations upon the elemental concentrations, particularly uranium, in the samples (Table I). The time periods were: Phase I, December 1976 into January 1977; Phase II, March into April 1977; Phase III, April into May 1977; and Phase IV, July into August 1977. A total of 796 samples (which included 529 water samples and 267 sediment samples) were taken from 264 locations. Sixty of these locations were sampled at least once during each of the time periods. The samples were collected and treated according to standard procedures described by Sharp and Aamodt (1978) and summarized in Appendix A. Uranium and other elemental concentrations were determined at the LASL using the standard analytical procedures are also described in Appendix A (Hues et al, 1977; Balestrini et al, 1976). Table II lists the elements reported in this data release by sample media and the analytical method used. Filtered

Fig. 1. Location map for pilot study samples collected from portions of the Sterling and Greeley NTMS quadrangles, Colorado.

water data are presented in Appendix B and sediment data in Appendix C. These appendixes are both broken into four subsections, with each subsection listing the appropriate data from one of the sampling phases (i.e., sampling Phase I water data are listed in Appendix B-I, sampling Phase I sediment data are listed in Appendix C-I, etc.). Appendix D provides keys to the codes used in the above data listings. A unique DOE sample location/replicate number was assigned to each location and described in the first section of Appendix D. Appendixes A, B, C, and D, then, present the standard LASL HSSR data and procedures.

Students from the University of Colorado made special measurements on unfiltered water samples collected during Phases I and II. A Hach DR-EL/2 water quality analyzer was used in these phases to obtain analytical data for alkalinity, calcium, chloride, iron, magnesium, nitrate, nitrite, phosphate, and total hardness. A summary of the procedures utilized for these measurements is provided in Appendix E, and the results are listed in Appendix F. The Phase I data, previously reported by Maxwell (1977) as a raw data release, are repeated in this report to provide the data from the four sampling phases together and express all special unfiltered water results in the same units (i.e., equivalent ion in water). Appendix G lists all of the samples collected, all of the sample location numbers, and each replicate number, and correlates them to the phase in which the field work was performed. Appendixes E, F, and G, then, present data and procedures that are largely unique to this specific pilot study.

TABLE I

STATISTICAL RESULTS FOR URANIUM REPORTED BY PHASE AND SAMPLE TYPE

Phase I, December 1976 - January 1977

	<u>Number of Samples</u>	<u>Minimum Value</u>	<u>Maximum Value</u>	<u>Mean</u>	<u>Standard Deviation</u>
A. All Waters (ppb)	90	.01	137.30	22.11	32.77
Streams	6	38.50	137.30	74.80	34.13
Wells	77	.01	135.70	18.85	30.17
Other types	7	(too few of each type for statistical analysis)			
B. All Sediments (ppm)	54	3.10	28.00	8.44	5.46
Wet Streams	6	4.90	28.00	9.37	9.21
Dry Streams	43	3.10	24.30	8.07	4.96
Other types	5	(too few of each type for statistical analysis)			

Phase II, March - April 1977

A. All Waters (ppb)	133	.01	122.70	26.08	31.53
Streams	17	.28	114.90	48.25	29.00
Wells	109	.01	122.70	22.11	30.68
Other types	7	(too few of each type for statistical analysis)			
B. All Sediments (ppm)	52	3.50	21.40	7.62	4.84
Wet Streams	17	3.70	19.40	5.99	3.65
Dry Streams	29	3.50	20.90	7.49	4.33
Other types	6	(too few of each type for statistical analysis)			

Phase III, April - May 1977

A. All Waters (ppb)	185	.01	432.50	20.63	40.87
Streams	14	5.05	122.10	38.76	35.73
Wells	154	.01	127.70	16.87	26.73
Other types	17	(too few of each type for statistical analysis)			
B. All Sediments (ppm)	105	2.70	18.80	5.51	2.66
Wet Streams	14	3.30	13.40	5.96	2.51
Dry Streams	76	2.70	13.00	5.27	2.15
Other types	15	(too few of each type for statistical analysis)			

Phase IV, July - August 1977

A. All Waters (ppb)	121	.01	192.80	20.14	31.07
Streams	8	2.15	63.70	30.76	21.68
Wells	101	.01	136.30	18.83	28.14
Other types	12	(too few of each type for statistical analysis)			
B. All Sediments (ppm)	56	2.40	31.20	5.79	4.41
Wet Streams	8	4.70	10.30	6.55	1.90
Dry Streams	37	2.40	31.20	5.62	4.84
Other types	11	(too few of each type for statistical analysis)			

TABLE II
ELEMENTS REPORTED AND ANALYTICAL METHODS USED FOR
THE STERLING AND GREELEY PILOT STUDY SAMPLES

<u>SEDIMENTS</u>				<u>WATERS</u>	
<u>Element</u>	<u>Analytical Method</u>	<u>Element</u>	<u>Analytical Method</u>	<u>Element</u>	<u>Analytical Method</u>
Aluminum	NAA	Lutetium	ES	Arsenic ^c	DS
Antimony	NAA	Magnesium	NAA	Calcium	DS
Arsenic ^a	XRF	Manganese	NAA	Chromium	DS
Barium	NAA	Mercury ^c	NAA	Cobalt	DS
Beryllium	ES	Nickel	XRF	Copper	DS
Bismuth	XRF	Niobium	XRF	Iron	DS
Bromine ^a	XRF	Potassium	NAA	Lead	DS
Cadmium	XRF	Rubidium	NAA	Magnesium	DS
Calcium	NAA	Samarium ^e	NAA	Manganese	DS
Cerium	NAA	Scandium ^b	NAA	Molybdenum	DS
Cesium	NAA	Silver	XRF	Nickel	DS
Chlorine	NAA	Sodium	NAA	Potassium ^c	DS
Chromium	NAA	Strontium	NAA	Silicon ^c	DS
Cobalt	NAA	Tantalum	NAA	Sodium ^c	DS
Copper	XRF	Terbium	NAA	Titanium ^f	DS
Dysprosium	NAA	Thorium	NAA	Vanadium ^d	DS
Europium	NAA	Tin	XRF	Zinc ^b	DS
Gallium ^a	NAA	Titanium	NAA		
Gold	NAA	Tungsten ^b	XRF		
Hafnium	NAA	Vanadium	NAA		
Iron	NAA	Ytterbium	NAA		
Lanthanum	NAA	Zinc	NAA		
Lead	XRF				
Lithium	NAA	Uranium	DNC		
				Uranium ^g	F or DNC

NAA Neutron activation analysis.
XRF X-ray fluorescence.
ES Arc source emission spectroscopy.
DS Plasma source emission spectroscopy.
DNC Delayed-neutron counting.
F Fluorometry.

^a Deleted from Phases II, III, and IV.

^b Deleted from Phase II only.

^c Deleted from Phases III and IV.

^d Phase II only.

^e Added to Phase II, III, and IV.

^f Added to Phases III and IV.

^g Uranium in waters determined by fluorometry unless otherwise noted.

Plates I, II, III and IV, in the rear pocket, are 1:250 000-scale sample location overlays that can be used with the appropriate NTMS quadrangles. Each Plate is marked with the sampling Phase number to which it corresponds. The sample locations are graphically plotted on the overlay by computer, using a Universal Transverse Mercator map projection program developed at the LASL (Cheadle, 1977). Because this report is a data release, intended to make the data available to the University of Colorado, DOE, and the public as quickly as possible, no discussion of the geology, uranium occurrences, or data evaluation is included. An evaluation of the data is to be prepared by the University of Colorado as part of the completed pilot study and will be reported through the DOE Grand Junction Office at a later date.

ACKNOWLEDGMENTS

Thanks are due the principal investigators at the University of Colorado, D. D. Runnels and G. Markos, and the several students who collected the samples in this area. Appreciation is also expressed to the many landowners in the area who kindly allowed access to their properties.

Within the LASL, special thanks are due to the following groups and individuals who were responsible for analyzing the samples and managing the data. The Analytical Chemistry Group, CMB-1, led by Glenn R. Waterbury, was responsible for the analyses of the water samples. W. H. Ashley, A. L. Henicksman, and D. E. Hedrick performed these water analyses. The Research Reactor Group, P-2, led by Merle E. Bunker, was responsible for the analyses of the sediment samples. Michael N. Minor and other members of Group P-2 prepared the samples and performed these analyses. The efforts of Jesse M. Cheadle III and Carlotta McInteer of the Statistics Group, S-1, who were responsible for all data management functions, are also greatly appreciated. Thanks are also due Patricia R. O'Rourke, Judy A. Wilkinson, Nancy J. Sedlacek, Mary E. Luke, and John A. Paskiewicz of Geochemical Applications Group, G-5, who were instrumental in putting the report together. Special thanks are due Thomas A. Weaver, Wayne A. Morris, and Paul L. Aamodt, who critically reviewed this data release.

APPENDIX A

SUMMARY OF STANDARD LASL HSSR FIELD AND ANALYTICAL PROCEDURES

SUMMARY OF STANDARD LASL HSSR FIELD AND ANALYTICAL PROCEDURES

I. FIELD PROCEDURES

Water Sampling

Water samples are taken first, directly from the source wherever possible, filtered through a 0.45- μ membrane filter (except in Alaska where this step is omitted), and placed in one each, prewashed and sealed, 41-ml reactor "rabbit" and 25-ml vial (both polyethylene). Water samples in both the rabbit and vial are then acidified to a pH ≤ 1 with 8N, reagent-grade HNO_3 . All sample containers are doubly labeled with preprinted, adhesive labels carrying the same sample location number as that preprinted on the field data form. Springs are sampled as near to their point of emergence as possible; stream waters are taken from the fast-flowing current away from the bank; ponds (including small lakes and reservoirs) are sampled from just below the surface, near their center; and well waters are taken near the wellhead if the well is pumping or from a holding tank if not.

Sediment Sampling (Wet or Dry)

Enough fine-grained, organic-rich, water-transported sediment to yield a composite sample of 25 g after processing (as indicated below) is taken from beneath the water level (where water exists) at three adjacent spots at each spring or stream location. This is done with a polyethylene scoop, after the water sample (if any) has been taken. The sediment is put into a new, clean, and originally sealed, rip-top polyethylene bag and properly double-labeled for delivery (with the field data form) to the contractor's drying facility. After drying at $\leq 100^\circ\text{C}$, each sample is sieved through a 100-mesh stainless steel sieve. The minus 100-mesh fraction is put into a prewashed, 25-ml polyethylene vial, appropriately double-labeled (using labels from the data form), and sealed for shipment to the LASL. In the case of lakes sampled in Alaska, the sediment is taken from near the center of each lake by dropping a tethered, stainless steel bottom sampler overboard from a pontoon-equipped helicopter. Here, only a bottom sample from a single location is taken (i.e., it is not a composite) and sampling is limited to lakes less than 10 m deep and about 0.3 to 2.0 km in least horizontal dimension. The sampler is rinsed before each use and the raw sample is put into a clean polyethylene bag, labeled, and treated as above.

Field Measurements

The air temperature, taken in the shade at the time of sampling, is recorded to the nearest whole degree Celsius. The water temperature is measured in the source water and recorded to the nearest one-half degree Celsius. The pH of the source water is measured with a calibrated, portable pH meter and recorded to the nearest one-tenth of a pH unit. The conductivity (in $\mu\text{mho/cm}$) of the source water is measured with a calibrated, temperature-compensated (25°C) portable meter. The scintillometer readings, taken on a flat, dry spot within a few meters of the sample location at spring or stream sites, are measured with a portable scintillometer. Two readings are recorded, the first with a radiation shield in place (blocking out ground radiation) and the second with the shield removed. The readings (in counts/s) are converted by computer to the equivalent uranium (eU) value in the data listings. Special measurements such as dissolved oxygen are made with a calibrated, commercially

available, portable meter and probe. In lakes, the water temperature, pH, conductivity, and (special) dissolved oxygen are usually all measured with a single, digital-readout unit, utilizing a parameter selector switch and a composite probe that is lowered just below the water's surface. Care is taken to see that this is done before the bottom sediment is disturbed.

Field Observations

These represent the best judgment of the field sampler at a location and include general descriptions of the local bedrock, sediment, water, vegetation, terrain, weather, possible contaminants, and well configuration, if applicable. Because these observations are subjective and made quickly in the field, they should be held subordinate to formally documented information such as that provided by published topographic or geologic maps, etc.

Sample Location Verification

The University of Colorado investigators selected the desired sample types and locations. The field maps were all USGS 7.5' quadrangles. As each location was sampled, a unique sample location number was printed next to the precisely marked site on the field map. The latitude and longitude of each location was computed by the field samplers. Every location was later checked (and corrected if necessary) at the LASL by overlaying computer-produced location plots on the field maps used. The latitudes and/or longitudes were corrected if the overlay locations were displaced by more than 300 m from the locations marked on the field maps. When a desired location could not be sampled, an alternate sample type or location as near as possible to the original one was picked and the new sample type and/or location was/were marked on the field map and properly labeled as above.

II. ANALYTICAL PROCEDURES

Uranium Determination in Water Samples by Fluorometry

Under normal procedures, the 25-ml water vial is vigorously shaken and duplicate 0.20-ml aliquots of water are transferred to platinum dishes. The solutions are evaporated under heat lamps and a 0.4-g pellet of 2% LiF-98% NaF flux is added to each dish. The pellets are dried under heat lamps, then fused over special propane burners. After each pellet/sample cools, it is excited with ultraviolet radiation in the fluorometer and the fluorescence is read and recorded. The uranium concentrations are determined by using a computer routine which compares the fluorescence from each pellet with those from other pellets, run at the same time, containing uranium-standard solutions and blanks. The uranium concentration of the sample, as given in the appropriate data listings, is then the average obtained from the duplicate aliquots. The lower limit of detection for each aliquot by the normal procedure is 0.2 ppb; however, in areas at high latitudes (such as those in Alaska) many samples have uranium concentrations below this. Consequently, when a sample run by the normal procedure is determined to have <0.2 ppb uranium, it is routinely reanalyzed using new duplicate aliquots that have been put through an additional evaporative concentration step that provides a 10X concentration factor. This additional procedure, using the same basic fluorometric method, reduces the lower limit of detection of uranium in natural waters to 0.02 ppb. When a uranium concentration lower than 0.02 ppb is found in an aliquot, it is arbitrarily assigned a value of 0.01 ppb. If the uranium value given in the

data listings is 0.01 ppb, both aliquots had uranium concentrations below the detection limit. Whether concentrated or not (which can be determined from the uranium level in the listing), the fluorometric analytical precision is $\sim 30\%$ at the lower detection limit, $\sim 20\%$ at one order of magnitude above this, and $\sim 10\%$ at two or more orders of magnitude above the lower detection limit. The basic fluorometric method used is described in detail by Hues and others (1977).

Uranium Determination in Water Samples by Delayed-Neutron Counting (DNC)

In general, waters with >10 ppb uranium (as determined fluorometrically) and waters with impurities that caused interference with uranium-induced fluorescence were analyzed using DNC. Samples are received in 41-ml or 25-ml vials (used exclusively in some of the early work) and are transferred to clean, labeled, 41-ml rabbits before being analyzed. Each water sample is weighed, and its weight (less that of the rabbit) and location number are recorded. The rabbits are then loaded into a 25-sample transfer clip. The reactor pneumatic transfer system and background radiation levels are checked and four standards are run for calibration. The transfer clip is installed on the pneumatic feed line and the samples are cycled through the system (typically, a 60-s irradiation, 30-s delay, and 60-s count cycle is used). The uranium concentration is automatically measured, converted to ppb, and entered into a computer data base. The lower detection limit for uranium in water by DNC as used at the LASL is 0.5 ppb. The statistical error of this method is $\sim 20\%$ at a uranium concentration of 1 ppb, $\sim 6\%$ at 10 ppb. Statistical treatments of uranium concentrations obtained from the same suites of samples analyzed both by fluorometry and DNC have shown that there is no significant difference between the results of the two analytical methods as used at the LASL. This analytical comparability is rechecked periodically.

Elemental Determinations in Water Samples by Plasma-Source Emission Spectrography

The concentrations of Ca, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Ti, and Zn in water samples are determined at the LASL by inductively coupled plasma-source emission spectrography. To allow complete system equilibration, the inductively coupled plasma and photomultiplier tubes are powered for at least 1 h prior to making any analyses. Argon coolant and sample carrier gas lines are adjusted and calibrated using a zinc standard. The sample solution is taken up from its container, nebulized, and injected into the plasma source at a rate of $9.2 \times 10^{-9} \text{ m}^3/\text{s}$. After the computer determines that the photomultiplier tubes have stabilized, a 15-s exposure of the resultant spectrum is made on a direct-reading spectrograph. The resulting signals are read directly into a computer, and converted automatically to give the elemental concentrations. Corrections for interfering elements are made simultaneously by computer. When high (off-scale) results are obtained, the computer calls for the insertion of a filter between the plasma source and the spectrograph, repeats the readings, and then converts and stores the corrected elemental concentrations. The lower analytical detection limits generally achieved are (in ppb): As (500), Ca (20), Co (55), Cr (25), Cu (4), Fe (25), Mg (2), Mn (3), Mo (25), Na (500), Ni (25), Pb (200), Si (500), Ti (4), V (5), and Zn (50). When no valid concentration is obtainable for a particular element in a particular sample, a "less than" value (denoted by a $<$ symbol before the concentration) that is one integer lower than the number listed above as the detection limit for the element will be printed in the appropriate listing. Analytical

precision for the elements as determined in water by this method is $\sim 50\%$ at the lower detection limit, improving to $\sim 10\%$ one order of magnitude above the lower detection limit and to $\sim 5\%$ two orders of magnitude above the detection limit.

Uranium Determination in Sediment Samples by DNC

All sediment samples are analyzed for total uranium by DNC. A split of each sample (dried and sieved as described) is transferred to a clean 4-ml rabbit, weighed (less the tare), and its weight recorded along with the appropriate location number. These rabbits are then loaded into a 50-sample transfer clip. The reactor pneumatic transfer system and background radiation levels are checked, and standards are run for calibration. The transfer clip is installed and the samples are cycled through the system (typically, a 20-s irradiation, 10-s delay, and 20-s count cycle is used). The uranium concentration is automatically measured, converted to ppm, and entered into the data base. The lower limit of detection of this method is 0.5 ppb (not ppm) uranium, below the range of uranium concentrations in natural sediment samples. Above the 1 ppm level, the uranium values in sediment measured by DNC at the LASL have a one-sigma error of less than 4%. The specially designed delayed-neutron detectors, built by the LASL and used for these analyses, are described by Balestrini and others (1976).

Elemental Determinations in Sediment Samples by Energy Dispersive X-Ray Fluorescence

A computer-controlled energy-dispersive x-ray fluorescence system is used to determine Ag, As, Bi, Br, Cd, Cu, Nb, Ni, Pb, Sn, and W in sediments. The system consists of an automatic 20-position sample changer, a silicon lithium-drifted detector, a pulsed molybdenum transmission-target x-ray tube, a multichannel analyzer, and a minicomputer. The sediment samples are prepared for analysis by grinding 6 g of each minus 100-mesh sample to a minus 325-mesh powder. A computer program positions the 6-g samples in the x-ray beam, unfolds overlapping peaks, determines peak intensities for each element, and calculates the ratio of the intensity of each peak to that of the molybdenum K Compton peak. Concentrations of each element are then calculated using equations obtained by analyzing prepared standards. Detection limits are: 3 ppm for As, 4 ppm for Br, 5 ppm for Ag, Bi, Cd, and Pb; 10 ppm for Cu and Sn; 15 ppm for Ni and W; and 20 ppm for Nb. The relative standard deviation is 10% or less at the 100-ppm level and 20% or less at the 20-ppm level. Elemental concentrations that are below the detection limit are indicated in the listings by a < symbol preceding a concentration value that is one integer less than the detection limit for that element. Details of the method and equipment used are described by Hansel and Martell (1977).

Beryllium and Lithium Determinations in Sediment Samples by Arc-Source Emission Spectrography

A 7.5-mg portion of the minus 325-mesh sample that has already been analyzed by x-ray fluorescence is mixed with 7.5 mg of a buffer consisting of one part graphite and one part SiO_2 . The sample/buffer mixture is placed into a graphite electrode that is used as the anode of a dc arc having a short circuit current of 17A. A 60-s exposure of the resulting spectrum is made on a direct-reading spectrograph. Photomultiplier tubes are used to measure the second order 313.0-nm line of Be, the first order 670.7- and 610.3-nm lines of Li, the background spectra near these lines, and the 327.6-nm line of V. The 670.7-nm Li line is used for Li concentrations up to 30 ppm, while the 610.3-nm line of

Li is used for concentrations above 30 ppm. The V line is used to correct the Be value when V is above 1000 ppm. The signals from the photomultiplier tubes are read by a digital voltmeter and are processed by a desk-top calculator. The results are simultaneously printed on paper and written on cassette tape for later transmission to a computer data file. The elemental concentrations of Be and Li are determined from the spectra, based on the results of previously run calibration standards. The lower detection limit for both elements is 1 ppm; precision at the lower detection limit is ~50% for both and improves to ~25% at one order of magnitude above the lower limit.

Elemental Determinations in Sediment Samples by Neutron Activation Analysis (NAA)

Immediately upon completion of the uranium analysis of sediment samples by DNC, the same 4-ml sediment splits are entered into the NAA sequence. The concentrations of 31 additional elements are determined by this procedure. The full DNC/NAA timing sequence used at the LASL for each sediment sample is: 20-s irradiation, 10-s delay, 20-min delay, 500-s gamma-ray count, 96-s re-irradiation, 14-day delay, and finally a 1000-s gamma-ray count. The gamma-ray counting is done by lead-shielded Ge(Li) detectors; the 4096-channel gamma-ray data are recorded and subsequently analyzed for each individual element by computer. The data for each sample are automatically printed out along with the statistical error associated with the concentration determined for each particular element in that sample. The lower detection limits for the various elements as reflected by the "less than" values (denoted by a < symbol in front of a concentration) in the data listings are the values for the individual elements at which the statistical counting error approaches 50%. Current "typical" lower detection limits for the elements determined by NAA are reported in Nunes and Weaver (1978); however, the actual detection limit for an element depends upon the composition of the sample, and this limit may be higher or lower than the "typical" value. At concentration values one order of magnitude above the lower detection limits, the relative errors are generally less than 10%.

APPENDIX B

LISTINGS OF ELEMENTAL CONCENTRATIONS FOR WATER SAMPLES

APPENDIX B-I

Elemental Concentrations for Water Samples,
Phase I, December 1976 into January 1977

(See Appendix D for Code to Listings)

[illegible]

APPENDIX B-I (continued). Elemental Concentrations for Water Samples (Phase I)

②

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY															
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per billion (ppb)															
							As	Ca	Co	Cu	Cr	Fe	K	Mg	Mn	Mo	Na	Ni	Pb	Si	Zn	
OR-40	2083-103	9975-2-08	0-108901-	<500	40000	<3	20	3	30	8000	25000	5	<5	15000	<5	<30	20000	50				
OR-40	1678-103	9172-2-05	0-108902-	<500	30000	<3	10	<3	300	8000	30000	100	<5	80000	<5	<30	20000	<50				
OR-40	1511-103	9104-2-08	0-108903-	<500	30000	<3	20	<3	400	8000	25000	8	<5	70000	<5	<30	20000	50				
OR-40	1308-103	9458-2-08	0-108904-	<500	80000	<3	20	<3	200	15000	40000	8	<5	100000	<5	<30	30000	1000				
OR-40	1300-103	9184-2-08	0-108905-	<500	50000	<3	15	<3	50	10000	30000	80	5	70000	<5	<30	20000	<50				
OR-40	1167-103	9050-2-08	0-108906-	<500	300000	<3	20	<3	40	10000	200000	300	5	200000	<5	<30	40000	<50				
OR-40	1411-103	9188-2-08	0-108907-	<500	300000	<3	50	<3	100	10000	250000	5	7	300000	<5	<30	40000	<50				
OR-40	1439-103	9454-2-08	0-108908-	<500	30000	<3	10	3	30	7000	25000	5	<5	30000	<5	<30	40000	200				
OR-40	0731-104	0554-2-08	0-108909-	<500	40000	<3	8	<3	150	7000	20000	400	<5	35000	<5	<30	8000	<50				
OR-40	0528-104	0747-2-08	0-108910-	<500	40000	<3	4	<3	800	6000	20000	200	<5	90000	<5	<30	25000	<50				
OR-40	0347-104	0742-2-08	0-108911-	<500	300000	<3	4	<3	1000	8000	80000	3000	<5	100000	<5	<30	25000	50				
OR-40	1158-103	9333-2-08	0-108912-	<500	7000	<3	5	<3	100	10000	50000	60	<5	60000	<5	<30	2500	<50				
OR-40	0964-103	9054-2-08	0-108913-	<500	250000	<3	5	3	100	15000	150000	5	<5	150000	<5	<30	15000	3000				
OR-40	0153-104	0750-2-08	0-108914-	<500	100000	<3	5	3	20	8000	50000	15	<5	60000	<5	<30	20000	<50				
OR-40	0706-103	9857-2-08	0-108915-	<500	250000	<3	5	<3	20	8000	250000	<5	<5	200000	<5	<30	40000	<50				
OR-40	0425-104	0942-2-08	0-108916-	<500	70000	<3	3	<3	250	7000	40000	1500	<5	60000	<5	<30	20000	50				
OR-40	0150-104	0942-2-08	0-108917-	<500	150000	<3	3	3	3000	7000	50000	1500	<5	120000	<5	<30	20000	1500				
OR-40	0239-104	0354-2-08	0-108918-	<500	100000	<3	5	<3	20	7000	50000	400	<5	70000	<5	<30	20000	300				
OR-40	1022-104	0251-2-08	0-108919-	<500	250000	<3	30	3	15	15000	70000	30	<5	80000	8	<30	20000	<50				
OR-40	1022-104	0711-2-08	0-108920-	<500	40000	<3	4	3	15	7000	25000	<5	<5	70000	<5	<30	10000	400				
OR-40	1353-104	0554-2-08	0-108921-	<500	40000	<3	6	<3	10	10000	25000	20	<5	40000	<5	<30	10000	400				
OR-40	1744-104	0554-2-08	0-108922-	<500	50000	<3	3	<3	100	8000	30000	80	<5	50000	<5	<30	10000	100				
OR-40	2178-104	0781-2-08	0-108923-	<500	50000	<3	4	<3	15	15000	30000	30	<5	40000	<5	<30	10000	<50				
OR-40	2089-104	0939-2-08	0-108924-	<500	60000	<3	20	<3	40	7000	30000	<5	<5	40000	<5	<30	20000	<50				
OR-40	1667-104	0928-2-08	0-108925-	<500	50000	<3	4	<3	30	7000	20000	<5	<5	40000	<5	<30	15000	150				
OR-40	1403-104	0357-2-08	0-108926-	<500	50000	<3	3	<3	40	7000	25000	60	<5	40000	<5	<30	15000	150				
OR-40	2183-104	0351-2-08	0-108927-	<500	50000	<3	4	<3	40	7000	25000	<5	<5	40000	<5	<30	15000	2000				
OR-40	2250-103	9431-2-08	0-108928-	<500	500000	<3	4	<3	50	20000	400000	10	<5	500000	<5	<30	30000	600				
OR-40	2325-103	9908-2-08	0-108929-	<500	150000	<3	40	<3	30	20000	60000	5	<5	80000	<5	<30	20000	50				
OR-40	7756-103	0753-2-08	0-108930-	<500	400000	<3	7	<3	15	30000	200000	<5	<5	200000	<5	<30	40000	<50				
OR-40	8381-103	0789-2-08	0-108931-	<500	30000	<3	7	<3	200	7000	20000	7	<5	200000	<5	<30	20000	<50				
OR-40	9386-103	1142-2-08	0-108932-	<500	40000	<3	3	<3	30	5000	30000	<5	<5	10000	<5	<30	30000	100				
OR-40	9472-103	1533-2-08	0-108933-	<500	40000	<3	3	<3	30	5000	20000	<5	<5	10000	<5	<30	30000	2000				
OR-40	9636-103	2386-2-08	0-108934-	<500	40000	<3	<3	<3	20	5000	25000	<5	<5	50000	<5	<30	30000	250				
OR-40	8575-103	2019-2-08	0-108935-	<500	20000	<3	100	<3	100	4000	15000	<5	<5	30000	<5	<30	30000	300				
OR-40	7611-103	1275-2-08	0-108936-	<500	30000	<3	<3	<3	80	6000	25000	5	<5	400000	<5	<30	20000	<50				
OR-40	7750-103	1717-2-08	0-108937-	<500	40000	<3	<3	<3	100	5000	25000	6	<5	250000	<5	<30	8000	800				
OR-40	7753-103	2386-2-08	0-108938-	<500	20000	<3	<3	<3	80	4000	15000	<5	<5	250000	<5	<30	8000	100				
OR-40	7969-103	2372-2-08	0-108939-	<500	20000	<3	<3	<3	250	4000	15000	6	<5	400000	<5	<30	10000	<50				
OR-40	8561-103	2325-2-08	0-108940-	<500	50000	<3	<3	<3	30	2500	12000	<5	<5	10000	<5	<30	40000	<50				
OR-40	9022-103	1179-2-08	0-108941-	<500	50000	<3	<3	<3	30	3000	12000	8	<5	30000	<5	<30	30000	<50				
OR-40	8211-103	2850-2-08	0-108942-	<500	60000	<3	30	<3	30	10000	50000	5	<5	100000	<5	<30	30000	700				
OR-40	8578-103	3072-2-08	0-108943-	<500	50000	<3	3	<3	50	7000	50000	8	<5	80000	<5	<30	10000	500				
OR-40	9792-103	2875-2-08	0-108944-	<500	40000	<3	6	<3	30	5000	25000	<5	<5	15000	<5	<30	30000	400				
OR-40	8894-103	2106-2-08	0-108945-	<500	40000	<3	3	<3	10	4000	15000	<5	<5	10000	<5	<30	30000	<50				
OR-40	8886-103	1844-2-08	0-108946-	<500	30000	<3	3	<3	10	4000	15000	<5	<5	25000	<5	<30	30000	50				
OR-40	9561-103	3083-2-08	0-108947-	<500	30000	<3	3	<3	10	5000	15000	<5	<5	20000	<5	<30	30000	50				
OR-40	9392-103	4033-2-08	0-108948-	<500	30000	<3	<3	<3	40	4000	15000	<5	<5	70000	<5	<30	30000	<50				
OR-40	8317-102	9578-2-08	0-108949-	<500	3000	<3	4	<3	100	6000	1500	<5	<5	100000	<5	<30	8000	<50				
OR-40	8317-102	9578-2-08	0-108950-	<500	4000	<3	3	<3	100	6000	2000	<5	<5	150000	<5	<30	10000	<50				
OR-40	8386-102	9475-2-08	0-108951-	<500	200000	<3	8	<3	30	20000	100000	<5	<5	100000	<5	<30	50000	<50				

[illegible]

APPENDIX B-I (continued). Elemental Concentrations for Water Samples (Phase I)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY																
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	IASL SAMPLE LOCATION NUMBER	Concentrations reported in weight parts per billion (ppb)															
							As	Ca	Co	Cu	Cr	Fe	K	Mg	Mn	Mo	Na	Ni	Pb	Si	Zn	
08-40.8483-102.9439-2-08						0-108963	<500	200000	<3	6	<3	40	20000	80000	<5	<5	100000	<5	<30	50000	<50	
08-40.9011-103.2454-2-08						0-108964	<500	40000	<3	3	<3	80	8030	15000	<5	<5	15000	<5	<30	25000	600	
08-40.9475-103.2439-2-08						0-108965	<500	40000	<3	3	<3	80	8000	50000	<5	<5	20000	<5	<30	25000	80	
08-40.9644-103.1625-2-08						0-108966	<500	40000	<3	3	<3	30	8000	15000	<5	<5	10000	<5	<30	25000	30	
08-40.9631-103.0462-2-08						0-108967	<500	40000	<3	8	<3	40	8000	15000	<5	<5	10000	<5	<30	20000	80	
08-40.9200-103.0054-2-08						0-108968	<500	40000	<3	3	<3	40	7000	15000	<5	<5	10000	<5	<30	20000	500	
08-40.7614-103.1022-2-07						0-108970	<500	300000	<3	6	<3	30	30000	100000	100	<5	200000	<5	<30	40000	<50	
08-40.7614-103.1022-2-07						1-108970	<500	300000	<3	6	<3	40	30000	100000	100	<5	200000	<5	<30	40000	<50	
08-40.7603-103.1057-2-08						0-108971	<500	25000	<3	<3	<3	200	10000	20000	10	<5	100000	<5	<30	3000	150	
08-40.7156-103.1153-2-08						0-108972	<500	25000	<3	<3	<3	100	10000	20000	10	<5	100000	<5	<30	3000	150	
08-40.7964-103.1039-2-07						0-108973	<500	200000	<3	3	<3	40	25000	70000	80	<5	100000	<5	<30	25000	<50	
08-40.8214-103.1122-2-08						0-108974	<500	40000	<3	3	<3	100	10000	30000	10	<5	200000	<5	<30	8000	<50	
08-40.8222-103.1153-2-07						0-108975	<500	20000	<3	5	<3	30	20000	25000	200	<5	150000	<5	<30	25000	<50	
08-40.8342-103.1203-2-03						0-108978	<500	30000	<3	<3	<3	70	8000	80000	<5	<5	200000	<5	<30	8000	100	
08-40.8561-103.0554-2-08						0-108981	<500	60000	<3	80	<3	30	12000	30000	<5	<5	40000	<5	<30	25000	100	
08-40.8339-103.0228-2-08						0-108983	<500	200000	<3	8	<3	80	15000	50000	<5	<5	50000	<5	<30	25000	100	
08-40.8342-103.0258-2-07						0-108984	<500	300000	<3	20	<3	15	20000	70000	40	<5	150000	<5	50	35000	<50	
08-40.7817-103.0553-2-08						0-108985	<500	500000	<3	25	<3	20	30000	300000	<5	<5	300000	8	300	40000	<50	
08-40.7917-103.0554-2-08						0-108986	<500	40000	<3	20	3	200	15000	30000	5	<5	300000	<5	<30	20000	150	
08-40.7917-103.0554-2-08						1-108986	<500	30000	<3	20	<3	150	10000	30000	5	<5	300000	<5	<30	20000	150	
08-40.8125-103.0357-2-08						0-108988	<500	25000	<3	20	<3	300	10000	25000	7	<5	300000	<5	200	20000	<50	
08-40.7869-103.0419-2-08						0-108989	<500	25000	<3	15	<3	500	10000	30000	7	<5	300000	<5	<30	20000	<50	
08-40.7689-103.0439-2-08						0-108990	<500	40000	<3	5	<3	150	8000	30000	<5	<5	300000	<5	<30	20000	<50	
08-40.7611-103.1362-2-07						0-108991	<500	300000	<3	10	<3	20	40000	200000	80	<5	300000	<5	300	35000	<50	
08-40.7892-103.1486-2-08						0-108992	<500	30000	<3	5	<3	250	4000	25000	<5	<5	150000	<5	<30	15000	500	
08-40.8547-103.1793-2-08						0-108995	<500	30000	<3	25	<3	15	3000	15000	<5	<5	25000	<5	<30	30000	600	
08-40.8189-103.1917-2-08						0-108996	<500	60000	<3	15	<3	15	10000	30000	<5	<5	30000	<5	<30	30000	250	
08-40.7611-103.2011-2-08						0-108997	<500	30000	<3	8	<3	400	8000	30000	<5	<5	400000	<5	<30	20000	400	
08-40.7611-103.2011-2-08						1-108997	<500	30000	<3	7	<3	200	8000	30000	<5	<5	300000	<5	<30	20000	300	
08-40.7608-103.2333-2-08						0-108999	<500	30000	<3	5	<3	150	6000	30000	<5	<5	300000	<5	<30	20000	<50	
08-40.8925-102.9589-2-08						0-109001	<500	20000	<3	20	<3	100	4000	15000	<5	<5	200000	<5	<30	20000	300	
08-40.8561-102.9506-2-08						0-109002	<500	20000	<3	15	<3	300	4000	10000	<5	<5	200000	<5	<30	15000	200	
08-40.8425-102.9725-2-08						0-109007	<500	300000	<3	25	<3	20	15000	60000	<5	<5	80000	<5	<30	40000	200	
08-40.8486-102.9936-2-08						0-109008	<500	15000	<3	5	3	150	2000	8000	<5	<5	150000	<5	<30	15000	250	
08-40.8308-102.9800-2-08						0-109009	<500	400000	<3	20	<3	15	30000	100000	<5	<5	150000	<5	40	40000	<50	
08-40.7572-103.0691-2-08						0-109010	<500	30000	<3	20	<3	300	8000	30000	<5	<5	400000	<5	<30	20000	150	
08-40.8511-102.9500-2-06						0-109017	<500	25000	<3	20	<3	150	4000	10000	<5	<5	10000	<5	<30	300000	<50	
08-40.8239-103.1439-2-08						0-109026	<500	12000	<3	4	<3	15	1500	8000	<5	<5	300000	<5	<30	20000	200	
08-40.8000-103.1661-2-08						0-109029	<500	20000	<3	5	<3	20	1500	20000	<5	<5	200000	<5	<30	15000	<50	

APPENDIX B-II

Elemental Concentrations for Water Samples,
Phase II, March into April 1977

(See Appendix D for Code to Listings)

DOE SAMPLE NUMBER					LASL SAMPLE LOCATION NUMBER AND FIELD DATA																				U CONCENTRATION						
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE LOCATION NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	PH	SPECIFIC CONDUCTANCE (umho/cm)	SC METER (eu/cm)	DOE TYPE	DOE COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER T.S.	WATER T.F.	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	WELL TYPE	WELL DEPTH INCHES	WELL DEPTH FEET	WATER DEPTH FEET	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DNC (+)	UNITS IN PPB
							DATE	HOUR																							
08-40	2083	103.8875	2-08	1-108901	03/19/77	15	6-11.0	-	6.7	600	12-1-1-4-1-2	-1	-4-2-2-2	-3-1	5-100	12	5.89														
08-40	1678	103.9172	2-08	1-108902	03/19/77	17	5-11.0	-	6.9	930	24-1-4-4-1-2	-1	-4-2-1-3	-3-2	5	-	12.90														
08-40	1511	103.9178	2-08	1-108903	03/19/77	16	5-11.5	-	7.1	800	12-1-1-4-1-2	-1	-4-2-2-3	-3-1	6	-	9.85														
08-40	1300	103.9186	2-08	1-108905	03/19/77	16	6-11.0	-	6.8	830	14-1-1-4-1-2	-1	-4-2-2-3	-3-1	6	60	16														
08-40	1167	103.9600	2-08	1-108906	03/19/77	15	8-11.0	-	7.0	2230	12-1-1-4-1-3	-1	-4-3-1-2	-3-4	6	60	14														
08-40	1411	103.9108	2-08	1-108907	03/19/77	15	6-5.5	-	6.7	3900	9-1-1-4-6-2	-1	-4-3-3-2	-3-3	6	70	26														
08-40	0731	104.0564	2-08	1-108909	03/19/77	10	2-6.1	-	7.1	980	24-1-1-1-4-1	-4	-4-3-1-1	-3-4	6	60	-														
08-40	0528	104.0747	2-08	1-108910	03/19/77	10	2-10.8	-	7.1	690	16-1-1-1-4-1	-4	-4-3-1-1	-3-3	6	80	57														
08-40	0347	104.0742	2-08	1-108911	03/19/77	10	2-10.8	-	6.9	2000	24-1-1-1-4-1	-4	-4-3-1-1	-3-3	-	-	-														
08-40	1158	103.9333	2-08	1-108912	03/19/77	16	4-9.4	-	7.0	850	8-1-1-1-4-1	-2	-4-3-1-1	-3-1	6	-	-														
08-40	0664	103.9064	2-08	1-108913	03/19/77	14	4-6.8	-	6.9	2450	12-1-1-1-4-1	-1	-4-3-3-2	-3-5	6	30	30														
08-40	0153	104.0750	2-08	1-108914	03/19/77	19	2-7.8	-	6.8	1290	24-1-1-1-4-1	-4	-4-3-1-1	-3-3	6	100	90														
08-40	0706	103.8867	2-08	1-108915	03/19/77	14	7-11.5	-	6.8	3100	16-1-1-1-4-6	-1	-4-2-2-1	-3	-	15	-														
08-40	0425	104.0942	2-08	1-108916	03/19/77	11	2-14.8	-	6.8	1250	16-1-1-1-1-3	-3	-4-3-1-1	-3-4	-	-	-														
08-40	0150	104.0942	2-08	1-108917	03/19/77	11	2-11.8	-	6.8	2000	16-1-1-1-1-3	-4	-4-3-1-1	-3-4	8	-	-														
08-40	0239	104.0364	2-08	1-108918	03/19/77	13	4-9.1	-	6.9	1100	16-1-1-1-1-3	-4	-4-3-1-2	-3-3	-	-	-														
08-40	1022	104.0711	2-08	1-108920	03/19/77	12	5-9.0	-	6.9	820	16-1-1-1-1-3	-4	-4-3-1-2	-3-3	-	-	-														
08-40	2250	103.9422	2-08	0-108921	03/19/77	13	6-12.8	-	6.6	5500	19-1-1-1-1-3	-3	-7-4-2-2	-9-5	3	60	-														
08-40	2322	103.9242	2-08	0-108922	03/19/77	16	4-9.5	-	7.0	2400	20-1-7-1-1-3	-3	-4-3-1-3	-3	-	-	-														
08-40	2328	103.9350	2-08	0-108923	03/19/77	17	5-6.5	-	6.8	2400	18-1-1-1-1-3	-3	-7-4-2-3	-3-3	4	70	-														
08-40	2306	103.9422	2-08	0-108924	03/19/77	17	4-11.5	-	6.4	2500	24-1-7-1-1-3	-4	-4-3-1-3	-3-9	5	90	-														
08-40	2322	103.9514	2-08	0-108925	03/19/77	17	4-11.0	-	6.9	2000	22-1-1-1-1-3	-3	-7-4-2-3	-3-5	3	160	-														
08-40	1353	104.0564	2-08	1-108926	03/19/77	9	-11.0	-	7.0	900	29-1-1-1-1-3	-3	-7-2-2	-3-3	6	72	-														
08-40	1744	104.0564	2-08	1-108927	03/19/77	10	8-10.0	-	7.1	950	24-1-1-1-1-3	-3	-4-3-2-1	-3-3	6	172	-														
08-40	2178	104.0781	2-08	1-108928	03/19/77	10	1-9.0	-	7.0	1000	12-1-1-1-1-3	-3	-7-2-1	-3-3	6	150	80														
08-40	2089	104.0930	2-08	1-108929	03/19/77	10	2-11.5	-	6.8	1200	10-1-1-1-1-3	-2	-7-2-1	-3	-	-	-														
08-40	1667	104.0928	2-08	1-108930	03/19/77	11	4-11.5	-	6.9	950	26-1-1-1-1-3	-3	-4-3-2-1	-3-3	6	100	-														
08-40	1403	104.0367	2-08	1-108931	03/19/77	11	5-12.0	-	6.8	1040	27-1-1-1-1-3	-3	-7-2-1	-3-3	6	164	-														
08-40	2183	104.0361	2-08	1-108932	03/19/77	12	5-12.0	-	6.7	870	31-1-1-1-1-3	-3	-7-4-2-2	-3-3	6	120	-														
08-40	2250	103.9431	2-08	1-108933	03/19/77	13	6-11.0	-	6.6	5500	16-1-1-1-1-3	-3	-7-2-2	-3-3	-	80	-														
08-40	2325	103.8908	2-08	1-108934	03/19/77	14	6-11.5	-	6.7	2100	25-1-1-1-1-3	-3	-7-2-2	-3-3	-	80	-														
08-40	7756	103.0753	2-08	1-108935	04/02/77	11	4-11.5	-	6.8	2900	-1-1-1-3-1-3	-3	-7-3-2	-3-4	6	48	-														
08-40	8381	103.0780	2-08	1-108936	03/09/77	15	16-11.5	-	7.4	1380	16-1-1-1-1-3	-4	-7-2-3	-7-3	5	300	-														
08-40	9386	103.1142	2-08	1-108937	04/09/77	17	25-12.0	-	-	395	22-1-1-1-1-3	-2	-4-3-2-1	-1-1	6	300	80														
08-40	9472	103.1533	2-08	1-108938	04/09/77	17	24-15.0	-	6.8	440	18-1-1-1-1-3	-3	-4-3-2-1	-3-2	6	137	80														
08-40	9636	103.2386	2-08	1-108939	03/09/77	17	16-13.0	-	6.8	550	21-1-1-1-1-3	-3	-4-3-2-3	-3-3	6	280	-														
08-40	8575	103.2019	2-08	1-108940	04/03/77	17	2-5.0	-	6.9	300	15-1-1-1-1-3	-4	-4-3-2-1	-3-2	6	180	70														
08-40	7611	103.1275	2-08	1-108941	04/32/77	15	2-13.0	-	7.5	2000	-1-1-1-1-3	-4	-4-3-2-3	-3-3	6	300	-														
08-40	7750	103.1717	2-08	1-108942	04/02/77	16	2-9.5	-	7.3	19000	-1-1-1-1-3	-4	-4-3-2-3	-3-3	6	500	75														
08-40	7750	103.1717	2-08	2-108942	04/02/77	16	2-9.5	-	7.3	19000	-1-1-1-1-3	-4	-4-3-2-3	-3-3	6	500	75														
08-40	7753	103.2386	2-08	1-108943	04/03/77	14	2-12.0	-	7.7	1250	19-1-1-1-1-3	-2	-4-3-2-1	-3-1	7	225	-														
08-40	9792	103.2875	2-08	1-108950	03/09/77	17	12-11.5	-	6.7	445	9-1-1-1-1-3	-3	-4-3-2-3	-1-3	6	186	90														
08-40	8886	103.1844	2-06	1-108952	04/09/77	10	23-11.5	-	7.1	315	11-1-1-1-1-3	-3	-4-3-2-1	-9	-	-	-														
08-40	8317	102.9878	2-08	2-108955	03/09/77	10	15-13.0	-	8.3	900	7-1-1-1-1-3	-3	-4-3-2-1	-1-3	6	265	90														
08-40	8386	102.9475	2-06	1-108956	03/09/77	12	17-11.5	-	6.8	2150	9-1-1-1-1-3	-3	-4-3-2-3	-3	-	-	-														
08-40	8483	102.9430	2-08	1-108963	03/09/77	11	16-12.5	-	6.8	2100	24-1-1-1-1-3	-3	-7-2-1	-3-4	6	80	8														
08-40	9011	103.2664	2-08	1-108964	04/09/77	16	24-15.0	-	6.8	395	11-1-1-1-1-3	-3	-7-3-2-1	-3-3	6	110	70														
08-40	9475	103.2630	2-08	1-108965	03/09/77	18	11-11.5	-	6.9	500	15-1-1-1-1-3	-3	-7-3-2	-3-2	6	300	70														
08-40	9644	103.1625	2-08	1-108966	03/09/77	16	16-10.0	-	6.7	465	3-1-1-1-1-3	-3	-4-3-2-3	-3-3	6	118	88														
08-40	9631	103.0442	2-08	1-108967	03/09/77	16	16-12.0	-	6.7	370	3-1-1-1-1-3	-3	-4-3-2-3	-3-3	5	168	102														
08-40	7614	103.1022	2-07	2-108970	04/02/77	12	3-7.0	-	7.8	3150	15-1-1-6-5-8-3-3-2-2	-4	-4-3-1-3	-3	-	-	-														

APPENDIX B-II (continued). Elemental Concentrations for Water Samples (Phase II)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per billion (ppb)													
						As	B	Ba	Ca(2)	Cu	Fe	K	Mg	Mn	Mo	Na	P	Si	V	
08-40.2083-103.8875-2-08	1-108901-	<500	<30	250	76300	10	200	8000	13000	5	<5	20000	<1000	<500	5					
08-40.1678-103.9172-2-08	1-108902-	<500	70	60	57500	4	200	10000	26900	200	<5	110000	<1000	<500	<5					
08-40.1511-103.9108-2-08	1-108903-	<500	80	60	48100	4	60	10000	23300	5	5	8500	<1000	<500	7					
08-40.1300-103.9194-2-08	1-108905-	<500	70	60	74200	4	50	12000	24000	150	8	66000	<1000	<500	<5					
08-40.1167-103.9050-2-08	1-108906-	<500	70	30	233000	3	40	12000	85300	150	<5	200000	<1000	<500	<5					
08-40.1411-103.9108-2-08	1-108907-	<500	150	6	270000	80	20	20000	130000	20	8	520000	<1000	<500	<5					
08-40.0731-104.0564-2-08	1-108909-	<500	30	70	99300	12	80	6000	17900	600	<5	95000	<1000	<500	<5					
08-40.0528-104.0747-2-08	1-108910-	<500	30	70	47000	6	2000	4000	6800	600	<5	115000	<1000	<500	<5					
08-40.0347-104.0742-2-08	1-108911-	<500	40	80	306000	3	1000	1000	44800	4000	<5	150000	<1000	<500	<5					
08-40.1158-103.9333-2-08	1-108912-	<500	50	100	280000	5	500	10000	69100	400	<5	180000	<1000	<500	<5					
08-40.0664-103.9054-2-08	1-108913-	<500	150	20	240000	4	150	15000	109000	5	<5	200000	<1000	<500	<5					
08-40.0153-104.0750-2-08	1-108914-	<500	30	50	186000	3	30	10000	28800	800	<5	90000	<1000	<500	<5					
08-40.0706-103.8857-2-08	1-108915-	<500	200	15	263000	3	10	15000	145000	5	<5	330000	<1000	<500	<5					
08-40.0425-104.0942-2-08	1-108916-	<500	30	70	151000	3	1000	6000	24400	2500	<5	115000	<1000	<500	<5					
08-40.0150-104.0942-2-08	1-108917-	<500	30	50	257000	4	3000	6000	35000	2500	<5	230000	<1000	<500	<5					
08-40.0239-104.0354-2-08	1-108918-	<500	30	30	133000	4	30	5000	25700	400	5	80000	<1000	<500	<5					
08-40.1022-104.0711-2-08	1-108920-	<500	<30	30	71600	4	20	3000	10700	<5	<5	95000	<1000	<500	<5					
08-40.2250-103.9422-2-08	0-108921-	<500	300	15	476000	4	10	25000	105000	10	<5	550000	<1000	<500	<5					
08-40.2322-103.9242-2-08	0-108922-	<500	80	20	305000	4	10	15000	57400	10	<5	220000	<1000	<500	<5					
08-40.2328-103.9350-2-08	0-108923-	<500	80	20	269000	100	10	15000	69300	5	<5	220000	<1000	<500	<5					
08-40.2306-103.9422-2-08	0-108924-	<500	80	20	345000	4	15	20000	66000	10	<5	210000	<1000	<500	<5					
08-40.2322-103.9514-2-08	0-108925-	<500	70	20	259000	12	15	15000	44300	5	<5	160000	<1000	<500	<5					
08-40.1353-104.0554-2-08	1-108926-	<500	30	15	108000	4	15	6000	17900	80	<5	75000	<1000	<500	<5					
08-40.1744-104.0554-2-08	1-108927-	<500	30	15	107000	3	300	6000	22200	100	5	90000	<1000	<500	<5					
08-40.2178-104.0781-2-08	1-108928-	<500	30	15	132000	3	10	7000	19800	80	<5	70000	<1000	<500	<5					
08-40.2089-104.0939-2-08	1-108929-	<500	40	50	129000	10	15	5000	35000	5	<5	90000	<1000	<500	<5					
08-40.1667-104.0928-2-08	1-108930-	<500	30	40	100000	4	15	5000	15500	5	<5	95000	<1000	<500	<5					
08-40.1403-104.0357-2-08	1-108931-	<500	30	20	108000	5	50	5000	27000	30	<5	85000	<1000	<500	<5					
08-40.2183-104.0351-2-08	1-108932-	<500	30	20	81600	5	30	5000	18400	<5	<5	74000	<1000	<500	<5					
08-40.2250-103.9431-2-08	1-108933-	<500	150	20	608000	3	30	15000	183000	<5	<5	500000	<1000	<500	<5					
08-40.2325-103.8908-2-08	1-108934-	<500	35	20	328000	60	10	15000	59400	<5	<5	150000	<1000	<500	<5					
08-40.1756-103.0753-2-08	1-108935-	<500	150	20	318000	80	50	40000	85900	<5	<5	280000	<1000	<500	15					
08-40.8381-103.0799-2-08	1-108936-	<500	300	200	19900	3	250	7000	5700	<5	<5	330000	<1000	<500	<5					
08-40.9386-103.1142-2-08	1-108937-	<500	40	70	39700	6	50	7000	12500	<5	<5	23000	<1000	<500	20					
08-40.9472-103.1533-2-08	1-108938-	<500	40	70	41800	6	40	7000	13900	<5	<5	25000	<1000	<500	20					
08-40.9636-103.2394-2-08	1-108939-	<500	40	80	48000	5	15	7000	14300	<5	<5	41000	<1000	<500	20					
08-40.8575-103.2019-2-08	1-108940-	<500	40	80	24800	7	20	5000	6600	<5	<5	33000	<1000	<500	20					
08-40.7611-103.1275-2-08	1-108941-	<500	300	100	19900	60	250	10000	6800	<5	<5	450000	<1000	<500	<5					
08-40.7750-103.1717-2-08	1-108942-	<500	300	150	24100	6	80	9000	8100	<5	<5	300000	<1000	<500	<5					
08-40.7750-103.1717-2-08	2-108942-	<500	250	150	25500	4	60	8000	7700	<5	<5	300000	<1000	<500	<5					
08-40.7753-103.2386-2-08	1-108943-	<500	250	80	13100	3	250	7000	6000	<5	<5	300000	<1000	<500	<5					
08-40.9792-103.2876-2-08	1-108945-	<500	50	80	39400	50	30	8000	14600	<5	<5	22000	<1000	<500	20					
08-40.8886-103.1844-2-08	1-108952-	<500	50	100	27700	8	15	6000	8600	<5	<5	25000	<1000	<500	25					
08-40.8317-102.9578-2-08	2-108955-	<500	150	30	2300	3	50	3000	800	<5	<5	250000	<1000	<500	<5					
08-40.8386-102.9475-2-08	1-108956-	<500	60	30	290000	5	10	25000	66600	<5	<5	130000	<1000	<500	5					
08-40.8483-102.9439-2-08	1-108963-	<500	60	30	290000	5	20	25000	48400	<5	<5	150000	<1000	<500	<5					
08-40.9011-103.2454-2-08	1-108964-	<500	60	80	34100	5	15	10000	14400	<5	<5	23000	<1000	<500	25					
08-40.9475-103.2439-2-08	1-108965-	<500	60	60	32900	5	300	10000	12600	10	<5	44000	<1000	<500	20					
08-40.9644-103.1425-2-08	1-108966-	<500	50	150	48700	4	20	6000	11300	<5	<5	23000	<1000	<500	15					
08-40.9631-103.0442-2-08	1-108967-	<500	40	150	43100	20	20	6000	11200	<5	<5	14000	<1000	<500	20					
08-40.7614-103.1022-2-08	2-108970-	<500	150	20	305000	6	20	30000	82700	60	<5	350000	<1000	<500	5					

[illegible]

APPENDIX B-II (continued) . Elemental Concentrations for Water Samples (Phase II)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per billion (ppb)													
							As	B	Sa	Ca	Cu	Fe	K	Mg	Mn	Mo	Na	P	Si	V
OR-40	7614-1N3	1022-207	3	108970	<500		150	20	299000	6	15	30000	82700	60	<5	350000	<1000	<500	5	
OR-40	7603-1N3	1047-208	1	108971	<500		200	150	26400	4	300	10000	11000	<5	<5	260000	<1000	<500	<5	
OR-40	7756-1N3	1153-208	1	108972	<500		200	100	29800	4	30	10000	11400	<5	<5	330000	<1000	<500	<5	
OR-40	7764-1N3	1039-207	1	108973	<500		80	25	233000	5	60	50000	65500	10	<5	240000	<1000	<500	5	
OR-40	8214-1N3	1122-208	1	108974	<500		400	100	26700	<3	200	8000	9900	<5	<5	450000	<1000	<500	<5	
OR-40	8222-1N3	1153-207	1	108975	<500		150	30	242000	5	30	40000	70500	80	<5	350000	<1000	<500	10	
OR-40	8342-1N3	1203-208	1	108976	<500		500	150	14000	<3	80	8000	5800	<5	<5	400000	<1000	<500	<5	
OR-40	8328-1N3	0628-207	1	108980	<500		50	40	117000	10	40	12000	33300	70	<5	100000	<1000	<500	10	
OR-40	8361-1N3	0554-208	1	108981	<500		50	40	110000	400	40	12000	23400	<5	<5	54000	<1000	<500	10	
OR-40	8339-1N3	0228-208	1	108983	<500		80	30	315000	4	40	20000	55600	<5	<5	160000	<1000	<500	10	
OR-40	8342-1N3	0258-207	1	108984	<500		50	30	193000	4	100	20000	39600	80	<5	150000	<1000	<500	10	
OR-40	7817-1N3	0553-208	1	108985	<500		150	15	637000	8	10	50000	179000	<5	<5	390000	<1000	<500	<5	
OR-40	7917-1N3	0564-208	2	108986	<500		200	80	19800	5	200	10000	8000	<5	<5	360000	<1000	<500	<5	
OR-40	8125-1N3	0357-208	1	108988	<500		200	150	15200	10	150	10000	4500	<5	<5	340000	<1000	<500	<5	
OR-40	7869-1N3	0619-208	1	108989	<500		250	150	13400	<3	250	10000	6200	<5	<5	450000	<1000	<500	<5	
OR-40	7689-1N3	0439-208	1	108990	<500		250	200	19800	<3	500	10000	8000	<5	<5	520000	<1000	<500	<5	
OR-40	7611-1N3	1342-207	2	108991	<500		100	20	260000	5	40	50000	94300	80	<5	350000	<1000	<500	5	
OR-40	7611-1N3	1342-207	3	108991	<500		100	20	264000	5	40	50000	93500	80	<5	350000	<1000	<500	5	
OR-40	7892-1N3	1496-208	1	108992	<500		200	50	25200	5	500	8000	8100	<5	<5	190000	<1000	<500	<5	
OR-40	8347-1N3	1783-208	1	108995	<500		50	500	129000	30	80	9000	29900	<5	<5	53000	<1000	<500	10	
OR-40	8189-1N3	1917-208	1	108996	<500		70	150	77500	6	40	8000	17900	<5	<5	50000	<1000	<500	15	
OR-40	7611-1N3	2011-208	2	108997	<500		90	100	23700	<3	250	10000	10000	<5	<5	400000	<1000	<500	<5	
OR-40	7608-1N3	2333-208	1	108999	<500		200	60	27400	3	300	10000	11000	<5	<5	380000	<1000	<500	<5	
OR-40	8425-1N2	9589-208	1	109001	<500		250	60	11900	3	50	6000	3200	<5	<5	240000	<1000	<500	<5	
OR-40	8361-1N2	9506-208	1	109002	<500		250	120	9700	<3	300	6000	1700	<5	<5	200000	<1000	<500	<5	
OR-40	8425-1N2	9725-208	1	109007	<500		60	40	214000	20	40	15000	35800	<5	<5	95000	<1000	<500	7	
OR-40	8486-1N2	0936-208	1	109008	<500		150	150	9100	<3	200	6000	1400	<5	<5	190000	<1000	<500	<5	
OR-40	8308-1N2	0900-208	1	109009	<500		100	30	342000	4	40	40000	68600	<5	<5	180000	<1000	<500	<5	
OR-40	7572-1N3	0681-208	1	109010	<500		150	150	18200	<3	300	6000	9300	<5	<5	500000	<1000	<500	<5	
OR-40	8611-1N2	9500-208	1	109017	<500		30	100	27700	5	80	3000	6300	5	<5	4400	<1000	<500	<5	
OR-40	8061-1N3	0357-207	0	109030	<500		60	30	176000	4	10	15000	48000	50	<5	140000	<1000	<500	5	
OR-40	8342-1N3	0157-207	0	109031	<500		40	30	176000	5	15	10000	36000	30	<5	110000	<1000	<500	7	
OR-40	8642-1N3	1025-208	0	109033	<500		150	80	23100	5	200	3000	5600	5	<5	150000	<1000	<500	<5	
OR-40	8658-1N3	1059-207	0	109034	<500		35	200	48300	6	15	3000	9800	40	<5	25000	<1000	<500	20	
OR-40	8411-1N3	1197-209	0	109035	<500		60	20	120000	4	<10	15000	68900	40	10	220000	<1000	<500	<5	
OR-40	7794-1N3	0553-208	0	109036	<500		150	20	348000	60	30	30000	96600	<5	<5	300000	<1000	<500	<5	
OR-40	8414-1N3	0389-208	0	109038	<500		50	40	108000	3	10	10000	22200	90	<5	70000	<1000	<500	<5	
OR-40	8467-1N3	0333-208	0	109040	<500		150	150	15000	3	40	3000	3500	<5	<5	180000	<1000	<500	<5	
OR-40	7900-1N3	0730-208	0	109042	<500		150	80	19500	3	200	5000	7300	<5	<5	440000	<1000	<500	<5	
OR-40	7614-1N3	1014-207	0	109043	<500		100	40	318000	5	6	60000	113000	60	<5	330000	<1000	<500	<5	
OR-40	7925-1N3	1028-210	0	109046	<500		100	40	251000	7	10	40000	65900	<5	<5	250000	<1000	<500	5	
OR-40	7925-1N3	1028-210	1	109046	<500		100	40	248000	5	10	40000	67400	<5	<5	250000	<1000	<500	<5	
OR-40	7908-1N3	1238-207	0	109047	<500		100	40	205000	5	10	30000	61000	80	<5	320000	1000	<500	7	
OR-40	7617-1N3	2336-207	0	109048	<500		60	40	211000	5	30	15000	88000	250	<5	180000	1000	500	<5	
OR-40	8575-1N3	1972-208	0	109049	<500		60	100	22900	5	30	3000	6400	<5	<5	45000	<1000	<500	15	
OR-40	8575-1N3	1972-208	1	109049	<500		60	100	22900	5	20	3000	6400	<5	<5	45000	<1000	<500	15	
OR-40	0750-1N4	0939-208	0	109051	<500		50	6	148000	5		3000	69000	60	<5	650000	<1000	<500	<5	
OR-40	0631-1N3	9696-208	0	109052	<500		60	120	53500	150	10	3000	23800	<5	<5	30000	<1000	<500	<5	
OR-40	2986-1N4	0556-208	0	109059	<500		30	40	190000	8	10	5000	31900	<5	<5	95000	<1000	<500	<5	

APPENDIX B-II (continued). Elemental Concentrations for Water Samples (Phase II)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER AND FIELD DATA																								U CONCENTRATION					
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE LOCATION NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (AU ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DNC (+)	UNITS IN ppb
							DATE	HOUR																											
0R-40	3317-104.0550-2-08-	0-109060-03/26/77-12-	14-14.5-C-5-	6.9-	850-	21-1-1-	-3-	-1-	-7-4-2-1-	-3-3-	6-	90-	-	50.50*																					
0R-40	3417-104.0614-2-07-	0-109061-03/26/77-13-	19-12.5-C-5-	7.5-	1500-	21-1-1-4-9-2-2-1-	-7-2-2-1-	-9-	-	-	-	-	-	43.40*																					
0R-40	3572-104.0733-2-08-	0-109062-03/26/77-14-	20-14.0-C-5-	6.8-	1100-	9-1-1-	-3-	-1-	-7-4-2-2-	-3-3-	6-	40-	15-	55.00*																					
0R-40	2767-104.0011-2-08-	0-109063-03/26/77-11-	13-11.0-C-5-	6.8-	500-	23-1-1-	-3-	-1-	-7-4-2-1-	-3-3-	6-	260-	90-	1.30																					
0R-40	2836-104.0556-2-08-	0-109064-03/26/77-12-	14-12.5-C-5-	6.7-	1600-	29-1-1-	-3-	-1-	-7-4-2-1-	-3-3-	6-	160-	90-	9.20																					
0R-40	3719-104.0647-2-08-	0-109065-03/26/77-14-	17-12.0-C-5-	6.9-	2050-	15-1-1-	-3-	-1-	-7-4-2-2-	-3-5-	5-	36-	22-	31.50*																					
0R-40	3653-104.0314-2-08-	0-109066-03/26/77-15-	18-13.0-C-5-	6.5-	2500-	12-1-1-	-3-	-1-	-7-4-2-2-	-3-4-	6-	18-	10-	75.50*																					
0R-40	3644-103.9919-2-08-	0-109067-03/26/77-15-	15-15.5-C-5-	6.6-	1850-	10-1-1-	-3-	-1-	-7-4-2-2-	-3-5-	5-	50-	25-	35.10*																					
0R-40	3353-103.9683-2-07-	0-109068-03/26/77-16-	15-14.5-C-5-	7.6-	1700-	12-1-1-4-1-3-2-2-3-2-4-2-2-	-9-	-	-	-	-	-	-	42.60*																					
0R-40	3203-103.9797-2-08-	0-109069-03/26/77-16-	13-12.5-C-5-	6.7-	1500-	19-1-1-	-3-	-1-	-4-3-2-2-	-3-	-	-	-	8.00*																					
0R-40	2983-103.9970-2-08-	0-109070-03/26/77-15-	13-14.5-C-5-	6.7-	1500-	15-1-1-	-3-	-1-	-7-3-2-2-	-3-	8-	-	-	24.80*																					
0R-40	2778-103.9872-2-08-	0-109071-03/26/77-17-	14-15.0-C-5-	6.8-	1400-	10-1-1-	-3-	-1-	-4-3-2-2-	-3-5-	8-	40-	20-	26.70*																					
0R-40	2550-103.9430-2-08-	0-109072-03/26/77-17-	12-16.0-C-5-	6.7-	1750-	26-1-1-	-3-	-1-	-7-4-2-2-	-3-3-	5-	60-	40-	61.20*																					
0R-40	9931-102.9833-2-08-	0-109073-04/02/77-9-	1-11.5-C-5-	6.2-	440-	21-1-1-	-3-	-1-	-4-3-2-2-	-3-9-	6-	240-	180-	2.42																					
0R-40	9967-102.9789-2-08-	0-109074-04/02/77-10-	1-10.5-C-5-	6.3-	360-	10-1-1-	-3-	-1-	-4-3-2-2-	-3-9-	6-	200-	-	2.03																					
0R-40	9947-102.9411-2-08-	0-109075-04/02/77-10-	1-12.0-C-5-	6.2-	260-	20-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	6-	250-	160-	1.13																					
0R-40	9944-102.9244-2-08-	0-109076-04/02/77-11-	2-11.5-C-5-	6.3-	310-	24-1-1-1-1-3-	-1-	-4-3-2-2-	-3-2-	6-	250-	190-	-	3.70																					
0R-40	9544-102.9225-2-08-	0-109077-04/02/77-11-	4-11.0-C-5-	6.8-	310-	23-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	6-	353-	170-	4.14																					
0R-40	9731-102.9242-2-08-	0-109078-04/02/77-12-	3-10.0-C-5-	7.1-	415-	12-1-1-	-3-	-1-	-4-3-2-2-	-3-9-	6-	160-	-	5.00																					
0R-40	9919-102.9981-2-08-	0-109079-04/02/77-12-	3-3.5-C-5-	7.2-	285-	17-1-1-	-3-	-1-	-4-3-2-2-	-3-2-	5-	160-	152-	4.81																					
0R-40	9792-103.0131-2-08-	0-109080-04/02/77-13-	3-12.0-C-5-	6.8-	310-	21-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	4-	200-	-	2.15																					
0R-40	9417-102.9961-2-08-	0-109081-04/02/77-13-	3-8.0-C-5-	7.1-	295-	12-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	5-	290-	42-	0.94																					
0R-40	9497-103.0181-2-08-	0-109082-04/02/77-14-	3-10.5-C-5-	7.0-	385-	26-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	6-	350-	180-	6.80																					
0R-40	9489-103.0783-2-08-	0-109083-04/02/77-14-	3-9.5-C-5-	6.6-	370-	21-1-1-	-3-	-1-	-4-3-2-2-	-3-9-	6-	110-	-	1.54																					
0R-40	9411-103.0756-2-08-	0-109084-04/02/77-15-	2-11.0-C-5-	6.7-	500-	23-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	6-	350-	390-	2.97																					
0R-40	9392-103.0931-2-08-	0-109085-04/02/77-15-	4-9.5-C-5-	6.8-	500-	18-1-1-	-3-	-1-	-4-3-2-2-	-3-3-	4-	120-	80-	5.61																					
0R-40	9481-102.9544-2-06-	0-109086-04/08/77-10-	22-12.0-C-5-	6.7-	250-	23-1-1-	-3-	-1-	-4-3-3-1-	-	-	-	-	1.87																					
0R-40	7872-102.9972-2-08-	0-109087-04/08/77-8-	13-11.0-C-5-	6.7-	3100-	23-	-	-3-	-1-	-7-4-2-1-	-3-3-	6-	60-	-	91.30*																				
0R-40	8075-102.9431-2-08-	0-109088-04/08/77-8-	13-12.0-C-5-	6.7-	3600-	21-	-	-3-	-1-	-4-4-2-1-	-3-3-	-	-	-	72.90*																				
0R-40	8353-102.9336-2-08-	0-109089-04/08/77-9-	18-12.5-C-5-	8.1-	1450-	15-1-1-	-3-	-1-	-4-3-2-1-	-3-3-	-	-	-	0.14																					
0R-40	9536-102.9486-2-07-	0-109091-04/08/77-12-	27-16.0-C-5-	6.8-	345-	28-1-1-5-1-2-2-3-3-4-3-2-1-	-3-	-	-	-	-	5-	-	0.20																					
0R-40	8939-102.9967-2-08-	0-109093-04/08/77-17-	23-12.5-C-5-	6.6-	350-	28-1-1-	-3-	-1-	-4-3-2-1-	-3-3-	6-	65-	-	5.97																					
0R-40	9350-103.0325-2-08-	0-109096-04/08/77-18-	20-10.0-C-5-	6.7-	350-	15-1-1-	-3-	-1-	-4-3-2-1-	-3-3-	6-	160-	-	3.50																					

APPENDIX B-II (continued). Elemental Concentrations for Water Samples (Phase II)

2

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per billion (ppb)													
							As	B	Ba	Ca	Cu	Fe	K	Mg	Mn	Mo	Na	P	Si	V
08-40.3317-104.0550-2-08-					0	-109060-	<500	40	30	213000	4	10	5000	30300	250	<5	130000	<1000	<500	<5
08-40.3417-104.0614-2-07-					0	-109061-	<500	70	40	131000	150	20	4000	61000	150	<5	140000	<1000	<500	<5
08-40.3572-104.0733-2-08-					0	-109062-	<500	80	30	200000	4	20	7000	92000	<5	5	220000	<1000	<500	<5
08-40.2767-104.0911-2-08-					0	-109063-	<500	40	50	56000	10	20	3000	14200	<5	<5	34000	<1000	<500	<5
08-40.2436-104.0556-2-08-					0	-109064-	<500	30	20	231000	6	30	6000	30400	<5	<5	100000	<1000	<500	<5
08-40.3719-104.0647-2-08-					0	-109065-	<500	80	20	147000	10	30	6000	73000	<5	<5	200000	<1000	<500	<5
08-40.3653-104.0314-2-08-					0	-109066-	<500	80	15	251000	5	30	6000	99000	<5	10	220000	<1000	<500	<5
08-40.3644-103.9919-2-08-					0	-109067-	<500	70	30	174000	5	10	6000	69000	<5	<5	150000	<1000	<500	<5
08-40.3353-103.9683-2-07-					0	-109068-	<500	70	30	157000	5	<10	5000	62600	10	<5	150000	<1000	<500	<5
08-40.3203-103.9797-2-08-					0	-109069-	<500	35	30	191000	150	20	5000	28000	500	<5	120000	<1000	<500	<5
08-40.2983-103.9978-2-08-					0	-109070-	<500	35	30	182000	5	20	5000	29900	15	<5	120000	<1000	<500	<5
08-40.2778-103.9872-2-08-					0	-109071-	<500	40	25	164000	5	20	6000	33900	<5	<5	110000	<1000	<500	<5
08-40.2550-103.9439-2-08-					0	-109072-	<500	40	25	223000	200	20	8000	39500	40	<5	130000	<1000	<500	<5
08-40.9931-102.9833-2-08-					0	-109073-	<500	80	50	30000	5	300	4000	8100	<5	<5	55000	<1000	<500	15
08-40.9967-102.9789-2-08-					0	-109074-	<500	50	80	37600	5	70	4000	9600	<5	<5	37600	<1000	<500	20
08-40.9947-102.9411-2-08-					0	-109075-	<500	30	200	32100	7	70	4000	8000	<5	<5	7000	<1000	<500	20
08-40.9944-102.9244-2-08-					0	-109076-	<500	30	150	37600	4	60	4000	9200	<5	<5	7500	<1000	<500	20
08-40.9544-102.9225-2-08-					0	-109077-	<500	40	100	30900	4	<10	4000	8800	<5	<5	17000	<1000	<500	20
08-40.9731-102.9242-2-08-					0	-109078-	<500	40	100	41600	5	70	6000	13000	<5	<5	16000	<1000	<500	20
08-40.9919-102.9981-2-08-					0	-109079-	<500	40	100	33000	5	50	4000	8500	<5	<5	9000	<1000	<500	20
08-40.9792-103.0131-2-08-					0	-109080-	<500	40	150	37900	5	10	5000	8800	<5	<5	7500	<1000	<500	20
08-40.9417-102.9961-2-08-					0	-109081-	<500	30	200	31200	4	15	5000	11600	<5	<5	9500	<1000	<500	25
08-40.9497-103.0191-2-08-					0	-109082-	<500	40	80	41000	5	<10	5000	10000	<5	<5	18000	<1000	<500	15
08-40.9489-103.0783-2-08-					0	-109083-	<500	30	100	44000	4	15	5000	10700	<5	<5	7500	<1000	<500	15
08-40.9411-103.0756-2-08-					0	-109084-	<500	40	100	52000	4	20	5000	13400	<5	<5	18000	<1000	<500	15
08-40.9392-103.0931-2-08-					0	-109085-	<500	40	150	55700	8	10	5000	15200	<5	<5	14000	<1000	<500	15
08-40.9481-102.9544-2-08-					0	-109086-	<500	<30	200	36700	3	10	3000	5500	<5	<5	3000	<1000	<500	10
08-40.7872-102.9972-2-08-					0	-109087-	<500	150	15	302000	4	15	40000	95000	200	<5	350000	<1000	<500	<5
08-40.8075-102.9431-2-08-					0	-109088-	<500	100	15	283000	25	20	25000	90000	300	5	450000	<1000	<500	<5
08-40.8353-102.9336-2-08-					0	-109089-	<500	250	30	4600	<3	30	3000	1300	<5	<5	350000	<1000	<500	<5
08-40.9536-102.9496-2-07-					0	-109091-	<500	30	300	58200	5	10	10000	3700	<5	<5	800	<1000	<500	<5
08-40.8939-102.9967-2-08-					0	-109093-	<500	40	100	39300	4	<10	4000	9200	<5	<5	17000	<1000	<500	15
08-40.9350-103.0725-2-08-					0	-109096-	<500	40	70	35000	5	<10	4000	12600	<5	<5	20000	<1000	<500	15

APPENDIX B-III

Elemental Concentrations for Water Samples,
Phase III, April into May 1977

(See Appendix D for Code to Listings)

APPENDIX B-III (continued). Elemental Concentrations for Water Samples (Phase III)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb).												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40.2083-103.8815-2-08-						2-108901	74014	71	68	53	84	13342	42	< 24	57	<199	8	< 49	
08-40.1678-103.9172-2-08-						2-108902	51126	58	424	40	231	26572	160	< 24	<24	< 199	6	< 49	
08-40.1511-103.9108-2-08-						2-108903	48153	70	68	47	111	23201	5	< 24	107	<199	8	70	
08-40.1300-103.9186-2-08-						2-108905	73000	73	82	44	74	23102	145	< 24	122	<199	16	< 49	
08-40.1300-103.9186-2-08-						3-108905	73740	88	98	47	87	23306	147	< 24	131	<199	20	< 49	
08-40.1167-103.9050-2-08-						2-108906	156188	122	74	60	106	21702	664	< 24	46	<199	24	< 49	
08-40.0731-104.0564-2-08-						2-108909	106072	110	85	59	178	17872	835	< 24	124	<199	18	< 49	
08-40.0528-104.0747-2-08-						2-108910	37079	64	83	33	1031	5854	367	< 24	161	<199	12	< 49	
08-40.0347-104.0742-2-08-						2-108911	224019	175	129	71	948	29626	3142	< 24	161	<199	42	51	
08-40.1158-103.9333-2-08-						2-108912	90308	111	81	48	178	27510	96	< 24	107	<199	14	< 49	
08-40.0664-103.9064-2-08-						2-108913	208282	218	225	86	106	29865	6	< 24	362	<199	31	72	
08-40.0153-104.0750-2-08-						2-108914	148387	166	161	70	106	26748	541	< 24	234	<199	39	115	
08-40.0706-103.8867-2-08-						2-108915	220850	231	223	96	157	125119	8	< 24	390	<199	59	< 49	
08-40.0425-104.0942-2-08-						2-108916	125721	109	164	59	335	21959	1361	< 24	262	<199	42	65	
08-40.0150-104.0942-2-08-						2-108917	221321	201	353	92	1201	29618	2482	< 24	576	<199	86	155	
08-40.0239-104.0364-2-08-						2-108918	143048	158	143	73	129	25509	459	< 24	180	<199	29	446	
08-40.1022-104.0261-2-08-						1-108919	278041	249	209	98	135	48598	238	< 24	387	<199	60	69	
08-40.1022-104.0711-2-08-						2-108920	60180	69	58	42	46	10032	6	< 24	91	<199	16	253	
08-40.2250-103.9422-2-08-						1-108921	385782	223	213	160	114	22160	19	< 24	255	<199	64	159	
08-40.2322-103.9242-2-08-						1-108922	257296	196	77	79	78	45499	16	< 24	<24	<199	24	< 49	
08-40.2328-103.9350-2-08-						1-108923	227123	149	86	575	96	46107	4	< 24	93	<199	35	< 49	
08-40.2306-103.9422-2-08-						1-108924	274330	120	156	95	89	40605	7	< 24	212	<199	56	62	
08-40.2322-103.9514-2-08-						1-108925	182192	129	108	75	85	41279	< 2	< 24	121	<199	73	< 49	
08-40.1353-104.0564-2-08-						2-108926	111146	95	53	44	49	18484	141	< 24	56	<199	25	426	
08-40.1744-104.0564-2-08-						2-108927	80154	95	64	32	473	21022	130	< 24	33	<199	25	138	
08-40.2178-104.0781-2-08-						2-108928					Missing sample data								
08-40.2089-104.0939-2-08-						2-108929	114758	133	166	60	73	29001	5	< 24	274	<199	47	< 49	
08-40.1667-104.0928-2-08-						2-108930	84229	102	73	33	53	14326	< 2	< 24	48	<199	25	< 49	
08-40.1403-104.0367-2-08-						2-108931	78248	112	100	38	153	24703	53	< 24	141	<199	29	386	
08-40.1403-104.0367-2-08-						3-108931	85388	114	160	46	173	26675	59	< 24	247	707	43	392	
08-40.2183-104.0361-2-08-						2-108932	68128	63	86	37	48	18436	< 2	< 24	161	290	24	393	
08-40.2325-103.8908-2-08-						2-108934	283756	229	326	192	130	48701	17	< 24	564	<199	92	145	
08-40.7756-103.0753-2-08-						2-108935	382203	316	535	144	156	46106	14	< 24	917	<199	141	< 49	
08-40.8381-103.0789-2-08-						2-108936	16093	<54	75	25	312	4987	4	< 24	110	<199	21	55	
08-40.9386-103.1142-2-08-						2-108937	36370	<54	108	33	50	11537	4	< 24	141	<199	28	166	
08-40.9636-103.2786-2-08-						2-108939	35164	64	140	34	49	11212	<2	< 24	236	456	32	125	
08-40.8575-103.2019-2-08-						2-108940	20070	<54	97	34	61	6815	<2	< 24	141	607	29	221	
08-40.7611-103.1275-2-08-						2-108941	27130	<54	77	30	357	11982	11	< 24	104	<199	19	53	
08-40.7750-103.1717-2-08-						3-108942	21052	<54	84	31	109	7837	10	< 24	100	211	18	189	
08-40.7753-103.2386-2-08-						2-108943	14856	<54	59	43	537	6469	11	< 24	130	<199	13	255	
08-40.7969-103.2372-2-08-						1-108944	18278	<54	82	27	587	7923	17	< 24	175	<199	14	61	
08-40.7969-103.2372-2-08-						2-108944	14883	<54	48	23	539	7760	15	< 24	60	<199	8	< 49	
08-40.8561-103.2325-2-08-						1-108945	49140	66	99	26	32	10080	<2	< 24	100	<199	19	< 49	
08-40.8561-103.2325-2-08-						2-108945	42026	64	103	29	29	10039	<2	< 24	110	<199	19	< 49	
08-40.9022-103.1178-2-08-						1-108946	63302	77	103	27	52	11960	34	< 24	123	<199	17	< 49	
08-40.8211-103.2850-2-08-						1-108947	115135	95	113	97	112	41103	36	< 24	123	<199	25	503	
08-40.8578-103.3072-2-10-						1-108948	18083	<54	66	24	54	9600	<2	< 24	87	<199	15	< 49	
08-40.9792-103.2875-2-08-						2-108950	42592	<54	93	29	35	15291	<2	< 24	139	<199	13	104	
08-40.8886-103.1844-2-08-						2-108952	31415	77	90	17	<24	10194	<2	< 24	104	<199	11	< 49	
08-40.9561-103.3983-2-08-						1-108953	33045	<54	74	20	33	9768	<2	< 24	78	<199	11	< 49	
08-40.8317-102.4572-2-08-						3-108955	2942	<54	87	23	79	502	<2	< 24	121	224	14	< 49	

APPENDIX B-III. Elemental Concentrations for Water Samples (Phase III)

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DOE SAMPLE NUMBER						LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION								
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (uCi/ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DMC (%) UNITS IN PPB
							DATE	HOUR																										
08-40.2083-103.8475-2-08	2	2-108901-05/12/77-8	7-12.0	-	6.9	600	18-1-1	-	-	-	-	-	-	6.64																				
08-40.1678-103.9172-2-08	2	2-108902-05/12/77-8	7-11.5	-	6.9	940	14-1-1	-	-	-	-	-	-	8.48																				
08-40.1511-103.9108-2-08	2	2-108903-05/12/77-9	11-12.5	-	7.0	775	12-1-1	-	-	-	-	-	-	10.74																				
08-40.1300-103.9186-2-08	2	2-108905-05/12/77-9	18-12.5	-	6.0	800	16-1-1	-	-	-	-	-	-	11.08																				
08-40.1300-103.9186-2-08	3	3-108905-05/12/77-9	18-12.5	-	6.0	800	16-1-1	-	-	-	-	-	-	11.44																				
08-40.1167-103.9050-2-08	2	2-108906-05/10/77-19	17-11.2	-	5.8	1700	12-1-1	-	-	-	-	-	-	20.51																				
08-40.0731-104.0664-2-08	2	2-108909-05/10/77-9	17-13.4	-	5.5	990	20-1-1	-	-	-	-	-	-	4.20																				
08-40.0528-104.0747-2-08	2	2-108910-05/19/77-9	14-12.1	-	5.6	600	8-1-1	-	-	-	-	-	-	1.03																				
08-40.0347-104.0742-2-08	2	2-108911-05/19/77-10	14-12.2	-	6.7	1750	16-1-1	-	-	-	-	-	-	18.22																				
08-40.1158-103.9333-2-08	2	2-108912-05/19/77-19	14-11.2	-	5.8	800	20-1-1	-	-	-	-	-	-	6.01																				
08-40.0664-103.9064-2-08	2	2-108913-05/10/77-18	17-13.0	-	6.7	2500	25-1-1	-	-	-	-	-	-	77.60*																				
08-40.0153-104.0750-2-08	2	2-108914-05/10/77-10	14-14.0	-	5.6	1200	12-1-7	-	-	-	-	-	-	8.76																				
08-40.0706-103.8457-2-08	2	2-108915-05/19/77-18	10-12.5	-	6.8	3200	16-1-1	-	-	-	-	-	-	48.80*																				
08-40.0925-104.0942-2-08	2	2-108916-05/10/77-11	21-14.5	-	6.5	1200	25-1-1	-	-	-	-	-	-	2.46																				
08-40.0150-104.0942-2-08	2	2-108917-05/19/77-11	20-12.0	-	6.7	2000	25-1-1	-	-	-	-	-	-	19.90																				
08-40.0239-104.0354-2-08	2	2-108918-05/10/77-13	21-14.0	-	5.7	1080	25-1-1	-	-	-	-	-	-	10.61																				
08-40.1022-104.0751-2-08	1	1-108919-05/19/77-20	16-13.0	-	6.7	1900	25-1-1	-	-	-	-	-	-	45.80*																				
08-40.1022-104.0711-2-08	2	2-108920-05/19/77-20	15-14.0	-	6.7	820	20-1-6	-	-	-	-	-	-	3.42																				
08-40.2250-103.9422-2-08	1	1-108921-05/11/77-18	19-14.0	-	6.7	3250	19-1-1	-	-	-	-	-	-	14.70																				
08-40.2322-103.9242-2-08	1	1-108922-05/12/77-11	21-13.0	-	5.7	2425	17-1-1	-	-	-	-	-	-	84.80*																				
08-40.2328-103.9350-2-08	1	1-108923-05/12/77-11	21-13.0	-	6.7	2400	14-1-1	-	-	-	-	-	-	26.90																				
08-40.2306-103.9422-2-08	1	1-108924-05/12/77-12	22-12.5	-	5.9	2500	16-1-1	-	-	-	-	-	-	145.80*																				
08-40.2322-103.9514-2-08	1	1-108925-05/12/77-12	22-13.5	-	7.0	1950	13-1-1	-	-	-	-	-	-	45.70*																				
08-40.1353-104.0564-2-08	2	2-108926-05/12/77-14	22-13.5	-	6.7	950	23-1-1	-	-	-	-	-	-	8.31																				
08-40.1744-104.0564-2-08	2	2-108927-05/12/77-13	22-14.0	-	5.7	975	12-1-1	-	-	-	-	-	-	6.84																				
08-40.2178-104.0781-2-08	2	2-108928-05/12/77-16	23-14.0	-	5.7	1000	14-1-1	-	-	-	-	-	-	9.25																				
08-40.2089-104.0939-2-08	2	2-108929-05/12/77-15	23-13.0	-	5.9	1200	13-1-1	-	-	-	-	-	-	43.40*																				
08-40.1667-104.0928-2-08	2	2-108930-05/12/77-15	23-13.5	-	6.8	950	23-1-1	-	-	-	-	-	-	10.93																				
08-40.1403-104.0357-2-08	2	2-108931-05/12/77-14	22-13.5	-	6.9	1000	17-1-1	-	-	-	-	-	-	8.21																				
08-40.1403-104.0357-2-08	3	3-108931-05/12/77-14	22-12.5	-	5.9	1000	17-1-1	-	-	-	-	-	-	8.03																				
08-40.2183-104.0361-2-08	2	2-108932-05/12/77-13	22-13.5	-	6.8	900	21-1-1	-	-	-	-	-	-	6.74																				
08-40.2325-103.8908-2-08	2	2-108934-05/12/77-7	7-11.0	-	5.8	2150	16-1-1	-	-	-	-	-	-	103.10*																				
08-40.7756-103.0753-2-08	2	2-108935-05/05/77-12	20-11.5	-	5.9	3400	19-1-1	-	-	-	-	-	-	112.30*																				
08-40.8381-103.0789-2-08	2	2-108936-05/04/77-16	22-13.0	-	7.2	1400	20-1-1	-	-	-	-	-	-	0.32																				
08-40.9386-103.1142-2-08	2	2-108937-05/03/77-17	20-13.0	-	7.0	385	23-1-1	-	-	-	-	-	-	2.95																				
08-40.9636-103.2384-2-08	2	2-108939-05/05/77-9	12-15.0	-	7.1	500	24-1-1	-	-	-	-	-	-	5.48																				
08-40.8575-103.2010-2-08	2	2-108940-05/03/77-17	24-11.0	-	6.5	350	20-1-1	-	-	-	-	-	-	4.49																				
08-40.7611-103.1275-2-08	2	2-108941-05/03/77-8	19-13.0	-	7.0	1540	16-1-1	-	-	-	-	-	-	0.35																				
08-40.7750-103.1717-2-08	3	3-108942-05/04/77-11	20-12.5	-	7.0	1400	16-1-1	-	-	-	-	-	-	0.35																				
08-40.7753-103.2394-2-08	2	2-108943-05/03/77-11	20-13.2	-	7.2	1150	12-1-1	-	-	-	-	-	-	0.45																				
08-40.7969-103.2372-2-08	1	1-108944-05/03/77-12	22-13.0	-	7.2	850	20-1-1	-	-	-	-	-	-	0.33																				
08-40.7969-103.2372-2-08	2	2-108944-05/03/77-12	22-13.0	-	7.2	850	20-1-1	-	-	-	-	-	-	0.40																				
08-40.8561-103.2325-2-08	1	1-108945-05/03/77-13	23-12.0	-	5.7	380	16-1-1	-	-	-	-	-	-	3.74																				
08-40.8561-103.2325-2-08	2	2-108945-05/03/77-13	23-12.0	-	5.7	380	16-1-1	-	-	-	-	-	-	3.43																				
08-40.9022-103.1178-2-08	1	1-108946-05/03/77-18	20-20.0	-	7.6	465	26-1-1	-	-	-	-	-	-	3.59																				
08-40.8211-103.2450-2-08	1	1-108947-05/01/77-17	17-13.5	-	6.8	1300	20-1-1	-	-	-	-	-	-	37.91																				
08-40.8578-103.3072-2-10	1	1-108948-05/01/77-14	21-20.5	-	9.8	300	16-1-1	-	-	-	-	-	-	3.04																				
08-40.9792-103.2475-2-08	2	2-108950-05/04/77-19	18-12.0	-	6.7	420	14-1-1	-	-	-	-	-	-	6.13																				
08-40.8886-103.1844-2-08	2	2-108952-05/05/77-11	15-13.0	-	6.8	330	24-1-1	-	-	-	-	-	-	3.66																				
08-40.9561-103.3053-2-08	1	1-108953-05/04/77-11	19-11.0	-	6.8	355	19-1-1	-	-	-	-	-	-	4.81																				
08-40.8317-102.9574-2-08	3	3-108954-05/02/77-18	21-15.0	-	9.1	900	8-1-1	-	-	-	-	-	-	0.03																				

APPENDIX B-III (continued). Elemental Concentrations for Water Samples (Phase III)

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DOE SAMPLE NUMBER						LASL SAMPLE NUMBER AND FIELD DATA																							U CONCENTRATION					
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (eU ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUORIMETRY OR DMC(H) UNITS IN ppb
							DATE	HOUR																										
08-40	8386-102	9475-2-06	2-108956-05/02/77-15	23-12.0-C	5.4	2000	6-1-1-5-1	4-3-1	4-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36.97	
08-40	8483-102	9439-2-06	2-108963-05/02/77-14	23-15.0-C	5.7	2050	17-1-1-1-1	3-1	7-3-2-2	3-4	6-80	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.01
08-40	9011-103	2454-2-06	2-108964-05/05/77-10	15-12.0-C	5.5	400	17-1-1-1-1	3-1	7-3-2-2	3-3	6-110	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.42
08-40	9475-103	2439-2-06	2-108965-05/05/77-10	15-12.0-C	5.9	500	14-1-1-1-1	3-1	7-3-2-2	3-2	6-300	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.66
08-40	9644-103	1425-2-06	2-108966-05/05/77-8	14-11.5-C	5.7	450	26-1-1-1-1	3-1	7-3-2-2	3-3	6-110	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.68
08-40	9631-103	0442-2-06	2-108967-05/03/77-14	21-13.5-C	5.9	345	25-1-1-1-1	3-1	4-3-2-2	3-3	5-160	192	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.28
08-40	9200-103	0064-2-06	1-108968-05/03/77-10	19-14.0-C	5.5	325	14-1-1-1-1	3-1	4-3-2-2	3-2	5-100	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.14
08-40	7614-103	1022-2-07	4-108970-05/04/77-9	19-13.4-C-S	7.4	3400	12-1-6-6-8	3-3-2-2	4-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.05
08-40	7603-103	1067-2-06	2-108971-05/04/77-10	18-14.2-C-S	7.0	1100	4-1-1-1-1	3-1	4-3-2-2	3-3	6-85	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08
08-40	7756-103	1153-2-06	2-108972-05/04/77-10	18-14.5-C	7.0	1490	12-1-1-1-1	3-1	4-3-2-2	3-3	6-300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35
08-40	7964-103	1039-2-07	2-108973-05/04/77-12	18-17.0-C-S	7.1	2300	16-1-7-6-8	2-2-2-1	4-3-2-3	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.92
08-40	8214-103	1122-2-06	2-108974-05/04/77-13	20-15.0-C-S	7.2	1900	20-1-7-1-1	3-1	4-3-2-2	3-3	6-240	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18
08-40	8222-103	1153-2-07	2-108975-05/04/77-13	18-15.0-C-S	7.5	2750	16-1-6-5-8	3-3-2-2	4-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.10*
08-40	8342-103	1094-2-07	2-108976-05/04/77-14	20-13.0-C-S	7.5	1700	12-1-1-1-1	3-1	4-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.84
08-40	8342-103	1203-2-06	2-108978-05/04/77-14	18-15.0-C-S	7.4	1550	29-1-1-1-1	3-1	4-3-2-2	3-3	4-260	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03
08-40	8328-103	0424-2-07	2-108980-05/04/77-17	20-17.2-C-S	7.5	1450	14-1-1-5-7	3-3-3-1	4-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.02
08-40	8561-103	0554-2-06	2-108981-05/04/77-17	18-13.0-C	5.7	900	16-1-1-1-1	3-1	4-3-2-1	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.28
08-40	8339-103	0228-2-06	2-108983-05/05/77-18	18-12.5-C	5.7	2150	21-1-1-1-1	3-1	4-3-2-1	3-3	6-60	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.60*
08-40	8342-103	0758-2-07	2-108984-05/05/77-18	20-18.0-C	7.5	1700	17-1-1-6-8	3-3-2-2	4-3-2-1	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.98
08-40	7817-103	0553-2-06	2-108985-05/05/77-15	20-14.0-C	5.6	4900	17-1-1-1-1	3-1	7-4-2-1	3-3	6-67	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127.70*
08-40	7917-103	0554-2-06	3-108986-05/05/77-14	20-13.0-C	7.4	1750	9-1-1-1-1	3-1	7-3-2-1	3-3	5-220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03
08-40	8125-103	0367-2-06	2-108988-05/05/77-17	20-16.5-C	7.3	1300	14-1-1-1-1	3-1	7-3-2-1	3-4	6-280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
08-40	7869-103	0419-2-06	2-108989-05/05/77-17	20-13.5-C	7.5	1900	19-1-1-1-1	3-1	7-3-2-1	3-3	6-225	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23
08-40	7689-103	0439-2-06	2-108990-05/05/77-16	20-12.0-C	7.3	2200	13-1-1-1-1	3-1	7-4-2-1	3-3	6-230	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
08-40	7611-103	1342-2-07	4-108991-05/03/77-9	18-13.0-C-S	7.3	3200	20-1-7-4-7	4-3-2	4-3-1-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67.00*
08-40	7892-103	1494-2-06	2-108992-05/04/77-11	20-14.5-C-S	7.0	920	8-1-7-1-1	4-1	4-3-2-2	3-3	6-260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32
08-40	8547-103	1783-2-06	2-108995-05/03/77-17	18-11.0-C-S	5.5	1000	16-1-1-1-1	3-1	4-3-2-2	3-3	6-421	233	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36.01
08-40	8189-103	1917-2-06	2-108996-05/03/77-18	18-12.0-C-S	5.9	750	20-1-1-1-1	3-1	4-3-1-2	3-3	6-50	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.76
08-40	7611-103	2011-2-06	3-108997-05/03/77-9	18-11.0-C-S	7.3	1900	16-1-7-1-1	4-1	4-3-2-2	3-3	4-60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73
08-40	7608-103	2333-2-06	2-108999-05/03/77-10	19-13.0-C-S	7.3	1690	12-1-1-1-1	4-1	4-3-2-2	3-3	6-260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.25
08-40	8925-102	9489-2-06	2-109001-05/05/77-7	9-15.0-C	7.4	950	35-1-1-1-1	3-1	7-3-2-2	3-3	6-200	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03
08-40	8561-102	9504-2-06	2-109002-05/02/77-15	23-15.0-C	7.5	900	10-1-1-1-1	3-1	7-3-2-2	3-3	6-390	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17
08-40	8425-102	9723-2-06	2-109007-05/02/77-17	22-16.0-C	5.6	1700	11-1-1-1-1	3-1	4-3-2-2	3-3	6-100	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.80*
08-40	8486-102	9936-2-06	2-109008-05/02/77-17	22-15.0-C	7.4	850	17-1-1-1-1	4-1	7-3-2-2	3-3	6-300	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22
08-40	8308-102	9400-2-06	2-109009-05/02/77-17	22-11.0-C	5.6	2400	10-1-1-1-1	3-1	7-3-2-2	3-3	6-120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.90*
08-40	9611-102	9500-2-06	2-109017-05/04/77-13	21-12.0-C	5.6	235	20-1-1-6-4	2-3-1	7-3-2-2	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.70
08-40	8000-103	3661-2-06	1-109029-04/30/77-18	22-11.0-C-S	7.7	1250	16-1-1-1-1	3-1	4-3-2-1	3-3	6-350	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38
08-40	8000-103	3651-2-06	2-109029-04/30/77-18	22-11.0-C-S	7.7	1250	16-1-1-1-1	3-1	4-3-2-1	3-3	6-350	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.34
08-40	8061-103	0357-2-07	1-109030-05/05/77-17	20-20.0-C	7.8	1750	14-1-1-5-6	3-3-2-1	4-3-2-1	3-3																								

APPENDIX B-III (continued). Elemental Concentrations for Water Samples (Phase III)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb).												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40.8386-102.9474-2-08-						2-10A956	320/44	182	100	61	58	69456	<2	<24	5A	<199	28	249	
08-40.8483-102.9439-2-08-						2-10A963	348773	193	225	85	120	66103	6	<24	35n	<199	68	244	
08-40.9011-103.2464-2-08-						2-10A964	39165	<54	<24	13	42	18730	<2	<24	<24	<199	3	1461	
08-40.9475-103.2439-2-08-						2-10A965	46336	<54	<24	18	148	14841	8	<24	<24	<199	3	109	
08-40.9644-103.1625-2-08-						2-10A966	60012	<54	39	22	37	14028	<2	<24	71	<199	13	98	
08-40.9631-103.0442-2-08-						2-10A967	54732	91	50	21	39	13274	<2	<24	106	<199	15	69	
08-40.9200-103.0064-2-08-						1-10A968	40247	73	94	28	98	11484	4	<24	18n	<199	23	677	
08-40.7614-103.1027-2-07-						4-10A970	408446	255	275	94	115	112119	359	<24	47n	<199	74	<49	
08-40.7603-103.1067-2-08-						2-10A971	33844	<54	26	33	360	12072	15	<24	<24	<199	10	206	
08-40.7756-103.1153-2-08-						2-10A972	43242	<54	28	24	90	15472	7	<24	<24	<199	10	209	
08-40.7464-103.1034-2-07-						2-10A973	318074	178	189	68	103	16521	54	<24	194	<199	51	<49	
08-40.8214-103.1122-2-08-						2-10A974	23087	<54	<24	22	257	8358	4	<24	<24	<199	3	<49	
08-40.8222-103.1153-2-07-						2-10A975	293643	152	112	62	95	67420	212	<24	115	<199	38	<49	
08-40.8342-103.1086-2-07-						2-10A976	185226	107	90	56	80	12002	54	<24	72	<199	27	<49	
08-40.8342-103.1203-2-08-						2-10A978	11114	<54	<24	23	157	5264	<2	<24	<24	<199	3	85	
08-40.8328-103.0628-2-07-						2-10A980	144164	99	177	69	65	41005	87	<24	182	<199	39	<49	
08-40.8561-103.0564-2-08-						2-10A981	91309	92	64	44	77	21144	4	<24	86	<199	14	<49	
08-40.8334-103.0228-2-08-						2-10A983	264553	169	121	83	76	42246	4	<24	138	<199	38	<49	
08-40.8342-103.0258-2-07-						2-10A984	154049	101	59	58	55	42954	97	<24	<24	<199	25	<49	
08-40.7817-103.0553-2-08-						2-10A985	526099	333	249	162	224	147408	19	<24	272	<199	88	84	
08-40.7917-103.0504-2-08-						3-10A986	18433	<54	<24	14	179	7323	<2	<24	<24	<199	3	82	
08-40.8125-103.0367-2-08-						2-10A988	16333	<54	<24	14	187	4856	<2	<24	<24	<199	3	492	
08-40.7869-103.0419-2-08-						2-10A989	15072	<54	<24	16	361	7008	<2	<24	<24	<199	3	<49	
08-40.7689-103.0439-2-08-						2-10A990	25096	<54	129	29	80	9970	<2	<24	226	534	24	<49	
08-40.7611-103.1342-2-07-						4-10A991	324043	152	74	67	111	113287	446	<24	<24	<199	33	<49	
08-40.7892-103.1486-2-08-						2-10A992	24140	<54	<24	18	226	8011	<2	<24	<24	<199	3	188	
08-40.8547-103.1783-2-08-						2-10A995	155139	69	<24	113	45	40138	11	<24	<24	<199	10	822	
08-40.8189-103.1917-2-08-						2-10A996	86277	56	<24	26	31	20084	<2	<24	<24	<199	3	162	
08-40.7611-103.2011-2-08-						3-10A997	29784	<54	<24	18	538	11940	<2	<24	<24	<199	3	246	
08-40.7608-103.2333-2-08-						2-10A999	28062	<54	<24	21	249	11007	6	<24	<24	<199	3	<49	
08-40.8925-102.9589-2-08-						2-109001	12027	<54	37	19	46	3658	<2	<24	63	<199	3	224	
08-40.8561-102.9506-2-08-						2-109002	10783	<54	52	17	300	1844	4	<24	97	<199	11	65	
08-40.8425-102.9725-2-08-						2-109007	336244	177	230	91	76	21750	4	<24	357	<199	64	99	
08-40.8486-102.9936-2-08-						2-109008	10710	<54	<24	21	101	1853	6	<24	<24	<199	3	124	
08-40.8308-102.9800-2-08-						2-109009	491061	206	353	111	105	45741	7	<24	522	<199	93	96	
08-40.9611-102.9500-2-06-						2-109017	41499	62	147	30	35	11535	2	<24	171	<199	20	<49	
08-40.8800-103.3661-2-08-						1-109029	10925	<54	47	26	61	5983	8	<24	55	355	12	118	
08-40.8800-103.3661-2-08-						2-109029	12507	<54	45	23	69	6106	9	<24	42	<199	13	111	
08-40.8661-103.0367-2-07-						1-109030	206982	152	189	75	83	46094	134	<24	176	<199	45	<19	
08-40.8342-103.0167-2-07-						1-109031	218050	154	132	65	77	46429	101	<24	114	<199	40	<19	
08-40.8642-103.1025-2-08-						1-109033	23662	<54	84	28	203	6366	10	<24	162	<199	18	<49	
08-40.8658-103.1069-2-07-						1-109034	81180	90	109	36	107	21582	45	<24	151	<199	26	<49	
08-40.8411-103.1197-2-10-						1-109035	121097	140	127	51	76	49607	162	<24	166	<199	32	<49	
08-40.7794-103.0553-2-08-						1-109036	345244	277	221	129	113	103549	9	<24	298	<199	61	<49	
08-40.8419-103.0389-2-08-						1-109038	108083	<54	37	32	37	23087	126	<24	<24	<199	9	<49	
08-40.8467-103.0353-2-08-						1-109040	13105	<54	<24	6	600	3603	<2	<24	<24	<199	3	<49	
08-40.8467-103.0353-2-08-						2-109040	14025	<54	<24	63	623	3881	<2	<24	<24	<199	3	<49	
08-40.8197-103.0767-2-09-						1-109041	370009	193	213	72	89	41500	78	<24	47	<199	48	<49	
08-40.8444-103.0750-2-08-						1-109042	20246	<54	572	54	180	6976	<2	<24	341	2556	86	<49	
08-40.7614-103.1014-2-07-						1-109043	344779	64	760	112	68	119780	166	<24	456	<199	128	<49	
08-40.7925-103.1028-2-10-						2-109046	308783	<54	766	103	41	13894	285	<24	478	<199	127	<49	

DOE SAMPLE NUMBER					LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION									
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	PH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (uCi ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DMC (H) UNITS IN ppb
							DATE	HOUR																										
08-40	7908-103.1258-2-07-					1-109047-05/04/77-10-			18-15.8-C-S-	7.8			3300-	15-1-7-6-8-3-3-2-2-2-3-3-	6-110-	20-																	24.50	
08-40	8578-103.2019-2-08-					2-109049-05/03/77-17-			24-11.0-C-S-	7.2			400-	12-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-110-	20-																	14.15	
08-40	0750-104.0939-2-08-					1-109051-05/19/77-12-			18-12.0-C-S-	7.0			1600-	13-1-1-1-3-1-1-4-3-2-1-3-3-	5-650-																		1.28	
08-40	0431-103.9644-2-08-					1-109052-05/19/77-16-			22-13.5-C-S-	7.0			560-	25-1-1-1-3-1-1-4-3-2-2-2-3-3-	4-95-																		6.35	
08-40	0431-103.9644-2-08-					2-109052-05/19/77-16-			22-13.5-C-S-	7.0			540-	25-1-1-1-3-1-1-4-3-2-2-2-3-3-	4-95-																		7.34	
08-40	8194-103.1900-2-08-					0-109055-05/03/77-18-			17-13.0-C-S-	5.8			600-	8-1-1-1-3-1-1-4-3-1-2-3-5-	4-50-																		56.30*	
08-40	8192-103.1750-2-08-					0-109057-05/03/77-18-			16-13.0-C-S-	6.5			400-	16-1-1-1-3-1-1-4-3-2-2-2-3-4-	4-70-	30-																	6.20	
08-40	2986-104.0556-2-08-					1-109059-05/11/77-13-			20-14.0-C-	6.5			1350-	24-1-1-1-3-1-1-7-3-2-1-3-3-	6-150-	90-																	79.40*	
08-40	3317-104.0550-2-08-					1-109060-05/11/77-14-			20-14.0-C-	6.7			1550-	12-1-1-1-3-1-1-7-3-2-1-3-3-	6-90-																		63.10*	
08-40	3417-104.0614-2-07-					1-109061-05/11/77-14-			20-20.0-C-	7.5			1500-	19-1-1-4-6-2-3-5-1-2-2-2-2-	9-																		40.10*	
08-40	3572-104.0733-2-08-					1-109062-05/11/77-15-			20-13.5-C-	5.9			1950-	12-1-1-1-3-1-1-7-4-2-2-2-3-3-	6-40-	15-																	16.42	
08-40	2767-104.0911-2-08-					1-109063-05/11/77-12-			19-14.0-C-	5.8			500-	9-1-1-1-3-1-1-7-3-2-1-3-3-	6-260-	90-																	4.32	
08-40	2836-104.0556-2-08-					1-109064-05/11/77-13-			20-14.5-C-	5.7			1500-	11-1-1-1-3-1-1-7-3-2-1-3-3-	6-160-	90-																	26.33	
08-40	3719-104.0647-2-08-					1-109065-05/12/77-16-			22-13.5-C-	5.9			2000-	13-1-1-1-3-1-1-7-3-2-2-3-5-	5-34-	22-																	8.25	
08-40	3653-104.0314-2-08-					1-109066-05/11/77-15-			20-10.0-C-	6.8			2400-	18-1-1-1-3-1-1-7-3-2-2-3-4-	6-10-	10-																	31.87	
08-40	3203-103.4797-2-08-					1-109069-05/11/77-17-			20-13.5-C-	5.9			1450-	14-1-1-1-3-1-1-4-3-2-2-2-3-	-	-																	6.49	
08-40	2983-103.9978-2-08-					1-109070-05/11/77-17-			21-14.0-C-	5.8			1480-	20-1-1-1-3-1-1-7-3-2-2-2-3-	8-	-																	11.05	
08-40	2778-103.9872-2-08-					1-109071-05/11/77-17-			20-14.0-C-	7.0			1450-	8-1-1-1-3-1-1-4-3-2-2-2-3-	-	-																	31.40*	
08-40	2550-103.9439-2-08-					1-109072-05/11/77-18-			20-13.5-C-	7.0			1700-	16-1-1-1-3-1-1-7-3-2-2-2-3-3-	5-90-	40-																	47.90*	
08-40	9931-102.9833-2-08-					1-109073-05/03/77-12-			19-14.0-C-	5.9			450-	17-1-1-1-3-1-1-7-3-2-2-2-3-9-	6-240-	180-																	3.03	
08-40	9967-102.9789-2-08-					1-109074-05/03/77-12-			19-12.0-C-	5.9			350-	12-1-1-1-3-1-1-7-3-2-2-2-3-1-	6-200-	-																	1.67	
08-40	9944-102.9244-2-08-					1-109074-05/03/77-12-			-11.5-	5.9			300-	6-1-1-1-3-1-1-2-2-2-3-2-	6-250-	160-																	1.37	
08-40	9544-102.9222-2-08-					1-109077-05/03/77-13-			20-14.0-C-	7.1			300-	8-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-350-	110-																	1.97	
08-40	9731-102.9242-2-08-					1-109078-05/03/77-13-			19-12.5-C-	-			400-	20-1-1-1-3-1-1-2-2-2-3-9-	6-160-	-																	3.48	
08-40	9792-103.0131-2-08-					1-109080-05/03/77-13-			22-13.0-C-	7.0			300-	4-1-1-1-3-1-1-4-3-2-2-2-3-3-	4-200-	-																	2.14	
08-40	9417-102.9661-2-08-					1-109081-05/03/77-11-			19-13.5-C-	5.8			240-	9-1-1-1-3-1-1-4-3-2-2-2-3-3-	5-290-	92-																	3.09	
08-40	9497-103.0191-2-08-					1-109082-05/03/77-15-			21-13.0-C-	5.9			340-	19-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-350-	180-																	3.13	
08-40	9497-103.0191-2-08-					2-109082-05/03/77-15-			21-13.0-C-	5.9			350-	19-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-350-	-																	2.14	
08-40	9489-103.0793-2-08-					1-109083-05/03/77-16-			21-12.0-C-	5.7			355-	18-1-1-1-3-1-1-4-3-2-2-2-3-9-	6-110-	-																	0.97	
08-40	9411-103.0756-2-08-					1-109084-05/03/77-17-			21-13.0-C-	7.0			400-	8-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-350-	350-																	1.58	
08-40	9392-103.0931-2-08-					1-109085-05/03/77-17-			21-13.0-C-	7.1			495-	17-1-1-1-3-1-1-4-3-2-2-2-3-3-	4-120-	80-																	3.16	
08-40	9481-102.9544-2-08-					1-109084-05/04/77-14-			20-12.0-C-	5.8			270-	21-1-1-1-2-1-1-4-3-3-2-2-3-	-	-																	0.79	
08-40	7872-102.9672-2-08-					1-109087-05/02/77-13-			-13.0-C-	6.7			2950-	8-1-1-1-3-1-1-7-4-2-2-2-3-3-	6-60-	-																	86.50*	
08-40	8075-102.9431-2-08-					1-109088-05/02/77-13-			22-14.0-C-	5.8			1300-	14-1-1-1-3-1-1-4-4-2-2-2-3-3-	6-50-	10-																	65.90*	
08-40	8353-102.9336-2-08-					1-109089-05/02/77-14-			22-15.0-C-	5.1			1375-	12-1-1-1-3-1-1-4-3-2-2-2-3-3-	-	-																	0.84	
08-40	8939-102.9667-2-08-					1-109093-05/05/77-8-			9-12.0-C-	5.8			340-	28-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-60-	-																	2.88	
08-40	9350-103.0325-2-08-					1-109096-05/03/77-15-			21-13.0-C-	5.9			350-	9-1-1-1-3-1-1-4-3-2-2-2-3-3-	6-160-	-																	4.39	
08-40	7606-103.4774-2-08-					0-109103-04/30/77-11-			20-13.8-C-	7.7			1200-	16-1-7-1-4-1-1-4-3-2-1-3-3-	-	-																	0.46	
08-40	7722-103.4897-2-10-					0-109105-04/30/77-12-			24-22.0-C-	5.7			500-	8-1-1-5-6-1-3-5-1-4-3-2-1-3-	-	-																	3.44	
08-40	7722-103.4897-2-10-					1-109105-04/30/77-12-			24-22.0-C-S-	5.7			500-	8-1-1-5-6-1-3-5-1-4-3-2-1-3-	-	-																	3.26	
08-40	8392-103.4672-2-08-					0-109109-04/30/77-14-			25-13.0-C-	5.9			1400-	16-1-1-1-4-1-1-4-3-2-1-3-3-	6-80-	-																	0.47	
08-40	8392-103.4672-2-08-					1-109109-04/30/77-14-			25-13.0-C-S-	5.9			1400-	16-1-1-1-4-1-1-4-3-2-1-3-3-	6-80-	-																	0.86	
08-40	8547-103.5019-2-08-					0-109110-04/30/77-15-			20-12.0-C-S-	5.7			900-	16-1-1-1-4-1-1-4-3-2-1-3-3-	-	-																	0.55	
08-40	8642-103.4978-2-08-					0-109111-04/30/77-16-			24-13.0-C-	7.4			900-	16-1-1-1-4-1-1-4-3-2-1-3-3-	-	-																	0.33	
08-40	8642-103.4978-2-08-					1-109111-04/30/77-16-			24-13.0-C-S-	7.4			900-	16-1-1-1-4-1-1-4-3-2-1-3-3-	-	-																	0.47	
08-40	8092-103.3792-2-10-					0-109112-04/30/77-16-			27-24.0-C-S-	7.2			300-	14-1-1-5-7-1-4-3-2-1-3-	-	-																	0.32	
08-40	7594-103.4100-2-08-					0-109114-04/30/77-18-			21-11.5-C-	6.8			500-	25-1-1-1-4-1-1-4-3-2-1-3-3-	-	-																	4.76	
08-40	7594-103.4100-2-08-					1-109114-04/30/77-18-			21-11.5-C-S-	6.8			500-	25-1-1-1-4-1-1-4-3-2-1-3-3-	-	-																	3.73	
08-40	7997-103.4322-2-08-					0-109114-05/01/77-12-			22-14.0-C-	7.7			1125-	12-1-1-1-3-1-1-4-3-2-2-2-3-1-	8-	-																	0.27	
08-40	7997-103.4322-2-08-																																	

APPENDIX B-III(continued). Elemental Concentrations for Water Samples (Phase III)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY												
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn
Concentrations reported in weight parts per billion (ppb)																		
08-40.1908-103.1258-2-07-	1-109047	273452	< 54	787	107	44	14785	351	< 24	487	<199	126	249					
08-40.0578-103.2019-2-08-	2-109049	25414	< 54	741	48	27	7514	42	< 24	509	1006	103	400					
08-40.0750-104.0939-2-08-	1-109051	162066	< 54	780	82	121	43644	127	< 24	534	586	120	349					
08-40.0431-103.9694-2-08-	1-109052	45493	< 54	< 24	22	28	20914	6	< 24	< 24	<199	7	504					
08-40.0431-103.9694-2-08-	2-109052	66522	< 54	53	19	47	23586	< 2	< 24	< 24	<199	11	606					
08-40.8194-103.1900-2-08-	0-109055	67067	< 54	80	22	< 24	13634	< 2	< 24	29	<199	13	61					
08-40.8192-103.1750-2-08-	0-109057	46182	< 54	63	29	93	10933	< 2	< 24	< 24	<199	12	668					
08-40.2986-104.0555-2-08-	1-109059	239495	138	240	52	50	11771	< 2	< 24	151	<199	44	157					
08-40.3317-104.0550-2-08-	1-109060	247333	130	328	63	72	28417	535	< 24	217	<199	59	66					
08-40.3417-104.0614-2-07-	1-109061	152186	139	366	58	82	63173	352	< 24	274	<199	54	< 49					
08-40.3572-104.0733-2-08-	1-109062	192083	160	419	69	93	78179	5	< 24	309	<199	65	118					
08-40.2767-104.0911-2-08-	1-109063	66334	102	378	49	65	17513	< 2	< 24	313	259	53	75					
08-40.2436-104.0556-2-08-	1-109064	246172	203	504	86	120	11923	4	< 24	374	<199	82	251					
08-40.3719-104.0647-2-08-	1-109065	179174	114	132	77	56	40641	< 2	< 24	108	<199	27	97					
08-40.3653-104.0314-2-08-	1-109066	274157	164	262	65	75	47822	4	< 24	195	<199	50	< 49					
08-40.3203-103.9797-2-08-	1-109069	237243	159	390	125	44	28327	656	< 24	323	<199	64	103					
08-40.2483-103.9978-2-08-	1-109070	217112	164	479	72	56	29761	47	< 24	434	<199	77	109					
08-40.2778-103.9872-2-08-	1-109071	182399	160	548	77	60	45255	8	< 24	550	<199	88	398					
08-40.2550-103.9639-2-08-	1-109072	267992	177	568	148	57	41409	33	< 24	530	<199	46	380					
08-40.4931-102.9833-2-08-	1-109073	38001	72	300	38	73	8146	< 2	< 24	289	393	41	92					
08-40.4967-102.9789-2-08-	1-109074	39395	74	311	35	140	8909	5	< 24	319	453	41	257					
08-40.9944-102.9244-2-08-	1-109076	46782	71	349	51	109	9480	< 2	< 24	327	405	48	2924					
08-40.9544-102.9225-2-08-	1-109077	38278	< 54	< 24	9	< 24	8892	< 2	< 24	< 24	<199	3	448					
08-40.9731-102.9242-2-08-	1-109078	42126	< 54	< 24	6	112	11891	5	< 24	< 24	<199	3	782					
08-40.9792-103.0131-2-08-	1-109080	47112	< 54	40	13	26	8949	< 2	< 24	< 24	<199	3	958					
08-40.9417-102.9961-2-08-	1-109081	39084	< 54	60	12	27	11857	< 2	< 24	< 24	<199	6	884					
08-40.9497-103.0181-2-08-	1-109082	49196	< 54	62	14	23	9688	< 2	< 24	< 24	<199	6	1358					
08-40.9497-103.0181-2-08-	2-109082	50051	< 54	38	16	30	9832	< 2	< 24	< 24	<199	11	1357					
08-40.9489-103.0783-2-08-	1-109083	60021	< 54	69	18	< 24	11426	< 2	< 24	< 24	<199	10	2846					
08-40.9411-103.0756-2-08-	1-109084	63108	< 54	65	18	< 24	13205	< 2	< 24	< 24	<199	6	1213					
08-40.9392-103.0931-2-08-	1-109085	32164	< 54	40	76	< 24	9484	< 2	< 24	< 24	<199	7	376					
08-40.9481-102.9544-2-08-	1-109086	53164	< 54	156	28	55	6049	< 2	< 24	111	<199	18	< 49					
08-40.7872-102.9972-2-08-	1-109087	336991	194	280	69	83	42445	432	< 24	167	<199	55	< 49					
08-40.8075-102.9431-2-08-	1-109088	349184	206	467	150	236	45126	1261	< 24	317	<199	79	3323					
08-40.8353-102.9336-2-08-	1-109089	4104	< 54	336	35	70	1309	6	144	270	1408	45	< 49					
08-40.8939-102.9967-2-08-	1-109093	50249	43	277	44	36	10306	5	< 24	331	351	52	55					
08-40.9350-103.0325-2-08-	1-109096	41077	67	360	42	70	13167	< 2	< 24	291	614	46	220					
08-40.7606-103.4775-2-08-	0-109103	8427	< 54	372	30	95	3248	8	55	328	1505	50	< 49					
08-40.7606-103.4775-2-08-	1-109103	8424	< 54	244	38	149	3320	9	27	303	1314	46	< 49					
08-40.7722-103.4597-2-10-	0-109105	64664	108	345	56	34	19474	57	< 24	356	<199	56	< 49					
08-40.7722-103.4597-2-10-	1-109105	80135	99	406	58	119	22564	62	< 24	316	<199	58	< 49					
08-40.8392-103.4672-2-08-	0-109109	82333	< 54	83	24	174	24664	32	< 24	37	<199	16	438					
08-40.8392-103.4672-2-08-	1-109109	88475	87	415	52	274	25924	37	< 24	322	<199	57	395					
08-40.8547-103.5012-2-08-	1-109110	72046	61	40	22	412	20618	151	< 24	24	<199	9	66					
08-40.8642-103.4975-2-08-	0-109111	5011	< 54	90	15	55	1478	< 2	< 24	51	<199	8	212					
08-40.8642-103.4975-2-08-	1-109111	5187	< 54	42	10	51	1491	< 2	< 24	< 24	<199	6	189					
08-40.8692-103.3792-2-10-	0-109112	59365	< 54	135	25	< 24	4931	11	< 24	118	<199	25	< 49					
08-40.7594-103.4100-2-08-	0-109114	53089	< 54	102	19	< 24	17943	< 2	< 24	< 24	<199	13	185					
08-40.7594-103.4100-2-08-	1-109114	52056	< 54	139	18	< 24	17156	< 2	< 24	76	<199	14	147					
08-40.7997-103.4322-2-08-	0-109116	3444	< 54	127	21	746	1004	< 2	< 24	68	306	17	182					
08-40.7997-103.4322-2-08-	1-109116	3078	< 54	42	17	762	1036	< 2	< 24	63	249	13	176					

DOE SAMPLE NUMBER						LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION								
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	PH	SPECIFIC CONDUCTANCE (µmho/cm)	SCINTILLOMETER (cU ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DMC (H) UNITS IN PPB
							DATE	HOUR																										
08-40	4408-103.3392-2-08	0-109117-05/01/77-15	16-0.0-C-S	5.9	2300	16-1-1	-	-3	-2	-4-3-1-2	-3-3	6-20	100	28.93																				
08-40	7511-103.3347-2-08	0-109119-05/07/77-10	17-15.0-C-S	5.9	1400	16-1-1	-	-4	-2	-4-3-2-1	-3-3	-	-	0.35																				
08-40	7650-103.3300-2-08	0-109120-05/07/77-10	17-13.8-C-S	7.2	1100	12-1-1	-	-3	-1	-4-3-2-1	-3-4	-	-	0.61																				
08-40	7650-103.3300-2-08	1-109120-05/07/77-10	17-13.8-C-S	7.2	1100	12-1-1	-	-3	-1	-4-3-2-1	-3-4	-	-	0.35																				
08-40	7631-103.3042-2-10	0-109121-05/02/77-11	18-15.2-C-S	7.6	1600	16-1-1	-4-6	-5	-5-1	-4-3-2-2	-9	-	-	32.96																				
08-40	7606-103.3064-2-07	0-109122-05/02/77-12	18-15.1-C-S	7.9	890	16-1-1	-5-6	-2	-3-4	-2-4-3-2-2	-3	-	-	10.87																				
08-40	7736-103.2739-2-10	0-109123-05/07/77-15	21-14.5-C-S	7.8	1650	12-1-1	-4-6	-3	-2-1	-4-3-2-2	-3	-	-	32.07																				
08-40	7933-103.2461-2-10	0-109124-05/02/77-16	20-17.0-C-S	7.8	1700	16-1-1	-4-6	-3	-3-1	-4-3-2-2	-3	-	-	31.09																				
08-40	8053-103.2567-2-10	0-109125-05/02/77-16	22-18.0-C-S	7.3	250	16-1-1	-5-6	-4	-4-1	-4-3-2-2	-3	-	-	0.96																				
08-40	8333-103.2434-2-08	0-109126-05/02/77-17	20-12.8-C	7.6	620	16-1-1	-	-3	-3	-4-3-2-2	-3-1	2	-	1.02																				
08-40	8333-103.2434-2-08	1-109126-05/02/77-17	20-12.8-C-S	7.6	620	16-1-1	-	-3	-3	-4-3-2-2	-3-1	2	-	0.88																				
08-40	8308-103.2103-2-08	0-109127-05/02/77-18	17-11.0-C-S	7.4	1100	40-1-1	-	-3	-1	-4-3-2-2	-3-3	6-40	-	1.33																				
08-40	8647-103.2139-2-08	0-109128-05/07/77-18	18-12.0-C-S	5.8	300	12-1-1	-	-3	-1	-4-3-3-2	-3-1	-	-	0.94																				
09-40	8647-103.2139-2-08	1-109128-05/07/77-18	18-12.0-C-S	5.8	300	12-1-1	-	-3	-1	-4-3-3-2	-3-1	-	-	0.31																				
08-40	0594-104.0351-2-08	0-109129-05/19/77-13	20-13.0-C-S	5.8	1900	16-1-1	-	-4	-1	-4-3-1-1	-3-3	6-11	30	9.19																				
08-40	0167-104.0136-2-08	0-109130-05/10/77-13	22-12.2-C-S	5.8	2150	12-1-1	-	-3	-1	-4-3-2-1	-3	-	-	8.16																				
08-40	0108-103.9931-2-08	0-109131-05/19/77-14	22-11.5-C-S	7.1	4600	16-1-1	-	-3	-1	-4-3-2-1	-3-1	-	-	15.60																				
08-40	0086-104.0639-2-08	0-109133-05/10/77-14	22-14.0-C-S	5.8	1750	16-1-1	-	-2	-1	-4-3-2-1	-3-1	-	-	12.36																				
08-40	0753-103.9036-2-08	0-109134-05/19/77-15	22-11.5-C-S	5.9	1680	16-1-1	-	-3	-1	-4-3-2-1	-3-3	-	-	13.54																				
08-40	0572-103.9703-2-08	0-109135-05/10/77-16	21-14.0-C-S	7.0	700	12-1-1	-	-3	-1	-4-3-2-1	-3-3	6-10	75	8.59																				
08-40	0142-103.8461-2-08	0-109136-05/19/77-17	22-14.0-C-S	5.8	1200	20-1-1	-	-3	-1	-4-3-2-2	-3-3	-	-	22.97																				
08-40	0072-103.8858-2-08	0-109137-05/19/77-17	22-12.5-C-S	6.7	2400	16-1-1	-	-4	-1	-4-3-2-2	-3-5	-	25	55.50*																				
08-40	0372-103.9053-2-08	0-109138-05/19/77-18	18-12.0-C-S	5.9	1720	20-1-1	-	-4	-1	-4-3-2-2	-3-3	6	-	45.10*																				
08-40	0372-103.9053-2-08	1-109138-05/19/77-18	18-12.0-C-S	5.9	1720	20-1-1	-	-4	-1	-4-3-2-2	-3-3	6	-	35.77																				
08-40	0861-102.9504-2-08	0-109151-05/07/77-16	23-12.0-C	5.4	2000	10-1-1	-	-3	-1	-7-3-2-2	-3-3	6	3	48.30*																				
08-40	0606-102.9411-2-08	0-109152-05/07/77-16	23-12.5-C	6.4	2000	13-1-1	-	-3	-1	-7-3-2-2	-3-3	6	6	47.70*																				
08-40	0317-102.9478-2-08	0-109153-05/07/77-18	21-12.0-C	5.7	2900	8-1-1	-	-3	-1	-4-3-2-2	-3-3	6	45	18.25																				
08-40	09019-103.1539-2-08	0-109154-05/07/77-19	20-14.0	7.4	500	12-1-1	-	-2	-	-4-3-2-2	-3-3	-15	30	2.86																				
08-40	0619-103.2122-2-08	0-109164-05/05/77-9	12-13.8-C	6.7	700	17-1-1	-	-3	-1	-7-3-2-2	-9-7	6	-	2.46																				
08-40	02181-103.9375-2-08	0-109171-05/11/77-20	17-12.0	5.8	1875	13	-	-	-3	-	-7	-2	-2	15.72																				
08-40	02178-103.9242-2-08	0-109172-05/12/77-10	20-12.0-C	5.8	2125	14-1-1	-	-	-	-7-3-2-2	-3-3	5	8	9.54																				
08-40	02242-103.9242-2-08	0-109173-05/12/77-10	21-12.5-C	5.9	1950	13-1-1	-	-3	-1	-7-3-2-2	-3-3	6	8	13.36																				

APPENDIX-B III (continued). Elemental Concentrations for Water Samples (Phase III)

2

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb).												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40	8408-103.3397-2-08-	0-109117	321140	167	264	69	880	49704	155	<24	137	<199	49	10959					
08-40	7511-103.3347-2-08-	0-109119	20235	<54	135	19	138	8146	30	<24	90	<199	19	64					
08-40	7650-103.3300-2-08-	0-109120	11446	<54	82	11	631	4472	<2	<24	<24	<199	7	142					
08-40	7650-103.3300-2-08-	1-109120	11315	<54	137	15	595	4492	<2	<24	80	297	20	132					
08-40	7631-103.3042-2-10-	0-109121	166093	101	92	31	<24	43439	24	<24	<24	<199	16	<49					
08-40	7606-103.3064-2-07-	0-109122	67738	<54	57	67	177	22985	12	<24	<24	<199	10	112					
08-40	7736-103.2739-2-10-	0-109123	173250	97	70	29	41	8743	28	<24	<24	<199	16	<49					
08-40	7933-103.2661-2-10-	0-109124	175084	96	<24	27	<24	67399	22	<24	<24	<199	9	<49					
08-40	8053-103.2567-2-10-	0-109125	8045	<54	<24	8	332	1677	<2	<24	<24	<199	23	<49					
08-40	8333-103.2436-2-08-	0-109126	7584	<54	<24	<3	310	2969	5	<24	<24	<199	3	235					
08-40	8333-103.2436-2-08-	1-109126	7581	<54	<24	<3	318	2998	<2	<24	<24	<199	3	236					
08-40	8308-103.2103-2-08-	0-109127	174	<54	36	5	<24	463	<2	76	52	<199	3	<49					
08-40	8647-103.2139-2-08-	0-109128	39096	77	111	29	28	8781	4	<24	120	<199	20	63					
08-40	8647-103.2139-2-08-	1-109128	7302	<54	38	16	54	2738	6	<24	62	<199	5	138					
08-40	0594-104.0361-2-08-	0-109129	332025	209	244	235	79	43981	555	<24	222	<199	58	172					
08-40	0167-104.0136-2-08-	0-109130	269031	224	343	72	218	55324	497	<24	322	<199	67	87					
08-40	0108-103.9931-2-08-	0-109131	289060	301	481	94	555	139319	1096	<24	495	<199	97	229					
08-40	0086-104.0039-2-08-	0-109133	236059	246	604	103	721	43473	409	<24	674	<199	115	133					
08-40	0753-103.9936-2-08-	0-109134	132054	248	663	105	96	49254	19	<24	772	945	122	117					
08-40	0572-103.9707-2-08-	0-109135	67338	208	700	96	130	27368	13	<24	817	2570	124	211					
08-40	0142-103.8661-2-08-	0-109136	360046	206	107	69	32	114643	239	<24	24	<199	42	54					
08-40	0072-103.8858-2-08-	0-109137	280135	354	791	129	141	100220	18	<24	886	<199	153	218					
08-40	0372-103.9053-2-08-	0-109138	219180	371	976	136	142	43258	19	<24	1132	684	176	261					
08-40	0372-103.9053-2-08-	1-109138	214021	320	810	121	156	41614	18	<24	965	<199	153	245					
08-40	8561-102.9506-2-08-	0-109151	98013	68	106	27	31	4076	<2	<24	77	<199	27	<49					
08-40	8606-102.9611-2-08-	0-109152	311375	157	481	130	129	48472	6	<24	437	<199	96	100					
08-40	8317-102.9578-2-08-	0-109153	376399	179	377	94	118	68225	8	<24	315	<199	83	1091					
08-40	9019-103.1539-2-08-	0-109154	176310	83	275	52	72	14717	5	<24	280	<199	49	351					
08-40	9619-103.2122-2-08-	0-109164	81708	78	392	62	110	22174	5	<24	405	240	71	519					
08-40	2181-103.9375-2-08-	0-109171	226427	144	298	72	94	40137	<2	<24	260	<199	62	<49					
08-40	2178-103.9242-2-08-	0-109172	280172	199	432	108	101	17630	248	<24	454	<199	90	<49					
08-40	2242-103.9242-2-08-	0-109173	257411	133	170	78	76	53412	<2	<24	201	<199	44	76					

APPENDIX B-IV

Elemental Concentrations for Water Samples,
Phase IV, July into August 1977

(See Appendix D for Code to Listings)

[illegible]

APPENDIX B-IV (continued). Elemental Concentrations for Water Samples (Phase IV)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb)												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40	1305	103.945	-2-08	1	109404	106092	51	27	27	194	12310	5	< 24	< 24	< 100	41	112		
08-40	1167	103.905	-2-08	3	109406	212474	121	34	19	74	42204	972	< 24	< 24	< 100	25	86		
08-40	0731	104.056	-2-08	3	109409	135094	93	32	17	44	20002	220	< 24	< 24	< 100	17	< 49		
08-40	0524	104.074	-2-08	3	109410	69372	< 54	24	5	233	4717	507	< 24	< 24	< 100	12	76		
08-40	0347	104.074	-2-08	3	109411	140222	96	75	24	573	45446	2495	< 24	28	< 100	32	134		
08-40	1152	103.933	-2-08	3	109412	76030	51	62	12	183	3114	95	< 24	65	< 100	17	< 49		
08-40	0664	103.906	-2-08	3	109413	256050	199	149	35	98	40205	4	< 24	281	< 100	49	120		
08-40	0153	104.075	-2-08	3	109414	154343	109	112	24	50	3343	6	< 24	190	< 100	35	147		
08-40	0706	103.896	-2-08	3	109415	273072	210	203	50	144	17722	12	< 24	367	< 100	64	115		
08-40	0425	104.094	-2-08	3	109416	132195	< 54	83	15	181	19766	1116	< 24	< 24	< 100	34	241		
08-40	0150	104.094	-2-08	3	109417	243053	< 54	44	25	1032	27134	2135	< 24	< 24	< 100	43	251		
08-40	0239	104.036	-2-08	3	109418	139002	< 54	167	26	32	2333	380	< 24	244	< 100	52	114		
08-40	1022	104.026	-2-08	2	109419	354053	87	243	51	49	7625	249	< 24	493	< 100	89	< 49		
08-40	1022	104.071	-2-08	3	109420	76307	< 54	< 24	< 3	< 24	9582	< 2	< 24	< 24	< 100	13	124		
08-40	2250	103.942	-2-08	2	109421	463936	130	253	67	86	3131	4	< 24	258	< 100	88	< 49		
08-40	2322	103.724	-2-08	2	109422	307074	< 54	165	41	< 24	31754	11	< 24	< 24	< 100	57	155		
08-40	2328	103.935	-2-08	2	109423	301746	< 54	101	230	33	7344	< 2	< 24	< 24	< 100	41	< 49		
08-40	2306	103.942	-2-08	2	109424	394744	< 54	52	31	31	44327	< 2	< 24	< 24	< 100	30	117		
08-40	2322	103.751	-2-08	2	109425	222245	< 54	144	44	92	43017	< 2	< 24	77	< 100	58	< 49		
08-40	1353	104.056	-2-08	3	109426	261055	120	65	34	74	40386	244	< 24	61	< 100	30	148		
08-40	1353	104.056	-2-08	4	109426	204064	172	173	69	65	49738	224	< 24	304	< 100	53	93		
08-40	1744	104.056	-2-08	3	109427	124044	101	54	27	176	33643	124	< 24	24	< 100	27	100		
08-40	2178	104.078	-2-08	3	109428	160494	125	133	48	131	26677	163	< 24	205	< 100	44	73		
08-40	2099	104.093	-2-08	3	109429	147415	122	114	43	70	46100	0	< 24	228	< 100	42	86		
08-40	1667	104.092	-2-08	3	109430	125014	45	42	22	55	16858	7	< 24	< 24	< 100	20	127		
08-40	1403	104.036	-2-08	4	109431	160213	144	142	34	103	11107	45	< 24	343	< 100	45	93		
08-40	2183	104.036	-2-08	3	109432	70422	83	30	25	54	14557	5	< 24	100	< 100	17	1033		
08-40	2183	104.036	-2-08	4	109432	74003	114	91	30	81	16080	9	< 24	247	< 100	32	792		
08-40	2250	103.943	-2-08	2	109433	157304	154	167	54	97	34738	10	< 24	460	< 100	53	340		
08-40	2325	103.890	-2-08	3	109434	337142	113	45	107	41	31748	8	< 24	< 24	< 100	27	462		
08-40	7756	103.075	-2-08	3	109435	367044	193	256	84	102	43272	5	< 24	411	< 100	18	284		
08-40	4386	103.114	-2-08	3	109437	65008	< 54	< 24	6	109	18343	10	< 24	< 24	< 100	3	477		
08-40	4472	103.153	-2-08	2	109438	49708	< 54	< 24	< 3	24	12682	< 2	< 24	< 24	< 100	3	476		
08-40	4636	103.238	-2-08	3	109439	53019	< 54	< 24	9	< 24	13246	< 2	< 24	< 24	< 100	3	107		
08-40	7753	103.238	-2-08	3	109443	16500	< 54	< 24	7	1579	5887	< 2	< 24	< 24	< 100	3	810		
08-40	9022	103.117	-2-06	2	109446	63483	< 54	< 24	16	35	10430	54	< 24	< 24	< 100	3	< 49		
08-40	4578	103.307	-2-06	2	109448	16141	< 54	40	21	58	4446	4	< 24	< 24	< 100	11	< 49		
08-40	8894	103.210	-2-06	1	109451	35473	< 54	37	13	< 24	6474	< 2	< 24	< 24	< 100	7	< 49		
08-40	9561	103.398	-2-06	2	109453	34014	< 54	77	15	< 24	8506	< 2	< 24	78	< 100	41	< 49		
08-40	8317	102.957	-2-08	4	109455	3079	< 54	< 24	< 3	36	476	< 2	< 24	< 24	< 100	3	63		
08-40	5483	102.943	-2-08	3	109463	344007	100	< 24	23	38	45941	< 2	< 24	< 24	< 100	3	91		
08-40	3011	103.246	-2-08	3	109464	32154	< 54	< 24	9	24	13135	< 2	< 24	< 24	< 100	3	277		
08-40	3475	103.243	-2-08	3	109465	25455	< 54	< 24	15	125	9849	< 2	< 24	< 24	< 100	3	236		
08-40	4644	103.162	-2-08	3	109466	48305	< 54	< 24	12	24	9481	< 2	< 24	< 24	< 100	3	< 49		
08-40	4631	103.044	-2-08	3	109467	35936	< 54	30	13	< 24	8737	< 2	< 24	< 24	< 100	7	< 49		
08-40	7814	103.102	-2-07	5	109470	207070	121	183	49	83	49132	146	< 24	40	< 100	58	< 49		
08-40	7603	103.106	-2-08	3	109471	20001	< 54	< 24	< 3	215	7207	< 2	< 24	< 24	< 100	3	350		
08-40	7756	103.115	-2-08	3	109472	24145	< 54	< 24	8	179	9926	4	< 24	< 24	< 100	3	180		
08-40	7964	103.103	-2-07	3	109473	236354	139	141	44	115	40598	61	< 24	180	< 100	51	< 49		
08-40	8214	103.112	-2-08	3	109474	42749	< 54	45	21	360	12985	8	< 24	84	< 100	15	59		
08-40	8222	103.115	-2-07	3	109475	224076	154	111	44	113	46483	155	< 24	219	< 100	42	93		

APPENDIX B-IV (continued). Elemental Concentrations for Water Samples (Phase IV)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb).												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40.8342-103.1203-2-08-						3-109978	21711	<54	<24	2	221	7521	5		<24	<100	3	118	
08-40.8325-103.0628-2-07-						3-109980	240092	<54	26	20	26	15017	19		<24	<100	16	<49	
08-40.8561-103.0564-2-08-						3-109981	236306	77	<24	29	28	40808	<2	<24	<24	<100	20	206	
08-40.8339-103.0228-2-08-						3-109983	562080	182	156	61	103	49785	8	<24	329	<100	63	<49	
08-40.8342-103.0258-2-07-						3-109984	306703	165	268	70	118	1091	77	<24	682	<100	88	<49	
08-40.7817-103.0553-2-08-						3-109985	591137	257	215	99	142	143741	17	<24	401	<100	89	124	
08-40.7917-103.0504-2-08-						4-109986	22330	<54	<24	21	137	8953	<2	<24	<24	<100	5	183	
08-40.8125-103.0367-2-08-						3-109988	20790	<54	<24	20	245	6444	<2	<24	<24	<100	9	88	
08-40.7869-103.0419-2-08-						3-109989	19391	<54	<24	5	441	8593	<2	<24	<24	<100	3	53	
08-40.7684-103.0439-2-08-						3-109990	22374	<54	<24	13	56	8541	<2	<24	<24	<100	6	<49	
08-40.8189-103.1917-2-08-						3-109996	85380	<54	32	17	47	19017	<2	<24	<24	<100	8	<49	
08-40.7611-103.2011-2-08-						4-109997	28611	<54	<24	<3	201	12840	<2	<24	<24	<100	3	<49	
08-40.8925-102.9589-2-08-						3-109001	13364	<54	<24	8	77	4073	<2	<24	<24	<100	3	108	
08-40.8422-102.9724-2-08-						3-109007	251525	123	54	43	90	47808	<2	<24	40	<100	48	<49	
08-40.7572-103.0681-2-08-						3-109010	17003	<54	<24	8	359	8456	<2	<24	<24	<100	6	224	
08-40.9611-102.9500-2-04-						3-109017	28097	<54	<24	<3	<24	12575	<2	<24	<24	<100	3	<49	
08-40.9653-102.9547-2-06-						3-109019	53041	<54	<24	<3	<24	11726	<2	<24	<24	<100	3	<49	
08-40.8239-103.3439-2-08-						1-109026	3234	<54	<24	8	42	1301	<2	<24	<24	<100	3	203	
08-40.8000-103.3661-2-08-						3-109029	18061	<54	<24	<3	105	7044	4	<24	<24	<100	3	189	
08-40.8061-103.0367-2-07-						2-109030	217357	125	<24	17	70	44004	95	<24	<24	<100	10	<49	
08-40.8642-103.1025-2-08-						2-109033	32084	<54	<24	6	247	7474	11	<24	<24	<100	3	<49	
08-40.8658-103.1069-2-07-						2-109034	74004	<54	<24	12	57	17403	138	<24	<24	<100	3	<49	
08-40.8419-103.0389-2-08-						2-109038	153032	<54	27	14	45	27815	116	<24	<24	<100	13	<49	
08-40.8467-103.0353-2-08-						3-109040	17051	<54	<24	<3	563	4423	13	<24	<24	<100	3	<49	
08-40.8197-103.0767-2-09-						2-109041	378066	154	103	44	92	46575	21	<24	170	<100	45	<49	
08-40.8444-103.0750-2-08-						2-109042	21358	<54	24	12	243	7848	5	<24	63	<100	9	104	
08-40.7614-103.1014-2-07-						3-109043	247443	91	37	27	61	42000	31	<24	<24	<100	25	120	
08-40.7925-103.1028-2-10-						3-109046	166301	89	72	22	79	47794	5	<24	113	<100	29	<49	
08-40.0750-104.0939-2-08-						2-109051	150032	<54	<24	16	144	42139	47	<24	<24	<100	16	411	
08-40.0431-103.9694-2-08-						3-109052	53053	<54	<24	12	<24	25417	<2	<24	<24	<100	3	390	
08-40.8194-103.1900-2-08-						1-109055	62762	<54	<24	16	23	14660	<2	<24	<24	<100	3	<49	
08-40.8192-103.1750-2-08-						1-109057	41001	<54	<24	<3	<24	11892	<2	<24	<24	<100	3	512	
08-40.9931-102.9833-2-08-						2-109073	29077	<54	<24	<3	121	4510	<2	<24	<24	<100	3	128	
08-40.9944-102.9744-2-08-						1-109075	30069	<54	<24	5	<24	7766	<2	<24	<24	<100	3	136	
08-40.9544-102.9225-2-08-						2-109077	30301	<54	<24	7	<24	8730	<2	<24	<24	<100	3	330	
08-40.9792-103.0131-2-08-						2-109080	36712	<54	<24	6	<24	9319	<2	<24	<24	<100	3	604	
08-40.9497-103.0181-2-08-						3-109092	37052	<54	<24	<3	<24	10114	<2	<24	<24	<100	3	1190	
08-40.9489-103.0783-2-08-						2-109083	52091	<54	<24	<3	<24	13153	<2	<24	<24	<100	3	807	
08-40.9411-103.0754-2-08-						2-109084	40255	<54	<24	<3	<24	11613	<2	<24	<24	<100	3	1376	
08-40.9392-103.0931-2-08-						2-109085	54086	<54	<24	9	<24	15310	<2	<24	<24	<100	3	298	
08-40.9481-102.9544-2-06-						2-109086	47061	<54	<24	<3	171	7104	222	<24	<24	<100	3	<49	
08-40.7872-102.9972-2-08-						2-109087	20314	<54	<24	<3	406	8383	4	<24	<24	<100	3	77	
08-40.8075-102.9431-2-08-						2-109088	149362	107	73	53	72	40236	711	<24	78	<100	32	156	
08-40.9350-103.0322-2-08-						2-109096	61197	68	<24	12	32	20718	7	<24	<24	<100	8	364	
08-40.7606-103.4775-2-08-						2-109103	12406	<54	<24	7	25	5279	5	<24	<24	<100	6	<49	
08-40.8392-103.4617-2-08-						2-109104	43010	<54	<24	16	425	46603	40	<24	<24	<100	7	300	
08-40.8642-103.4975-2-08-						2-109111	6179	<54	<24	5	<24	1905	<2	<24	<24	<100	3	274	
08-40.7594-103.4410-2-08-						2-109114	75042	<54	31	16	<24	27307	<2	<24	<24	<100	11	160	
08-40.8404-103.3347-2-08-						1-109117	6463	<54	45	13	<24	2471	7	<24	81	254	15	207	
08-40.7511-103.3347-2-08-						1-109119	22002	<54	75	25	275	10049	38	<24	187	331	24	200	

APPENDIX B-IV (continued). Elemental Concentrations for Water Samples (Phase IV)

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DOE SAMPLE NUMBER					LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION										
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (dpm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DMC (N)	UNITS IN ppb
							DATE	HOOR																											
0A-40.8342-103.1203-2-08						3-108978-07/21/77-11	1A-1A.0-		7.2	1720			11-1-7-	-3-3-1-	-4-3-2-4-	-3-																		0.91	
0A-40.8328-103.0428-2-07						3-108980-07/22/77-12	27-21.0-		7.5	1700			11-1-1-4-6-3-3-1-2-4-3-2-2-	-3-																				29.31	
0A-40.8561-103.0554-2-08						3-108981-07/22/77-12	2A-1A.0-		5.9	1200			23-1-1-	-3-3-1-	-4-3-2-2-	-3-																		19.05	
0A-40.8339-103.0228-2-08						3-108983-07/22/77-11	21-12.8-		5.9	2320			28-1-1-	-4-3-1-	-4-3-2-3-	-3-																		38.79	
0A-40.8342-103.0258-2-07						3-108984-07/22/77-11	23-21.0-		7.5	1950			11-1-7-5-8-3-3-4-1-4-3-2-3-	-3-																				21.67	
0A-40.7817-103.0553-2-08						3-108985-07/22/77-10	21-23.0-		5.5	4700			23-																					136.30*	
0A-40.7917-103.0554-2-08						4-108986-07/22/77-10	21-19.0-		7.2	1780			17-1-7-	-3-3-1-	-4-3-2-3-	-3-																		0.01	
0A-40.8125-103.0367-2-08						3-108988-07/22/77-11	23-14.5-		7.4	1620			11-1-7-	-3-3-1-	-4-3-2-3-	-3-																		0.21	
0A-40.7869-103.0419-2-08						3-108989-07/22/77-10	21-13.2-		7.2	2000			23-1-7-	-3-3-1-	-4-3-1-3-	-3-																		0.01	
0A-40.7689-103.0439-2-08						3-108990-07/22/77-10	22-14.0-		7.2	2500			17-1-7-	-3-3-1-	-4-3-1-3-	-3-																		0.01	
0A-40.8189-103.1917-2-08						3-108996-07/20/77-18	23-14.2-		5.7	750			17-1-7-	-3-3-1-	-4-3-2-2-	-3-																		10.91	
0A-40.7611-103.2011-2-08						4-108997-07/20/77-17	2A-15.8-		7.3	1980			23-1-7-	-4-3-1-	-4-3-2-1-	-3-																		0.21	
0A-40.8925-102.9589-2-08						3-109001-07/23/77-11	30-17.0-		7.2	1010			17-1-4-	-3-3-1-	-4-3-2-2-	-3-																		0.01	
0A-40.9422-102.9725-2-08						3-109007-07/23/77-14	32-19.0-		5.5	1720			23-1-5-	-3-3-1-	-4-3-2-2-	-3-																		29.00*	
0A-40.7572-103.0491-2-08						2-109010-07/22/77-9	20-15.0-		7.2	2450			-1-7-	-4-3-1-	-4-3-1-3-	-3-																		0.01	
0A-40.9611-102.9500-2-09						3-109017-07/22/77-20	22-24.5-		9.2	371			11-1-4-5-	-3-3-1-	-4-3-2-2-	-3-																		3.54	
0A-40.9653-102.9547-2-08						3-109019-07/22/77-19	24-15.5-		5.8	332			17-1-1-6-1-3-3-1-	-4-3-2-2-	-3-																			2.30	
0A-40.8239-103.3439-2-08						1-109026-07/20/77-10	2A-15.0-C		9.0	1400			17-1-4-	-3-3-1-	-4-3-2-3-	-3-	8-																	0.01	
0A-40.8000-103.3451-2-08						3-109029-07/19/77-15	33-10.0-		7.4	1420			17-1-7-	-3-3-1-	-4-3-3-3-	-3-3-	6-35n-180-																	0.78	
0A-40.8061-103.0367-2-07						2-109030-07/22/77-11	21-18.5-C		7.4	2000			23-1-7-5-7-3-3-4-2-4-3-1-3-	-3-																				29.68	
0A-40.8642-103.1025-2-08						2-109033-07/21/77-12	1A-14.0-		5.8	700			23-1-1-	-3-3-1-	-4-3-2-4-	-3-																		0.49	
0A-40.8658-103.1069-2-07						2-109034-07/21/77-11	20-18.0-		6.9	700			11-1-1-5-6-2-3-2-1-4-3-2-4-	-3-																				2.15	
0A-40.8419-103.0389-2-08						2-109038-07/22/77-12	23-14.0-		5.9	1150			17-1-7-	-3-3-1-	-4-3-2-3-	-3-																		13.72	
0A-40.8467-103.0353-2-08						3-109040-07/22/77-12	24-20.0-		7.4	850			23-1-1-	-3-3-1-	-4-3-2-2-	-3-																		0.24	
0A-40.8197-103.0767-2-09						2-109041-07/22/77-13	31-21.0-		7.5	3380			17-1-7-5-7-2-2-2-1-6-3-2-2-	-3-																				192.80*	
0A-40.9444-103.0750-2-08						2-109042-07/22/77-9	20-16.0-		7.0	2000			23-1-7-	-4-3-1-	-4-3-2-3-	-3-																		0.07	
0A-40.7614-103.1014-2-07						2-109043-07/21/77-8	22-14.0-		7.2	2800			17-1-7-5-8-2-3-1-1-4-3-2-4-	-3-																				2.86	
0A-40.7925-103.1028-2-10						3-109044-07/21/77-10	20-21.0-		5.7	2000			11-1-7-	-3-3-1-	-4-3-2-4-	-3-																		24.87	
0A-40.0750-104.0939-2-08						2-109051-08/01/77-14	30-18.5-		7.0	3900			25-1-4-	-3-3-1-	-4-3-2-2-	-3-3-	5-65n-																	2.00	
0A-40.0431-103.9694-2-08						3-109052-08/01/77-17	28-18.0-		5.9	000			17-1-7-	-3-3-1-	-4-3-2-2-	-3-3-	4-9n-																	7.14	
0A-40.8194-103.1900-2-08						1-109055-07/20/77-18	24-16.0-		6.9	700			11-1-7-	-3-3-1-	-4-3-2-2-	-3-																		24.93	
0A-40.8192-103.1750-2-08						1-109057-07/20/77-19	24-15.2-		5.5	490			11-1-7-	-3-3-1-	-4-3-2-2-	-3-																		12.14	
0A-40.9931-102.9833-2-08						2-109073-07/22/77-18	24-20.1-		7.2	452			11-1-4-	-3-3-1-	-4-3-1-2-	-3-																		4.29	
0A-40.9944-102.9744-2-08						1-109075-07/23/77-11	30-19.0-		7.0	248			11-1-4-	-3-3-1-	-4-3-2-2-	-3-																		1.75	
0A-40.9544-102.9225-2-08						2-109077-07/23/77-12	32-17.0-		5.8	312			13-1-4-	-3-3-1-	-4-3-1-2-	-3-																		3.60	
0A-40.9792-103.0131-2-08						2-109080-07/22/77-17	28-13.0-		5.5	320			17-1-4-	-3-3-1-	-4-3-1-2-	-3-																		2.04	
0A-40.9497-103.0181-2-08						3-109082-07/22/77-16	30-14.0-		5.7	380			17-1-4-	-3-3-1-	-4-3-1-2-	-3-																		2.90	
0A-40.9489-103.0783-2-08						3-109083-07/22/77-15	30-20.0-		5.7	388			11-1-4-	-3-3-1-	-4-3-1-2-	-3-																		2.75	
0A-40.9411-103.0756-2-08						2-109084-07/22/77-15	30-14.8-		5.8	530			28-1-4-	-4-3-1-	-4-3-1-2-	-3-																		3.36	
0A-40.9392-103.0931-2-08						2-109085-07/22/77-15	-12.8-		6.9	540			11-1-4-	-4-3-1-	-4-3-1-2-	-3-																		4.98	
0A-40.9481-102.9544-2-08						2-109086-07/23/77-8	29-19.0-		5.4	300			17-1-1-3-6-3-3-1-	-4-3-2-2-	-3-																			1.53	
0A-40.7872-102.9972-2-08						2-109087-07/23/77-15	32-18.0-		5.8	1500			17-1-7-	-3-3-1-	-4-3-1-2-	-3-																		0.52	
0A-40.8075-102.9431-2-08						2-109088-07/23/77-15	32-21.0-		6.9	1810			11-1-7-	-3-3-1-	-4-3-1-2-	-3-																		64.90*	
0A-40.9350-103.0125-2-08						2-109096-07/22/77-15	30-18.3-		5.6	378			11-1-4-	-3-3-1-	-4-3-1-2-	-3-																		2	

DOE SAMPLE NUMBER						LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION								
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIFIC MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (µmho/cm)	SCINTILLOMETER (4U ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	WATER SAMPLES ANALYZED BY FLUOROMETRY OR DMC (H) UNITS IN ppb
							DATE	HOUR																										
08-40.7650-103.3400-2-08						2-109120-07/19/77-15							7.1	1200		11-1-1		-3-3-1		-4-3-2	-1	-3-4											0.01	
08-40.7631-103.3042-2-10						1-109121-07/19/77-16							7.0	1620		11-1-1	-5-7	-2-5		-4-3-2	-1	-3-4											24.84	
08-40.7736-103.2739-2-10						1-109123-07/20/77-8							7.2	1700		23-1-1	-4-6	-1-2	-5	-4-3-2	-3	-3											25.47	
08-40.8053-103.2467-2-10						1-109125-07/20/77-9							5.1	212		11-1-7	-5-7	-1-2	-5	-4-3-2	-3	-3											0.51	
08-40.8333-103.2436-2-08						2-109126-07/20/77-14							7.6	1220		11-1-1		-3-3-1		-4-3-2	-3	-3											0.23	
08-40.8308-103.2103-2-08						2-109127-07/20/77-15							7.5	1000		24-1-1		-3-3-1		-4-3-1	-2	-3											0.04	
08-40.8647-103.2139-2-08						2-109128-07/20/77-15							5.5	310		11-1-1		-3-3-1		-4-3-2	-3	-3											3.68	
08-40.0594-104.0451-2-08						1-109129-08/01/77-15							7.0	2000		11-1-7		-3-3-1		-4-3-1	-2	-3-3	6-11	-	30								16.54	
08-40.0167-104.0136-2-08						1-109130-08/01/77-15							7.0	2450		11-1-7		-3-3-1		-4-3-1	-2	-3-3	6	60	30								22.00	
08-40.0108-103.9931-2-08						1-109131-08/01/77-16							5.0	2000		13-1-7		-3-3-1		-4-3-2	-2	-3-2	6	60	30								36.82	
08-40.0886-104.0639-2-08						1-109133-08/01/77-15							5.9	1900		11-1-7		-3-3-1		-4-3-2	-2	-3-1	6	60	30								22.20*	
08-40.0753-103.9936-2-08						1-109134-08/01/77-16							5.9	1900		17-1-7		-3-3-1		-4-3-2	-2	-3-3	6										16.50	
08-40.0572-103.9703-2-08						1-109135-08/01/77-16							5.9	510		11-1-7		-3-3-1		-4-3-2	-2	-3-3	6-10	-	75								6.26	
08-40.0072-103.8458-2-08						2-109137-08/01/77-19							5.8	2810		11-1-7		-3-3-1		-4-3-2	-2	-3-5	-	25	25								39.21	
08-40.0372-103.9053-2-08						2-109138-08/01/77-18							5.9	1940		5-1-7		-3-3-1		-4-3-2	-2	-3-3	6										25.90*	
08-40.8317-102.9478-2-08						1-109153-07/23/77-14							5.6	2950		17-1-7		-3-3-1		-4-3-2	-2	-3											71.50*	
08-40.9022-103.1836-2-08						1-109154-07/21/77-12							7.0	700		23-1-1		-4-3-1		-4-3-3	-4	-3											3.49	
08-40.2181-103.9475-2-08						1-109171-08/02/77-10							5.0	2030		11-1-7		-4-3-1		-4-3-1	-1	-3-6	5	70									17.42	
08-40.2178-103.9242-2-08						1-109172-08/02/77-8							7.0	2380		23-1-7		-3-3-1		-4-3-1	-2	-3-3	6	80									28.70*	
08-40.2242-103.9242-2-08						1-109173-08/02/77-8							7.0	1950		11-1-7		-3-3-1		-4-3-1	-2	-3-3	6	65	18								28.19	

APPENDIX B-IV (continued). Elemental Concentrations for Water Samples (Phase IV)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY PLASMA - SOURCE EMISSION SPECTROGRAPHY													
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per billion (ppb).												
							Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Pb	Ti	Zn	
08-40.1650-103.3300-2-08-					2-109120	12047	<54	<24	7	1036	5129	12	<24	<24	<24	<199	3	143	
08-40.7631-103.3042-2-10-					1-109121	172016	60	<24	27	<24	41602	15	<24	<24	<24	<199	14	999	
08-40.7736-103.2739-2-10-					1-109123	171413	83	<24	21	49	76242	49	<24	<24	<24	<199	13	<49	
08-40.8053-103.2567-2-10-					1-109125	44089	<54	<24	21	123	4010	9	<24	<24	<24	<199	8	73	
08-40.8333-103.2436-2-08-					2-109126	7099	<54	<24	5	62	2671	8	<24	<24	<24	<199	3	<49	
08-40.8304-103.2103-2-08-					2-109127	8061	<54	<24	<3	79	3131	<2	<24	<24	<24	<199	3	73	
08-40.8647-103.2139-2-08-					2-109128	56309	<54	32	12	33	10922	<2	<24	83	<199	15	<49		
08-40.0594-104.0361-2-08-					1-109129	447056	257	284	116	100	66594	1185	<24	821	<199	98	<49		
08-40.0167-104.0136-2-08-					1-109130	417025	129	106	62	166	71432	507	<24	150	<199	42	<49		
08-40.0108-103.9931-2-08-					1-109131	473196	228	159	60	746	243656	1596	<24	361	<199	67	222		
08-40.0086-104.0039-2-08-					1-109133	303055	115	47	38	896	59875	415	<24	143	<199	39	<49		
08-40.0753-103.9936-2-08-					1-109134	194096	<54	39	29	46	51790	<2	<24	92	<199	19	<49		
08-40.0572-103.9703-2-08-					1-109135	44047	<54	<24	<3	29	20505	<2	<24	<24	<199	3	<49		
08-40.0072-103.8854-2-08-					1-109137	340326	143	48	33	41	116780	<2	<24	<24	<199	26	163		
08-40.0372-103.9053-2-08-					2-109138	263279	109	98	34	73	49654	8	<24	210	<199	41	95		
08-40.8317-102.9578-2-08-					1-109153	359051	216	161	60	151	43133	6	<24	338	<199	63	175		
08-40.9022-103.1536-2-08-					1-109154	11377	<54	<24	6	59	4234	<2	<24	<24	<199	3	<49		
08-40.2181-103.9375-2-08-					1-109171	309250	79	81	41	90	55471	<2	<24	131	<199	42	<49		
08-40.2178-103.9242-2-08-					1-109172	334564	141	86	61	56	101425	371	<24	122	<199	45	<49		
08-40.2242-103.9242-2-08-					1-109173	293794	67	47	40	35	42522	<2	<24	<24	<199	28	99		

APPENDIX C

LISTINGS OF ELEMENTAL CONCENTRATIONS FOR SEDIMENT SAMPLES

APPENDIX C-I

Elemental Concentrations for Sediment Samples,
Phase I, December 1976 into January 1977

(See Appendix D for Code to Listings)

DOE SAMPLE NUMBER					LAST SAMPLE LOCATION NUMBER AND FIELD DATA																				U CONCENTRATION									
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE LOCATION NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	PH	SPECIFIC CONDUCTANCE (µmho/cm)	SCINTILLOMETER (cpm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	SEDIMENT SAMPLES ANALYZED BY DELAYED NEUTRON COUNTING (DNC) UNITS IN ppm
							DATE	HOUR																										
08-40	90222-103	1178-2-11	0-108946-12/28/76-16	5	5.0-C-S	6.4	470	24-1-1-6-8-1-3-1-3-4-3-2-1	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.80		
08-40	8578-103	3072-2-11	0-108948-12/29/76-10	11	3.0-C-S	7.8	800	12-1-1-6-9-1-2-2-2-4-3-2-1	-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40	9267-103	3425-2-15	0-108949-12/29/76-14	12	-C-	-	-	26-1-1-6-9-1-1-1-2-4-2-2-1	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40	8386-102	9475-2-11	0-108956-01/07/77-13	2	12.5-C-S	6.7	2200	24-1-1-1-2-3-1-1-4-3-2-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.70	
08-40	9147-102	9819-2-15	0-108957-01/07/77-13	1	-C-	-	-	20-1-1-4-1-1-1-2-4-3-3-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.90	
08-40	9494-102	9667-2-15	0-108958-01/07/77-14	1	-C-	-	-	20-1-1-4-1-1-1-2-4-3-3-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.30	
08-40	9506-102	9836-2-15	0-108959-01/07/77-14	1	-C-	-	-	15-1-1-4-1-1-1-2-4-3-2-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.00	
08-40	9467-102	9403-2-15	0-108960-01/07/77-14	1	-C-	-	-	8-1-1-4-1-1-1-4-3-2-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40	9367-103	1539-2-15	0-108961-01/07/77-15	1	-C-	-	-	17-1-1-4-1-1-1-2-4-3-2-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40	9136-103	1542-2-15	0-108962-01/07/77-15	1	-C-	-	-	9-1-1-4-1-1-1-3-4-3-2-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.00	
08-40	9217-102	9878-2-15	0-108969-01/12/77-16	3	-C-	-	-	20-1-1-4-1-1-1-2-4-3-2-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.70	
08-40	7614-103	1022-2-12	0-108970-01/07/77-12	5	4.8-C-S	7.5	3200	19-1-1-5-8-1-3-4-2-4-3-1-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40	7964-103	1039-2-12	0-108973-01/07/77-15	1	3.0-C-S	7.3	2470	23-1-7-5-8-2-2-1-1-4-3-1-3	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.00	
08-40	9222-103	1153-2-12	0-108975-01/07/77-17	0	3.5-C-S	7.5	2900	15-1-4-5-8-2-2-3-1-4-3-1-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.00	
08-40	8342-103	1086-2-15	0-108976-01/12/77-12	1	-C-	-	-	23-1-4-6-1-1-2-4-3-1-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.00	
08-40	8417-103	1154-2-15	0-108977-01/12/77-12	1	-C-	-	-	15-1-1-4-1-1-1-1-4-3-1-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.80	
08-40	8633-103	1022-2-15	0-108979-01/12/77-13	2	-C-	-	-	15-1-1-4-1-1-1-2-4-3-1-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40	8328-103	0628-2-15	0-108980-01/12/77-14	2	-C-	-	-	15-1-1-5-1-1-2-2-4-3-2-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10	
08-40	8547-103	0575-2-15	0-108982-01/12/77-15	4	-C-	-	-	23-1-6-4-6-1-1-2-4-3-2-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.30	
08-40	8342-103	0258-2-12	0-108984-01/12/77-16	6	0.8-C-S	7.6	1800	17-1-7-5-8-1-3-3-2-4-3-2-2	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10	
08-40	8058-103	0617-2-96	0-108987-01/13/77-10	6	-C-	-	-	23-1-7-5-7-1-1-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.20	
08-40	8058-103	0617-2-96	1-108987-01/13/77-10	6	-C-	-	-	23-1-7-5-7-1-1-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.80	
08-40	7611-103	1342-2-12	0-108991-01/13/77-13	11	4.0-C-S	7.6	2900	19-1-7-4-7-1-3-2-2-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40	7611-103	1342-2-12	1-108991-01/13/77-13	11	4.0-C-S	7.6	2900	19-1-7-4-7-1-3-2-2-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40	8050-103	1264-2-15	0-108993-01/13/77-15	5	-C-	-	-	6-1-7-6-1-1-1-1-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.70	
08-40	8353-103	1464-2-15	0-108994-01/13/77-15	5	-C-	-	-	15-1-1-5-1-1-1-2-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40	8053-103	2414-2-15	0-109000-01/14/77-11	4	-C-	-	-	23-1-6-5-6-1-1-2-4-3-2-1	-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00	
08-40	9522-103	3964-2-15	0-109003-01/13/77-11	4	-C-	-	-	24-1-1-7-1-1-1-3-3-2-6-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.30	
08-40	9472-103	3911-2-15	0-109004-01/13/77-11	4	-C-	-	-	16-1-1-7-1-1-1-2-3-2-5-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10	
08-40	9503-103	3869-2-15	0-109005-01/13/77-12	5	-C-	-	-	16-1-1-7-1-1-1-2-3-2-6-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00	
08-40	9503-103	3869-2-15	1-109005-01/13/77-12	5	-C-	-	-	16-1-1-7-1-1-1-2-3-2-6-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00	
08-40	9500-103	3911-2-15	0-109006-01/13/77-12	5	-C-	-	-	24-1-1-7-1-1-1-2-4-2-5-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.20	
08-40	9192-102	9259-2-15	0-109011-01/14/77-11	2	-C-	-	-	17-7-7-4-7-1-1-2-4-3-2-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.00	
08-40	9192-102	9269-2-15	1-109011-01/14/77-11	2	-C-	-	-	17-7-7-4-7-1-1-2-4-3-2-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.10	
08-40	9253-102	9311-2-15	0-109012-01/14/77-11	2	-C-	-	-	28-7-7-4-1-1-1-4-3-2-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.90	
08-40	9294-102	9339-2-15	0-109013-01/14/77-11	3	-C-	-	-	20-1-1-4-1-1-1-1-4-3-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.70	
08-40	9489-102	9536-2-15	0-109014-01/14/77-12	3	-C-	-	-	24-1-1-4-7-1-1-2-4-3-2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20	
08-40	9386-102	9347-2-15	0-109015-01/14/77-13	3	-C-	-	-	24-1-1-4-1-1-1-1-4-3-2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.70	
08-40	9386-102	9347-2-15	1-109015-01/14/77-13	3	-C-	-	-	24-1-1-4-1-1-1-1-4-3-2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.70	
08-40	9564-102	9450-2-15	0-109016-01/14/77-13	4	-C-	-	-	12-1-1-4-1-1-1-4-3-2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.70	
08-40	9564-102	9450-2-15	1-109016-01/14/77-13	4	-C-	-	-	12-1-1-4-1-1-1-4-3-2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							

APPENDIX C-I (continued). Elemental Concentrations for Sediment Samples (Phase I)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE									
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)									
							Ag	Bi	Cd	Nb	Ni	Pb	Sc	Sn	W	
08-40.9022-103.1177-2-11-						0-108946	<5	16	<5	<20	15	13	<80	<10	<15	
08-40.8577-103.3072-2-11-						0-108948	<5	10	<5	<20	<15	13	<80	<10	<15	
08-40.9266-103.3425-2-15-						0-108949	<5	17	<5	<20	15	19	<80	<10	<15	
08-40.8386-102.9475-2-11-						0-108956	<5	20	<5	<20	15	20	<80	<10	<15	
08-40.9147-102.9819-2-15-						0-108957	<5	60	<5	30	50	44	<80	<10	<15	
08-40.9494-102.9666-2-15-						0-108958	<5	100	<5	70	55	57	<80	<10	<15	
08-40.9505-102.9836-2-15-						0-108959	<5	50	<5	50	35	30	<80	<10	<15	
08-40.9446-102.9402-2-15-						0-108960	<5	20	<5	<20	15	18	<80	<10	<15	
08-40.9346-103.1538-2-15-						0-108961	<5	15	<5	<20	15	12	<80	<10	<15	
08-40.9136-103.1541-2-15-						0-108962	<5	40	<5	30	20	20	<80	<10	<15	
08-40.9216-102.9877-2-15-						0-108969	<5	58	<5	30	35	34	<80	<10	<15	
08-40.7413-103.1022-2-12-						0-108970	<5	<5	<5	<15	<5	<80	<10	<15	<15	
08-40.7963-103.1038-2-12-						0-108973	<5	10	<5	<20	<15	<5	<80	<10	<15	
08-40.8222-103.1152-2-12-						0-108975	<5	13	<5	<20	<15	12	<80	<10	<15	
08-40.8341-103.1086-2-15-						0-108976	<5	81	<5	40	55	59	<80	<10	<15	
08-40.8416-103.1155-2-15-						0-108977	<5	20	<5	<20	25	13	<80	<10	<15	
08-40.8633-103.1022-2-15-						0-108979	<5	22	<5	<20	15	16	<80	<10	<15	
08-40.8327-103.0627-2-15-						0-108980	<5	9	<5	<20	<15	6	<80	<10	<15	
08-40.8547-103.0575-2-15-						0-108982	<5	20	<5	<20	<15	15	<80	<10	<15	
08-40.8341-103.0258-2-12-						0-108984	<5	13	<5	<20	<15	13	<80	<10	<15	
08-40.8058-103.0616-2-96-						0-108987	<5	12	<5	<20	15	14	<80	<10	<15	
08-40.8058-103.0616-2-96-						1-108987	<5	7	<5	<20	<15	8	<80	<10	<15	
08-40.7411-103.1341-2-12-						0-108990	<5	13	<5	<20	<15	8	<80	<10	<15	
08-40.7411-103.1341-2-12-						1-108991	<5	15	<5	<20	15	12	<80	<10	<15	
08-40.8050-103.1263-2-15-						0-108993	<5	50	<5	30	40	32	<80	<10	<15	
08-40.8352-103.1463-2-15-						0-108994	<5	20	<5	20	15	17	<80	<10	<15	
08-40.8052-103.2413-2-15-						0-109000	<5	15	<5	<20	15	17	<80	<10	<15	
08-40.9522-103.3963-2-15-						0-109003	<5	16	<5	<20	15	14	<80	<10	<15	
08-40.9472-103.3911-2-15-						0-109004	<5	17	<5	<20	15	15	<80	<10	<15	
08-40.9502-103.3869-2-15-						0-109005	<5	22	<5	<20	15	23	<80	<10	<15	
08-40.9502-103.3869-2-15-						1-109005	<5	15	<5	<20	20	10	<80	<10	<15	
08-40.9500-103.3911-2-15-						0-109006	<5	23	<5	<20	20	24	<80	<10	<15	
08-40.9191-102.9269-2-15-						0-109011	<5	53	<5	35	40	29	<80	<10	<15	
08-40.9191-102.9269-2-15-						1-109011	<5	41	<5	25	25	35	<80	<10	<15	
08-40.9252-102.9311-2-15-						0-109012	<5	55	<5	50	45	30	<80	<10	<15	
08-40.9294-102.9338-2-15-						0-109013	<5	48	<5	30	15	34	<80	<10	<15	
08-40.9488-102.9536-2-15-						0-109014	<5	19	<5	<20	15	13	<80	<10	<15	
08-40.9386-102.9347-2-15-						0-109015	<5	30	<5	<20	15	26	<80	<10	<15	
08-40.9386-102.9347-2-15-						1-109015	<5	21	<5	<20	20	12	<80	<10	<15	
08-40.9543-102.9450-2-15-						0-109016	<5	138	<5	50	65	69	<80	<10	<15	
08-40.9543-102.9450-2-15-						1-109016	<5	60	<5	30	35	30	<80	<10	<15	
08-40.9450-102.9511-2-15-						0-109018	<5	36	<5	20	20	30	<80	<10	<15	
08-40.9452-102.9547-2-15-						0-109019	<5	55	<5	20	30	27	<80	<10	<15	
08-40.9452-102.9547-2-15-						1-109019	<5	81	<5	30	30	45	<80	<10	<15	
08-40.9736-102.9569-2-15-						0-109020	<5	66	<5	55	45	34	<80	<10	<15	
08-40.8101-103.2330-2-15-						0-109021	<5	19	<5	<20	<15	25	<80	<10	<15	
08-40.8191-103.2330-2-15-						1-109021	<5	9	<5	<20	<15	5	<80	<10	<15	
08-40.8401-103.2261-2-15-						0-109022	<5	25	<5	<20	<15	24	<80	<10	<15	
08-40.8702-103.2258-2-15-						0-109023	<5	6	<5	<20	<15	<5	<80	<10	<15	
08-40.8708-103.2230-2-15-						0-109024	<5	19	<5	<20	15	28	<80	<10	<15	
08-40.8191-103.3108-2-15-						0-109025	<5	6	<5	<20	15	<5	<80	<10	<15	
08-40.8483-103.3877-2-15-						0-109027	<5	19	<5	<20	25	22	<80	<10	<15	
08-40.8066-103.3825-2-15-						0-109028	<5	<5	<5	<20	<15	<5	<80	<10	<15	
08-40.9772-102.9669-2-15-						0-109039	<5	34	<5	25	20	23	<80	<10	<15	

APPENDIX C-I (continued). Elemental Concentrations for Sediment Samples (Phase I)

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DOE SAMPLE NUMBER						LAST SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																		
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		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					0-108944	<5.0	57600	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	9577-103.3072-2-11					0-108948	<5.0	52800	6.9	<0.1	698	8.7	72400	<40	<100	1.2	19	<2.0	<130	4	0.7	14200	7.7	0.5	<8.0
AR-40	9266-103.3425-2-15					0-108949	<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	9386-102.9475-2-11					0-108956	<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					0-108957	<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					0-108958	<5.0	42600	<3.0	<0.1	1150	<4.0	14000	<40	<100	11.2	84	<2.0	<130	46	1.6	70800	<5.0	5.7	<8.0
AR-40	9505-102.9836-2-15					0-108959	<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					0-108960	<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					0-108961	<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	9136-103.1541-2-15					0-108962	<5.0	59700	<3.0	<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					0-108969	<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					0-108970	<5.0	66900	7.4	<0.1	917	6.4	46900	<40	224	5.5	35	3.4	<130	8	1.4	19900	9.8	1.0	<8.0
AR-40	7943-103.1038-2-12					0-108973	<5.0	52800	3.4	<0.1	357	7.5	78700	N.A.	275	N.A.	N.A.	N.A.	<130	<4	N.A.	N.A.	<5.0	N.A.	<8.0
AR-40	9222-103.1152-2-12					0-108975	<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	8341-103.1086-2-15					0-108976	<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	8416-103.1155-2-15					0-108977	<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	8433-103.1022-2-15					0-108979	<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	8327-103.0627-2-15					0-108980	<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	8547-103.0575-2-15					0-108982	<5.0	69200	3.6	<0.1	1310	<4.0	49400	<40	161	5.6	<10	2.0	<130	8	<0.7	30100	18.4	3.3	<8.0
AR-40	8341-103.0258-2-12					0-108984	<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	8058-103.0616-2-96					0-108987	<5.0	60500	8.3	<0.1	458	7.9	42300	<40	614	1.0	<10	2.1	<130	5	1.5	17200	11.7	<0.2	<8.0
AR-40	8058-103.0616-2-96					1-108987	<5.0	60200	11.6	<0.1	348	8.2	46500	<40	360	1.1	12	2.1	<130	4	<0.7	15100	11.9	0.5	<8.0
AR-40	7611-103.1341-2-12					0-108991	<5.0	52700	<3.0	<0.1	760	<4.0	28300	<40	174	<1.0	25	<2.0	<130	5	1.5	12200	13.7	1.5	<8.0
AR-40	7611-103.1341-2-12					1-108991	<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	8050-103.1263-2-15					0-108993	<5.0	44000	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	8327-103.1463-2-15					0-108994	<5.0	67700	3.9	<0.1	1050	<4.0	39000	69	<100	5.4	41	3.6	<130	12	1.4	31700	17.4	2.3	<8.0
AR-40	8052-103.2413-2-15					0-109000	<5.0	56500	3.7	<0.1	854	<4.0	23100	42	204	14.7	<10	3.0	<130	4	1.5	15200	8.1	1.2	<8.0
AR-40	9522-103.3963-2-15					0-109003	<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					0-109004	<5.0	59100	7.0	<0.1	736	<4.0	36400	<40	<100	5.5	14	<2.0	<130	4	0.7	12700	10.6	0.8	<8.0
AR-40	9502-103.3869-2-15					0-109005	<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	9502-103.3869-2-15					1-109005	<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	9500-103.3911-2-15					0-109006	<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	0.9	<8.0
AR-40	9191-102.9269-2-15					0-109011	<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					1-109011	<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					0-109012	<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					0-109013	<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					0-109014	<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					0-109015	<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					1-109015	<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	9543-102.9450-2-15					0-109016	<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	9543-102.9450-2-15					1-109016	<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	9450-102.9511-2-15					0-109018	<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	9452-102.9547-2-15					0-109019	<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	9452-102.9547-2-15					1-109019	<5.0	47800	<3.0	<0.1	2990	<4.0	40300	<40	<100	12.1	<10	3.3	<130	31	<0.7.				

APPENDIX C-I (continued). Elemental Concentrations for Sediment Samples (Phase I)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																		
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE LOCATION NUMBER	Concentrations reported in weight parts per million (ppm)																	
							K	La	Lu	Mg	Mn	Na	Rb	Sb	Sc	Sr	Ta	Tb	Th	Ti	V	W	Yb	Zr
AR-40	0822-103.1177-2-11-					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	0577-103.3772-2-11-					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	<75
AR-40	0266-103.3425-2-11-					0-108949	29900	117	0.2	2130	478	11000	49	<2.0	5.2	<300	1.8	<1.5	6	2620	62	<1.0	<2.3	<50
AR-40	0386-102.9475-2-11-					0-108956	35000	164	0.4	2520	612	13600	49	<2.0	4.9	<300	<1.0	<1.5	7	3750	60	<1.0	3.2	<50
AR-40	0147-102.9810-2-11-					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	0494-102.9666-2-11-					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	0505-102.9836-2-11-					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	0466-102.9402-2-11-					0-108960	25400	198	0.7	1400	519	11900	68	<2.0	5.5	<300	1.6	<1.5	9	3950	73	<2.0	3.1	<50
AR-40	0366-103.1538-2-11-					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	0134-103.1541-2-11-					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	0216-102.9877-2-11-					0-108969	16400	623	1.1	817	884	13300	44	<2.0	5.9	<300	3.4	3.2	41	8330	183	<1.0	6.0	<50
AR-40	0613-103.1072-2-12-					0-108970	35500	67	0.5	2300	399	11500	153	<2.0	7.1	<300	<1.0	<1.5	9	3060	60	<1.0	2.6	<50
AR-40	0763-103.1038-2-12-					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	0227-103.1152-2-12-					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	0341-103.1086-2-11-					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	0416-103.1155-2-11-					0-108977	17900	N.A.	<0.2	1710	518	13700	<20	<2.0	6.4	501	<1.0	<1.5	14	4090	72	<1.0	<2.0	<50
AR-40	0633-103.1072-2-11-					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	0327-103.0627-2-11-					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	0547-103.0575-2-11-					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	0341-103.0258-2-12-					0-108984	27600	112	0.2	2020	424	9940	55	<2.0	4.1	<300	<1.0	<1.5	6	2120	60	<1.0	<2.0	<50
AR-40	0058-103.0614-2-96-					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	0058-103.0614-2-96-					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	0611-103.1341-2-12-					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	0611-103.1341-2-12-					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	0050-103.1267-2-11-					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	0352-103.1463-2-11-					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	0052-103.2417-2-11-					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	0522-103.3963-2-11-					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	0472-103.3911-2-11-					0-109004	24000	90	0.4	2130	483	11900	78	<2.0	4.2	344	<1.0	<1.5	6	2850	55	<1.0	<2.0	<50
AR-40	0502-103.3860-2-11-					0-109005	39800	67	0.4	2430	598	13100	117	<2.0	8.8	<300	<1.0	<1.5	12	2830	85	<1.0	<2.0	<50
AR-40	0500-103.3911-2-11-					0-109006	21600	113	0.4	2490	524	10500	78	<2.0	5.8	<300	<1.0	<1.5	12	3640	84	<1.0	<2.0	<50
AR-40	0191-102.9260-2-11-					0-109011	25900	260	<0.2	1060	915	16900	122	<2.0	9.8	<300	<1.0	<1.5	7	2700	64	<1.0	2.0	<50
AR-40	0191-102.9260-2-11-					1-109011	35400	240	1.8	1360	797	14700	83	<2.0	9.6	<300	2.9	4.5	43	7350	126	<1.0	11.7	<50
AR-40	0252-102.9311-2-11-					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	0294-102.9338-2-11-					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	0488-102.9538-2-11-					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	0386-102.9347-2-11-					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	0386-102.9347-2-11-					1-109015	38800	100	0.5	2300	653	10600	85	<2.0	9.6	<300	2.6	<1.5	21	4850	88	4.3	2.1	<50
AR-40	0543-102.9450-2-11-					0-109016	31200	941	2.2	1780	1370	10800	107	<2.0	12.0	<300	22.5	12.1	203	15600	356	<1.0	22.0	92
AR-40	0563-102.9450-2-11-					1-109016	26400	369	<0.2	1510	715	12100	94	<2.0	8.6	<300	7.6	4.8	80	7100	153	<1.0	<2.0	<50
AR-40	0650-102.9511-2-11-					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	0652-102.9547-2-11-					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	0652-102.9547-2-11-					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	0736-102.9560-2-11-					0-109020	37800	472	2.4	874	1340	14500	106	<2.0	12.3	<300	19.1	6.8	87	12800	217	<1.0	14.8	<50
AR-40	0191-103.2330-2-11-					0-109021	46100	69	0.4	3640	489	7310	171	<2.0	11.0	<300	<1.0	<1.5	12	3423	87	3.6	2.9	<50
AR-40	0191-103.2330-2-11-					1-109021	50800	63	0.															

APPENDIX C-II

Elemental Concentrations for Sediment Samples,
Phase II, March into April 1977

(See Appendix D for Code to Listings)

DOE SAMPLE NUMBER						LAST SAMPLE LOCATION NUMBER AND FIELD DATA																				U CONCENTRATION								
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAS. SAMPLE LOCATION NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	PH	SPECIFIC CONDUCTANCE (umho/cm)	SCINTILLOMETER (dpm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER LEVEL	WATER (COLOR)	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	SHIPWRECK	CONTAMINANTS	WELL TYPE	WELL DIAMETER INCHES	WELL DEPTH FEET	WATER DEPTH FEET	SEDIMENT SAMPLES ANALYZED BY DELAYED NEUTRON COUNTING (DNC) UNITS IN ppm	
							DATE	HOUR																										
08-40-8386-1n2.9475-2-11-						1-108956-03/09/77-12-			17-11.5	C-S	6.6		215n		9-1-1-	-	3-3-1-	-	4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	4.70		
08-40-9147-1n2.9A19-2-15-						1-108957-03/09/77-14-			17-	C-	-	-	-	-	9-1-1-4-1-	-	-	-	2-4-3-3-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.70	
08-40-9506-1n2.9816-2-15-						1-108959-03/09/77-15-			1A-	C-	-	-	-	-	7-1-1-4-1-	-	1-	-	2-4-3-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.70	
08-40-9467-1n2.9463-2-15-						1-108960-04/08/77-12-			24-	-	-	-	-	-	21-1-1-4-1-	-	1-	-	4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.40	
08-40-9367-1n3.1539-2-15-						1-108961-04/09/77-16-			24-	-	-	-	-	-	24-1-1-4-1-	-	1-	-	2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.00	
08-40-9136-1n3.1542-2-15-						1-108962-04/09/77-16-			24-	C-	-	-	-	-	24-1-1-4-1-	-	1-	-	3-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.20	
08-40-9217-1n2.9A7A-2-15-						1-108969-03/09/77-15-			17-	C-	-	-	-	-	2A-1-1-4-1-	-	1-	-	2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.40	
08-40-7614-1n3.1022-2-12-						2-108970-04/02/77-12-			3-	7.6	C-S	7.8	315n	-	15-1-6-5-A-3-3-2-2-4-3-1-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	
08-40-7614-1n3.1022-2-12-						3-108970-04/02/77-12-			3-	7.6	C-S	7.8	315n	-	15-1-6-5-A-3-3-2-2-4-3-1-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40-7964-1n3.1039-2-12-						1-108973-04/02/77-14-			3-	7.6	C-S	7.2	235n	-	1-1-7-5-A-2-2-2-1-4-3-1-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.20	
08-40-8222-1n3.1153-2-12-						1-108975-03/09/77-18-			12-	C-S	7.7	280n	-	-	24-1-6-5-B-2-2-2-1-4-3-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.80	
08-40-8342-1n3.1086-2-15-						1-108976-03/09/77-15-			1A-	C-	-	-	-	-	20-	-	-	-	2-4-3-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.10	
08-40-8328-1n3.062A-2-12-						1-108980-03/09/77-14-			1A-	n.5	C-S	7.5	110n	-	A-1-1-5-1-3-2-2-1-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	
08-40-8342-1n3.025A-2-12-						1-108984-03/09/77-13-			1A-	n.5	C-S	7.6	160n	-	A-1-7-5-A-3-3-2-2-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.20	
08-40-805A-1n3.0617-2-96-						2-108987-04/02/77-9-			2-	C-	-	-	-	-	16-1-7-5-7-	-	1-	-	1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.80	
08-40-7611-1n3.1342-2-12-						2-108991-04/02/77-15-			2-	6.5	C-	-	7.8	310n	-	1-1-7-4-7-3-2-2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40-7611-1n3.1342-2-12-						3-108991-04/02/77-15-			2-	6.5	C-S	7.8	310n	-	1-1-7-4-7-3-2-2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	
08-40-9489-1n2.9536-2-15-						1-109014-04/08/77-10-			23-	C-	-	-	-	-	19-1-1-4-7-	-	1-	-	2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.90	
08-40-9386-1n2.9347-2-15-						2-109015-04/08/77-11-			24-	C-	-	-	-	-	26-1-1-4-1-	-	1-	-	1-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00	
08-40-9564-1n2.9450-2-15-						2-109016-04/08/77-12-			24-	C-	-	-	-	-	21-1-1-4-1-	-	1-	-	3-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.50	
08-40-9611-1n2.9500-2-11-						1-109017-04/08/77-16-			24-	n.5	C-S	6.5	18n	-	9-1-1-	-	-	2-3-1-1-7-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.00	
08-40-9650-1n2.9511-2-15-						1-109018-04/08/77-13-			26-	C-	-	-	-	-	31-1-1-4-1-	-	1-	-	1-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.00	
08-40-9736-1n2.9560-2-15-						1-109020-04/08/77-14-			2A-	C-	-	-	-	-	1-1-6-1-	-	1-	-	3-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.00	
08-40-1192-1n3.2331-2-15-						2-109021-04/03/77-15-			2-	C-	-	-	-	-	15-1-7-5-7-	-	1-	-	2-4-2-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20	
08-40-8061-1n3.0367-2-12-						0-109030-03/09/77-11-			1A-	n.5	C-S	7.9	165n	-	24-1-7-7-3-3-3-2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.70	
08-40-8342-1n3.0167-2-12-						0-109031-03/09/77-12-			1A-	C-S	n.5	145n	-	-	A-1-7-5-9-3-2-3-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.70	
08-40-8489-1n3.0372-2-15-						0-109032-03/09/77-13-			1A-	C-	-	-	-	-	16-1-4-5-6-	-	1-	-	2-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.80	
08-40-8489-1n3.0372-2-15-						1-105032-03/09/77-13-			1A-	C-	-	-	-	-	16-1-4-5-6-	-	1-	-	2-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.90	
08-40-8489-1n3.0372-2-15-						2-109032-03/09/77-13-			1A-	C-	-	-	-	-	16-1-4-5-6-	-	1-	-	2-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.90	
08-40-8658-1n3.1069-2-12-						0-109034-03/09/77-16-			15-	4.0	C-S	8.3	100n	-	16-1-1-5-6-2-2-2-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20		
08-40-8411-1n3.1197-2-13-						0-109035-03/09/77-17-			12-	4.6	C-S	8.6	180n	-	16-1-1-6-9-	-	2-5-	-	4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.50	
08-40-8075-1n3.0633-2-96-						0-109037-03/02/77-9-			2-	C-S	-	-	-	-	A-1-7-5-7-	-	1-2-	-	4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.40	
08-40-8197-1n3.0767-2-97-						0-109041-04/02/77-11-			4-	C-	-	-	-	-	1-1-5-7-	-	1-	-	1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.70	
08-40-7614-1n3.1014-2-12-						0-109043-04/02/77-13-			3-	7.6	C-S	8.1	330n	-	1-1-7-7-3-2-2-2-4-3-1-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.00	
08-40-7947-1n3.1034-2-15-						0-109045-04/02/77-14-			2-	C-	-	-	-	-	1-1-5-6-	-	1-	-	4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.50	
08-40-7908-1n3.125A-2-12-						0-109047-04/02/77-17-			2-	4.5	C-S	8.1	250n	-	1-1-7-5-8-3-3-2-2-4-3-3-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.90		
08-40-7617-1n3.2336-2-12-						0-109048-04/03/77-14-			2-	7.0	C-S	7.8	210n	-	11-1-7-5-7-3-1-4-2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.70	
08-40-3617-1n4.0614-2-12-						0-109061-03/26/77-13-			19-12	5.0	C-S	7.5	150n	-	31-1-1-4-9-2-2-2-1-	-	7-2-	-	2-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.40	
08-40-3353-1n3.9683-2-12-						0-109068-03/26/77-16-			15-14	5.0	C-S	7.6	170n	-	12-1-1-4-1-3-2-2-3-2-4-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40-9339-1n2.9325-2-15-						0-109090-04/08/77-11-			23-	C-	-	-	-	-	26-1-1-4-1-	-	1-	-	3-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.40	
08-40-9536-1n2.9A8A-2-12-						0-109091-04/08/77-12-			27-14	n.5	C-S	6.8	345-	-	2A-1-1-5-1-2-2-3-2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5-	6.40	
08-40-9606-1n2.9561-2-15-						0-109092-04/08/77-13-			27-	C-	-	-	-	-	2A-1-1-4-1-	-	1-	-	3-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.20
08-40-9144-1n3.0392-2-15-						0-109094-04/08/77-18-			23-	C-	-	-	-	-	23-1-1-4-6-	-	1-	-	2-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.50
08-40-9144-1n3.0392-2-15-						1-109094-04/08/77-18-			23-	C-	-	-	-	-	23-1-1-4-6-	-	1-	-	4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.80
08-40-9236-1n3.0383-2-15-						0-109095-04/08/77-18-			22-	C-	-	-	-	-	24-1-1-4-1-	-	1-	-	3-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.10
08-40-9664-1n3.0083-2-15-						0-109097-04/08/77-18-			17-	C-	-	-	-	-	23-1-1-4-1-	-	1-	-	4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.00
08-40-8867-1n3.2069-2-15-						0-109098-04/09/77-10-			23-	C-	-	-	-	-	31-1-1-4-1-	-	1-	-	1-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.70
08-40-8831-1n3.115A-2-15-						0-109099-04/09/77-15-			25-	C-	-	-	-	-	10-1-1-4-1-	-	1-	-	3-4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.30
08-40-8831-1n3.115A-2-15-						1-109099-04/09/77-15-			25-	C-	-	-	-	-	10-1-1-4-1-	-	1-	-	4-3-2-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.80
08-40-7475-1n3.0550-2																																		

APPENDIX C-II (continued). Elemental Concentrations for Sediment Samples (Phase II)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE								
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	BERKATE		Concentrations reported in weight parts per million (ppm)								
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W
08-40.8386-102.9475-2-11			1-108956	<4	<5	<4	19	<4	<8	25	<4	<10			
08-40.9147-102.9419-2-15			1-108957	<4	7	<4	12	6	<8	20	<4	<10			
08-40.9505-102.9436-2-15			1-108959	7	10	<4	<4	59	8	20	<4	<10			
08-40.9466-102.9472-2-15			1-108960	<4	<5	<4	13	15	9	22	<4	<10			
08-40.9366-103.1538-2-15			1-108961	<4	<5	<4	26	7	<8	24	<4	<10			
08-40.9136-103.1541-2-15			1-108962	<4	<5	<4	20	14	12	25	<4	<10			
08-40.9216-102.9477-2-15			1-108969	<4	6	<4	<4	<8	24	<4	<10				
08-40.7613-103.1522-2-12			2-108970	<4	<5	<4	21	<4	<8	21	<4	<10			
08-40.7613-103.1522-2-12			3-108970	<4	<5	<4	17	<4	<8	23	<4	<10			
08-40.7963-103.1538-2-12			1-108973	<4	<5	<4	20	<4	<8	22	<4	<10			
08-40.8222-103.1552-2-12			1-108975	<4	<5	<4	17	<4	<8	22	<4	<10			
08-40.8341-103.1586-2-15			1-108976	9	<5	<4	<4	13	<8	32	5	<10			
08-40.8327-103.0627-2-12			1-108980	<4	<5	<4	12	<4	<8	18	<4	<10			
08-40.8341-103.0758-2-12			1-108984	<4	<5	<4	17	11	<8	26	<4	<10			
08-40.8058-103.0616-2-96			2-108987	<4	<5	<4	17	17	<8	26	<4	<10			
08-40.7611-103.1541-2-12			2-108991	<4	<5	<4	4	<4	<8	16	<4	<10			
08-40.7611-103.1541-2-12			3-108991	<4	<5	<4	14	18	<8	18	<4	<10			
08-40.9488-102.9536-2-15			1-109014	<4	10	<4	5	37	<8	28	7	18			
08-40.9386-102.9447-2-15			2-109015	<4	<5	<4	26	22	<8	24	<4	10			
08-40.9563-102.9458-2-15			2-109016	5	12	<4	18	53	<8	30	12	<10			
08-40.9611-102.9588-2-11			1-109017	<4	<5	<4	13	28	<8	26	7	<10			
08-40.9650-102.9511-2-15			1-109018	<4	8	5	18	39	10	23	27	21			
08-40.9736-102.9568-2-15			1-109020	<4	<5	<4	16	27	<8	22	<4	<10			
08-40.8191-103.2330-2-15			2-109021	<4	<5	<4	24	22	<8	30	<4	<10			
08-40.8061-103.0366-2-12			0-109030	<4	<5	<4	17	12	<8	23	<4	<10			
08-40.8341-103.0766-2-12			0-109031	<4	<5	<4	15	18	<8	18	<4	<10			
08-40.8488-103.0772-2-15			0-109032	<4	<5	<4	16	33	13	22	7	<10			
08-40.8488-103.0772-2-15			1-109032	<4	<5	<4	18	5	<8	19	<4	<10			
08-40.8488-103.0772-2-15			2-109032	<4	<5	<4	15	<4	<8	21	<4	<10			
08-40.8658-103.1569-2-12			0-109034	<4	<5	<4	7	<4	<8	19	<4	<10			
08-40.8411-103.1597-2-13			0-109035	<4	<5	<4	10	30	<8	21	<4	<10			
08-40.8197-103.0766-2-97			0-109041	<4	<5	<4	21	17	<8	24	<4	<10			
08-40.7613-103.1513-2-12			0-109043	<4	<5	<4	6	21	<8	16	<4	<10			
08-40.7947-103.1536-2-15			0-109045	<4	<5	<4	15	30	8	22	<4	<10			
08-40.7908-103.1538-2-12			0-109047	<4	<5	<4	15	35	<8	22	<4	<10			
08-40.7616-103.2336-2-12			0-109048	<4	<5	<4	17	14	<8	22	<4	<10			
08-40.3416-104.0413-2-12			0-109061	<4	<5	<4	27	32	<8	34	8	11			
08-40.3352-103.9483-2-12			0-109068	<4	<5	<4	23	44	15	33	8	<10			
08-40.9338-102.9424-2-15			0-109090	<4	<5	<4	23	30	<8	23	11	<10			
08-40.9536-102.9406-2-12			0-109091	<4	<5	<4	11	43	<8	21	4	<10			
08-40.9605-102.9561-2-15			0-109092	<4	<5	<4	7	27	<8	23	<4	13			
08-40.9144-103.0491-2-15			0-109094	<4	<5	<4	16	25	12	22	6	<10			
08-40.9236-103.0483-2-15			0-109095	<4	<5	<4	16	27	<8	23	8	<10			
08-40.9663-103.0507-2-15			0-109097	<4	<5	<4	12	20	<8	24	<4	<10			
08-40.8866-103.2569-2-15			0-109098	<4	<5	<4	15	26	<8	26	<4	<10			
08-40.8830-103.1558-2-15			0-109099	<4	<5	<4	18	33	8	29	<4	<10			
08-40.8830-103.1558-2-15			1-109099	<4	<5	<4	15	26	<8	24	4	<10			
08-40.7475-103.0558-2-15			0-109100	<4	<5	<4	39	38	19	43	<4	<10			
08-40.7925-102.9588-2-15			0-109101	<4	<5	<4	28	27	<8	30	9	<10			
08-40.7938-102.9588-2-15			0-109102	<4	6	4	32	35	18	57	5	<10			

APPENDIX C-II(continued). Elemental Concentrations for Sediment Samples (Phase II)

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DOE SAMPLE NUMBER						LASS SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS															
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)															
							Ag	Al	Au	Ba	Ca	Ce	Cl	Co	Cr	Cs	Cu	Dy	Eu	Fe	Hf	Hg
08-40	8386-102.9475-2-11-	1-108956-	<5.0	86900	<0.1	663	26000	84	<100	3.3	27	3.7	<130	6	0.8	21100	6.3	<8.0				
08-40	9147-102.9819-2-15-	1-108957-	<5.0	59100	<0.1	1160	24000	180	<100	4.0	59	2.0	<130	8	1.3	36900	24.1	<8.0				
08-40	9505-102.9836-2-15-	1-108959-	<5.0	55400	<0.1	751	<5000	369	<100	6.3	94	<2.0	<130	16	2.3	76300	52.3	<8.0				
08-40	9466-102.9402-2-15-	1-108960-	<5.0	61500	<0.1	1360	26800	338	<100	4.4	80	<2.0	<130	18	2.1	53100	47.8	<8.0				
08-40	9366-103.1538-2-15-	1-108961-	<5.0	77500	<0.1	829	16800	108	<100	5.8	45	3.3	<130	7	1.2	29000	12.3	<8.0				
08-40	9136-103.1541-2-15-	1-108962-	<5.0	69200	<0.1	1050	36500	219	<100	5.4	57	2.2	<130	9	1.4	43800	29.6	<8.0				
08-40	9216-102.9877-2-15-	1-108969-	<5.0	61200	<0.1	1020	22500	179	<100	4.3	53	<2.0	<130	6	1.3	37000	24.1	<8.0				
08-40	7613-103.1022-2-12-	2-108970-	<5.0	68600	<0.1	627	48500	67	<100	3.3	29	2.3	<130	4	9.4	19100	9.0	<8.0				
08-40	7613-103.1022-2-12-	3-108970-	<5.0	72100	<0.1	756	48300	79	<100	3.9	37	2.5	<130	4	8.9	21600	8.7	<8.0				
08-40	7963-103.1038-2-12-	1-108973-	<5.0	45100	<0.1	671	6810	84	<100	3.4	33	2.3	<130	5	0.7	23000	6.4	<8.0				
08-40	8222-103.1152-2-12-	1-108975-	<5.0	73600	<0.1	861	67800	80	<100	3.9	30	3.0	<130	3	0.7	21400	6.8	<8.0				
08-40	8341-103.1086-2-15-	1-108976-	<5.0	54100	<0.1	4400	25000	604	<100	10.3	90	2.0	<130	17	2.7	122000	5.8	<8.0				
08-40	8327-103.0627-2-12-	1-108980-	<5.0	72900	<0.1	1680	59400	114	465	3.2	30	2.6	<130	4	1.1	22500	10.9	<8.0				
08-40	8341-103.0258-2-12-	1-108984-	<5.0	70500	<0.1	919	117000	78	<100	4.1	39	2.9	<130	4	0.9	24200	9.9	<8.0				
08-40	8058-103.0615-2-96-	2-108987-	<5.0	28300	<0.1	414	<5000	97	<100	4.8	38	3.5	<130	5	0.8	27600	7.0	<8.0				
08-40	7611-103.1341-2-12-	2-108991-	<5.0	64300	<0.1	740	<5000	101	<100	3.6	39	<2.0	<130	6	1.0	22300	20.0	<8.0				
08-40	7611-103.1341-2-12-	3-108991-	<5.0	74800	<0.1	917	23300	81	<100	3.3	35	<2.0	<130	4	0.8	20300	13.4	<8.0				
08-40	9488-102.9536-2-15-	1-109014-	<5.0	56600	<0.1	2050	53400	734	<100	8.4	163	<2.0	<130	13	3.8	133000	55.1	<8.0				
08-40	9386-102.9347-2-15-	2-109015-	<5.0	81000	<0.1	817	44300	85	<100	4.1	27	4.0	<130	4	0.8	26200	8.8	<8.0				
08-40	9563-102.9450-2-15-	2-109016-	<5.0	54900	<0.1	1450	23500	<40	<100	6.4	<10	<2.0	<130	31	3.2	93200	<0.2	<8.0				
08-40	9611-102.9500-2-11-	1-109017-	<5.0	78500	<0.1	896	391000	85	<100	3.5	28	2.6	<130	3	0.9	20900	11.7	<8.0				
08-40	9650-102.9511-2-15-	1-109018-	<5.0	62900	<0.1	1130	30000	224	<100	5.0	62	<2.0	<130	8	1.2	38500	24.1	<8.0				
08-40	9736-102.9569-2-15-	1-109020-	<5.0	69500	<0.1	1570	44500	277	<100	5.1	75	2.5	<130	8	1.7	56200	35.4	<8.0				
08-40	8191-103.2330-2-15-	2-109021-	<5.0	91600	<0.1	839	17900	80	<100	4.9	39	4.0	<130	6	0.8	27400	6.5	<8.0				
08-40	8061-103.0366-2-12-	0-109030-	<5.0	79200	<0.1	1280	55600	84	131	3.4	33	2.7	<130	5	1.0	23200	11.0	<8.0				
08-40	8341-103.0166-2-12-	0-109031-	<5.0	69100	<0.1	867	46200	73	<100	2.7	25	<2.0	<130	4	0.9	16500	11.0	<8.0				
08-40	8488-103.0372-2-15-	0-109032-	<5.0	76700	<0.1	834	65600	86	272	4.1	34	2.9	<130	6	1.0	24200	8.6	<8.0				
08-40	8488-103.0372-2-15-	1-109032-	<5.0	77000	<0.1	839	61400	84	619	3.9	39	3.3	<130	5	0.8	24700	8.6	<8.0				
08-40	8488-103.0372-2-15-	2-109032-	<5.0	74100	<0.1	801	60100	87	<100	3.6	40	3.3	<130	3	1.0	24900	10.2	<8.0				
08-40	8658-103.1069-2-12-	0-109034-	<5.0	74400	<0.1	1080	68900	84	336	3.6	30	3.0	<130	4	1.0	21800	10.8	<8.0				
08-40	8411-103.1197-2-13-	0-109035-	<5.0	77500	<0.1	1230	44300	110	<100	5.0	31	3.1	<130	7	1.0	25200	9.6	<8.0				
08-40	8197-103.0766-2-97-	0-109041-	<5.0	66800	<0.1	287	122000	82	<100	4.1	31	2.8	<130	4	0.6	23900	4.2	<8.0				
08-40	7613-103.1013-2-12-	0-109043-	<5.0	63500	<0.1	808	57600	112	<100	3.4	40	<2.0	<130	6	1.0	21300	20.8	<8.0				
08-40	7947-103.1036-2-15-	0-109045-	<5.0	76900	<0.1	795	37300	82	359	4.2	32	2.8	<130	3	0.8	24700	8.4	<8.0				
08-40	7908-103.1258-2-12-	0-109047-	<5.0	71000	<0.1	1110	58800	82	<100	4.2	36	2.7	<130	4	1.1	22500	10.9	<8.0				
08-40	7616-103.2336-2-12-	0-109048-	<5.0	71100	<0.1	1120	46700	72	<100	3.6	36	2.5	<130	4	0.8	19200	8.4	<8.0				
08-40	3416-104.0213-2-12-	0-109061-	<5.0	44000	<0.1	731	20200	163	<100	3.5	31	<2.0	<130	9	1.0	18800	22.0	<8.0				
08-40	3352-103.9683-2-12-	0-109068-	<5.0	52900	<0.1	946	20200	138	<100	3.6	41	<2.0	<130	12	1.2	23800	20.8	<8.0				
08-40	9338-102.9325-2-15-	0-109090-	<5.0	71300	<0.1	1050	59900	175	<100	6.3	68	2.7	<130	7	1.1	53900	19.4	<8.0				
08-40	9536-102.9486-2-12-	0-109091-	<5.0	64900	<0.1	1410	47500	196	<100	4.4	54	2.5	<130	11	1.3	35600	24.4	<8.0				
08-40	9605-102.9261-2-15-	0-109092-	<5.0	60400	<0.1	1510	50900	325	<100	4.3	69	<2.0	<130	12	1.6	44400	30.1	<8.0				
08-40	9144-103.0391-2-15-	0-109094-	<5.0	71900	<0.1	1310	13800	112	<100	4.5	44	2.7	<130	6	1.3	26400	15.9	<8.0				
08-40	9144-103.0391-2-15-	1-109094-	<5.0	70900	<0.1	1200	15900	100	<100	4.6	38	2.5	<130	6	1.3	24700	14.4	<8.0				
08-40	9236-103.0383-2-15-	0-109095-	<5.0	67700	<0.1	1080	12500	120	<100	4.3	46	<2.0	<130	7	1.4	24800	16.9	<8.0				
08-40	9663-103.0002-2-15-	0-109097-	<5.0	70200	<0.1	974	14600	109	297	5.3	48	2.7	<130	7	1.2	28900	12.9	<8.0				
08-40	8866-103.2069-2-15-	0-109098-	<5.0	73900	<0.1	1460	31300	254	<100	5.3	58	2.7	<130	8	1.3	44100	24.5	<8.0				
08-40	8830-103.1158-2-15-	0-109099-	<5.0	78100	<0.1	901	42500	98	<100	5.2	37	3.3	<130	5	1.1	27500	10.2	<8.0				
08-40	8830-103.1158-2-15-	1-109099-	<5.0	70000	<0.1	1010	36900	128	<100	4.7	40	3.0	<130	8	9.6	29800	18.0	<8.0				
08-40	7475-103.0250-2-15-	0-109100-	<5.0	79200	<0.1	929	28500	130	<100	6.4	56	3.7	<130	5	1.2	31800	11.9	<8.0				
08-40	7925-102.9605-2-15-	0-109101-	<5.0	81900	<0.1	963	20900	115	<100	2.5	50	<2.0	<130	7	1.2	23000	8.5	<8.0				
08-40	7938-102.9205-2-15-	0-109102-	<5.0	74700	<0.1	501	32500	201	<100	6.4	54	3.2	<130	11	1.3	34100	21.8	<8.0				

APPENDIX C-II (continued). Elemental Concentrations for Sediment Samples (Phase II)

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DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)																
							K	La	Lu	Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb
08-40	8386-1n2	9475-2-11	1-108956	22300	45	0.6	24600	708	15800	122	<2.0	7.5	6.4	<300	<1.0	<1.5	16	2920	45	3.9	67		
08-40	9147-1n2	9819-2-15	1-108957	9260	108	1.0	4410	625	17900	81	<2.0	6.0	14.7	<300	1.0	<1.5	38	6510	119	6.8	<50		
08-40	9505-1n2	9836-2-15	1-108959	10200	214	2.3	4690	1040	17500	68	<2.0	8.3	27.6	<300	2.3	2.6	81	10600	170	17.4	70		
08-40	9466-1n2	9487-2-15	1-108960	15200	192	1.9	4250	631	18200	84	<2.0	8.2	25.1	<300	2.1	2.0	73	7140	107	14.4	67		
08-40	9366-1n3	1538-2-15	1-108961	14500	64	0.7	12600	706	13600	121	<2.0	8.4	9.2	<300	<1.0	<1.5	22	4180	88	5.0	59		
08-40	9136-1n3	1541-2-15	1-108962	16800	126	1.2	14300	673	15800	95	<2.0	8.1	16.1	<300	1.2	1.5	46	5110	93	8.7	68		
08-40	9216-1n2	9877-2-15	1-108969	12500	101	1.0	6920	61200	18100	102	<2.0	6.0	13.6	<300	1.0	1.2	36	6000	101	7.8	<50		
08-40	7613-1n3	1522-2-12	2-108970	8070	42	0.5	12000	68600	13600	99	<2.0	6.3	5.9	<300	<1.0	<1.5	14	3280	63	3.9	64		
08-40	7613-1n3	1522-2-12	3-108970	7110	43	0.6	13260	72100	13800	92	<2.0	6.6	6.5	<300	<1.0	<1.5	15	2860	62	3.9	59		
08-40	7963-1n3	1538-2-12	1-108973	<200	40	0.6	11000	118	0	97	<2.0	7.0	5.9	444	<1.0	1.2	15	2920	38	3.5	<50		
08-40	8222-1n3	1552-2-12	1-108975	11600	45	0.6	14900	527	13000	107	<2.0	7.0	6.7	1880	<1.0	<1.5	15	3110	71	3.5	<50		
08-40	8341-1n3	1586-2-15	1-108976	16100	348	2.3	10100	1580	11200	94	<2.0	10.0	44.2	<300	1.8	3.3	121	13500	285	1.8	126		
08-40	8327-1n3	0827-2-12	1-108980	13500	66	0.7	13100	564	16400	102	<2.0	6.6	9.2	<300	<1.0	<1.5	22	2790	55	4.9	63		
08-40	8341-1n3	0858-2-12	1-108984	<200	50	0.6	12500	478	13100	114	<2.0	7.1	6.4	<300	<1.0	<1.5	16	3580	68	4.3	75		
08-40	8058-1n3	0816-2-96	2-108987	4760	52	0.6	0	460	6710	109	<2.0	8.4	8.1	1040	<1.0	<1.5	17	3590	0	4.5	83		
08-40	7611-1n3	1541-2-12	2-108991	17800	58	0.8	0	427	16100	78	<2.0	6.4	8.4	486	<1.0	<1.5	17	4530	0	5.4	50		
08-40	7611-1n3	1541-2-12	3-108991	<200	47	0.6	11800	368	13900	80	<2.0	6.1	6.5	<300	<1.0	<1.5	15	3180	62	4.4	55		
08-40	9488-1n2	9836-2-15	1-109014	<200	39	2.8	6410	765	13600	<20	<2.0	8.9	5.1	641	2.8	3.7	168	6240	131	2.3	50		
08-40	9386-1n2	9847-2-15	2-109015	19400	53	0.6	14900	648	15400	128	<2.0	7.6	6.6	1900	<1.0	<1.5	19	3470	67	4.7	66		
08-40	9563-1n2	9858-2-15	2-109016	7450	39	<0.2	6190	1060	14300	106	<2.0	8.2	0	6190	4.5	<1.5	76	11800	223	<2.0	97		
08-40	9611-1n2	9888-2-11	1-109017	13900	53	0.6	9420	365	15100	95	<2.0	6.7	7.9	9420	<1.0	<1.5	16	3730	105	4.2	<50		
08-40	9660-1n2	9811-2-15	1-109018	16100	131	1.0	8180	612	14400	104	<2.0	7.0	17.1	<300	1.0	<1.5	49	5420	98	8.4	61		
08-40	9736-1n2	9868-2-15	1-109020	14600	171	1.6	8370	542	14700	50	<2.0	7.6	21.4	8370	2.6	2.2	65	4670	80	11.3	82		
08-40	8191-1n3	2338-2-15	2-109021	12100	47	0.6	21200	608	3970	104	<2.0	9.0	6.7	21200	<1.0	<1.5	16	4030	92	4.1	82		
08-40	8061-1n3	0866-2-12	0-109030	13700	54	0.6	15500	610	16200	99	<2.0	6.9	7.8	15500	<1.0	<1.5	18	3710	68	4.4	52		
08-40	8341-1n3	0866-2-12	0-109031	19600	44	0.5	7940	400	16900	94	<2.0	5.2	6.0	7940	<1.0	<1.5	13	3730	57	3.4	52		
08-40	8488-1n3	0872-2-15	0-109032	15600	45	0.6	13700	474	13100	108	<2.0	7.4	6.4	13700	<1.0	<1.5	16	3810	73	4.3	61		
08-40	8488-1n3	0872-2-15	1-109032	12500	46	0.6	12300	474	13700	114	<2.0	7.4	8.5	12300	<1.0	<1.5	17	3490	72	4.0	53		
08-40	8488-1n3	0872-2-15	2-109032	17800	55	0.7	13800	464	13100	125	<2.0	7.5	9.5	13800	<1.0	<1.5	18	3160	75	4.5	62		
08-40	8658-1n3	1569-2-12	0-109034	15200	51	0.6	13900	515	17100	103	<2.0	6.2	7.2	13900	<1.0	<1.5	15	3580	68	3.9	<50		
08-40	8411-1n3	1597-2-13	0-109035	17800	62	0.6	15600	555	13700	109	<2.0	7.5	9.3	15600	<1.0	<1.5	18	3710	78	4.4	64		
08-40	8197-1n3	0866-2-97	0-109041	9750	41	0.6	20500	576	5320	78	<2.0	7.0	7.3	20500	<1.0	<1.5	14.0	2730	77	2.8	59		
08-40	7613-1n3	1513-2-12	0-109043	20800	69	0.8	10100	440	14500	92	<2.0	6.3	9.1	10100	<1.0	<1.5	2.0	4440	71	5.6	<50		
08-40	7947-1n3	1536-2-15	0-109045	11600	50	0.6	18700	422	12600	105	<2.0	7.6	6.5	18700	<1.0	<1.5	16.0	3460	77	4.4	60		
08-40	7988-1n3	1548-2-12	0-109047	8710	55	0.6	11700	541	13800	97	<2.0	7.1	9.1	11700	<1.0	<1.5	17.0	2710	70	4.4	50		
08-40	7616-1n3	2338-2-12	0-109048	17600	42	0.5	14000	531	12100	92	<2.0	6.3	5.9	<300	<1.0	<1.5	13	3030	65	3.6	<50		
08-40	3416-1n4	0813-2-12	0-109061	10800	83	1.1	7290	947	10100	77	<2.0	4.2	13.8	1260	<1.0	<1.5	29	3880	58	7.4	<50		
08-40	3352-1n3	9848-2-12	0-109068	14900	75	1.0	6000	1000	13900	97	<2.0	6.4	11.7	<300	<1.1	<1.5	27	4880	66	7.4	54		
08-40	9338-1n2	9825-2-15	0-109090	8400	95	0.8	12100	841	12100	100	<2.0	8.1	12.6	<300	1.0	<1.5	35	4400	107	5.8	78		
08-40	9536-1n2	9886-2-12	0-109091	15500	106	1.0	8580	779	15300	83	<2.0	6.6	14.6	<300	<1.0	1.7	40	6480	127	7.8	60		
08-40	9685-1n2	9861-2-15	0-109092	15700	169	1.3	4290	669	16200	93	<2.0	6.0	23.0	<300	1.4	1.7	67	6240	114	10.9	<50		
08-40	9144-1n3	0891-2-15	0-109094	8190	68	0.7	10100	535	14000	78	<2.0	7.1	9.1	<300	<1.0	<1.5	21	3880	78	4.8	61		
08-40	9144-1n3	0891-2-15	1-109094	8600	62	0.7	11000	496	14200	105	<2.0	6.8	8.5	<300	<1.0	<1.5	19	3520	74	4.5	61		
08-40	9238-1n3	0894-2-15	0-109095	14000	73	0.8	7830	512	16200	100	<2.0	6.4	9.7	<300	<1.0	<1.5	22	4240	69	6.3	61		
08-40	9663-1n3	0872-2-15	0-109097	13700	67	0.7	10400	695	13700	114	<2.0	8.4	9.4	<300	<1.0	<1.5	21	4470	78	5.1	68		
08-40	8866-1n3	2368-2-15	0-109098	16100	14	1.2	6990	843	16100	107	<2.0	8.3	18.8	<300	1.7	<1.5	50	5850	107	9.5	<50		
08-40	8830-1n3	1558-2-15	0-109099	20300	56	0.7	14900	674	20300	105	<2.0	8.0	8.2	<300	<1.0	<1.5	18	4040	76	4.6	63		
08-40	8830-1n3	1558-2-15	1-109099	16600	113	0.8	12900	689	16600	99	<2.0	7.6	14.3	<300	<1.0	<1.5	25	4320	85	6.6	69		
08-40	7475-1n3	9858-2-15	0-109100	23200	104	1.0	10800	713	20200	138	<2.0	1.0	14.4	<300	<1.0	1.6	20	3620	90	6.9	97		
08-40	7925-1n2	9805-2-15	0-109101	17900	68	0.9	979	573	17900	54	<2.0	7.4	13.3	<300	<1.0	<1.5	18	4500	92	5.3	<50		
08-40	7938-1n2	9885-2-15	0-109102	16900	147	1.5	1300	896	16900	111	<2.0	9.2	20.1	<300	1.5	<1.5	36	4580	92	11.9	10		

APPENDIX C-III

Elemental Concentrations for Sediment Samples,
Phase III, April into May 1977

(See Appendix D for Code to Listings)

[illegible]

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

2

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE										ELEMENTAL CONCENTRATIONS DETERMINED BY ARC - SOURCE EMISSION SPECTROGRAPHY		
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).										Concentrations in weight ppm.	
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W		Be	Li
08-40.9022-103.1178-2-11-						1-108946	<4	<4	<4	<4	<10	<14	20	<9	<14		2	51
08-40.8978-103.1072-2-14-						1-108948	<4	<4	<4	<4	<10	<14	16	<9	<14		2	27
08-40.9267-103.3425-2-15-						1-108949	<4	<4	<4	<4	<10	<14	23	<9	<14		2	83
08-40.8386-102.9475-2-11-						2-108956	<4	<4	<4	12	<10	<14	23	<9	<14		3	70
08-40.9147-102.9919-2-15-						2-108957	<4	<4	<4	<9	<10	<14	5	<9	<14		1	10
08-40.9494-102.9667-2-15-						1-108958	<4	5	<4	<4	<10	<14	21	<9	<14		2	31
08-40.9506-102.9836-2-15-						2-108959	<4	<4	<4	10	<10	<14	21	<9	<14		2	23
08-40.9467-102.9403-2-15-						2-108960	<4	<4	<4	<9	<10	<14	13	<9	<14		2	23
08-40.9367-103.1539-2-15-						2-108961	<4	<4	<4	26	<10	<14	20	<9	<14		2	44
08-40.9367-103.1539-2-15-						3-108961	<4	<4	<4	25	<10	<14	18	<9	<14		2	41
08-40.9136-103.1542-2-15-						2-108962	<4	<4	<4	12	<10	<14	13	<9	<14		2	87
08-40.9217-102.1078-2-15-						2-108969	<4	<4	<4	13	<10	<14	23	<9	<14		1	10
08-40.7614-103.1022-2-12-						4-108970	<4	<4	<4	22	<10	<14	13	<9	<14		2	54
08-40.7964-103.1039-2-12-						2-108973	<4	<4	<4	15	<10	<14	9	<9	<14		2	73
08-40.8222-103.1153-2-12-						2-108975	<4	<4	<4	<9	<10	<14	5	<9	<14		2	91
08-40.8342-103.1086-2-12-						2-108976	<4	<4	<4	<9	<10	<14	21	<9	<14		2	57
08-40.8328-103.0628-2-12-						2-108980	<4	<4	<4	21	<10	<14	12	<9	<14		2	71
08-40.8342-103.1258-2-12-						2-108984	<4	<4	<4	<9	<10	<14	22	<9	<14		2	44
08-40.8058-103.0617-2-13-						3-108987	<4	<4	<4	14	<10	<14	13	<9	<14		2	41
08-40.7611-103.1342-2-12-						4-108991	<4	<4	<4	10	<10	<14	18	<9	<14		2	27
08-40.8353-103.1464-2-15-						1-108994	<4	<4	<4	<9	76	<14	18	<9	<14		2	28
08-40.8353-103.1464-2-15-						2-108994	<4	<4	<4	<9	<10	<14	5	<9	<14		2	23
08-40.8353-103.1464-2-15-						3-108994	<4	<4	<4	18	<10	<14	12	<9	<14		2	144
08-40.8353-103.1464-2-15-						4-108994	<4	<4	<4	14	<10	<14	19	<9	<14		2	81
08-40.9192-102.9269-2-15-						2-109011	<4	<4	<4	<9	<10	<14	20	<9	<14		2	23
08-40.9253-102.9311-2-15-						1-109012	<4	<4	<4	15	<10	<14	17	<9	<14		1	23
08-40.9294-102.9339-2-15-						1-109013	<4	<4	<4	<9	<10	<14	10	<9	<14			Insufficient sediment
08-40.9489-102.9536-2-15-						2-109014	<4	<4	<4	11	<10	<14	14	<9	<14		<1	21
08-40.9386-102.9347-2-15-						3-109015	<4	<4	<4	15	<10	<14	12	<9	<14		2	61
08-40.9564-102.9450-2-15-						3-109016	<4	<4	<4	<9	<10	<14	4	<9	<14		<1	21
08-40.9611-102.9500-2-11-						2-109017	<4	<4	<4	14	<10	<14	17	<9	<14		<1	40
08-40.9650-102.9511-2-15-						2-109018	<4	<4	<4	12	<10	<14	14	<9	<14		1	23
08-40.9735-102.9569-2-15-						2-109020	<4	<4	<4	<9	<10	<14	20	<9	<14		2	34
08-40.8708-103.2231-2-15-						1-109024	<4	<4	<4	24	<10	<14	26	<9	<14		2	46
08-40.8708-103.2231-2-15-						2-109024	<4	<4	<4	29	<10	<14	10	<9	<14		2	60
08-40.8483-103.3878-2-15-						1-109027	<4	<4	<4	14	<10	<14	17	<9	<14		2	50
08-40.8067-103.3825-2-15-						1-109028	<4	<4	<4	18	<10	<14	22	<9	<14		1	42
08-40.8061-103.0167-2-12-						1-109030	Insufficient sediment to obtain multi-element results										2	50
08-40.8342-103.0167-2-12-						1-109031	<4	<4	<4	<9	<10	<14	15	<9	<14		1	10
08-40.8489-103.0372-2-15-						3-109032	<4	<4	<4	23	<10	<14	14	<9	<14		1	44
08-40.8458-103.1069-2-12-						1-109034	<4	<4	<4	16	<10	<14	20	<9	<14		1	51
08-40.8411-103.1197-2-14-						1-109035	<4	<4	<4	10	<10	<14	19	<9	<14		1	42
08-40.8075-103.0633-2-13-						1-109037	<4	<4	<4	12	<10	<14	26	<9	<14		1	37
08-40.9772-102.9669-2-15-						1-109039	<4	<4	<4	<9	<10	<14	20	<9	<14		1	12
08-40.8197-103.0767-2-13-						1-109041	<4	<4	<4	<9	<10	<14	4	<9	<14		2	50
08-40.7614-103.1014-2-12-						1-109043	<4	<4	<4	12	<10	<14	8	<9	<14		1	23
08-40.7947-103.1036-2-15-						1-109045	<4	<4	<4	12	<10	<14	15	<9	<14		1	48
08-40.7908-103.1258-2-12-						1-109047	<4	<4	<4	11	<10	<14	7	<9	<14		1	40
08-40.8708-103.2142-2-15-						0-109053	<4	<4	<4	11	<10	<14	11	<9	<14		2	38
08-40.8703-103.2161-2-15-						0-109054	<4	<4	<4	24	<10	<14	23	<9	<14		1	38

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

③

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Al	Au	Ba	Ca	Ce	Cl	Co	Cr	Cs	Dy	Eu	Fe	Hf	K	La	Lu
Concentrations reported in weight parts per million (ppm).																						
08-40	9022-103.1178-2-11-	1-108946	70345	0.00	899	47362	88	U	10.1	13	6.3	4	2.2	30612	14.4	24247	31	0.4				
08-40	8578-103.3072-2-14-	1-108948	63175	0.00	1430	52412	172	10U	9.4	54	6.2	4	3.8	38015	23.8	23836	60	0.5				
08-40	9267-103.3425-2-15-	1-108949	78940	0.00	1075	52159	78	U	12.4	42	11.3	4	2.1	31043	9.8	33344	35	0.4				
08-40	8386-102.9475-2-11-	2-10895A	81048	0.00	1027	29091	97	300	12.0	29	12.4	4	2.3	29184	11.9	38370	48	0.4				
08-40	9147-102.9419-2-15-	2-108957	60728	0.00	1144	28105	438	95	21.6	153	5.1	15	9.3	110874	68.0	24266	194	1.4				
08-40	9494-102.9457-2-15-	1-108958	71482	0.00	1276	24903	149	U	7.1	53	3.0	7	2.9	35342	24.5	28743	95	0.7				
08-40	9506-102.9436-2-15-	2-108959	65952	0.00	773	13323	224	U	10.1	64	4.4	13	4.1	49802	14.4	29100	136	1.0				
08-40	9467-102.9403-2-15-	2-108960	65759	0.00	1174	25855	240	U	8.0	51	2.2	16	4.6	45340	43.2	22417	142	1.1				
08-40	9367-103.1439-2-15-	2-108961	76406	0.03	1090	19323	125	U	9.5	53	6.2	8	2.4	34510	16.4	27647	80	0.5				
08-40	9367-103.1439-2-15-	3-108961	75314	0.00	998	20232	337	91	16.3	74	6.5	8	6.8	63398	36.0	29226	124	1.3				
08-40	9136-103.1442-2-15-	2-108962	98343	0.00	854	30243	44	322	8.9	39	6.9	5	1.2	24853	7.1	45000	39	0.4				
08-40	9217-102.9478-2-15-	2-108969	58080	0.00	1157	24185	349	115	11.4	125	3.5	12	5.8	73569	53.0	25541	173	1.3				
08-40	7614-103.1022-2-12-	4-108970	88920	0.00	942	57278	42	267	6.4	44	4.7	5	1.4	20295	8.6	36481	35	0.3				
08-40	7964-103.1039-2-12-	2-108973	70480	0.00	761	54595	88	173	10.2	48	5.0	4	1.4	25170	8.4	28255	47	0.4				
08-40	8222-103.1151-2-12-	2-108975	73759	0.00	724	72574	41	345	8.3	26	3.7	4	1.3	19133	8.2	28452	38	0.3				
08-40	8342-103.1084-2-12-	2-108976	72733	0.00	899	40843	133	244	8.3	44	5.0	5	2.4	30003	15.5	27718	42	0.5				
08-40	8328-103.0628-2-12-	2-108980	80730	0.05	1455	58824	74	233	6.6	17	3.4	3	1.3	20740	8.5	35748	43	0.4				
08-40	8342-103.0258-2-12-	2-108984	71339	0.00	907	47535	75	120	6.3	23	4.1	5	1.5	23496	14.5	26182	53	0.4				
08-40	8058-103.0417-2-13-	3-108987	81472	0.00	747	27922	90	U	6.8	32	4.1	5	1.9	20637	12.5	32750	46	0.4				
08-40	7611-103.1342-2-12-	4-108991	117526	0.00	920	44342	1174	U	0.0	440	0.0	4	39.8	0	256.0	24623	0	2.1				
08-40	8353-103.1464-2-15-	1-108994	105545	0.00	941	84134	3243	187	146.6	645	0.0	4	42.0	751489	323.4	27159	11	3.3				
08-40	8353-103.1464-2-15-	2-108994	129124	0.00	2189	44045	1443	250	85.0	574	0.0	13	41.5	351274	277.0	29018	6	2.1				
08-40	8353-103.1464-2-15-	3-108994	220925	0.00	804	34074	740	U	118.9	354	0.0	9	11.5	258721	97.3	44020	3	1.4				
08-40	8353-103.1464-2-15-	4-108994	136916	0.00	741	45271	1303	404	0.0	431	0.0	5	34.2	0	127.8	29455	0	1.7				
08-40	9192-102.9269-2-15-	2-109011	126176	0.00	1240	36327	813	U	0.0	373	0.0	12	22.2	0	126.6	27429	0	1.4				
08-40	9253-102.9411-2-15-	1-109012	126801	0.00	1375	37484	2584	140	119.6	777	0.0	11	44.3	424405	338.7	25688	9	3.2				
08-40	9294-102.9339-2-15-	1-109013	96547	0.00	2013	124013	2470	U	136.7	978	0.0	8	48.5	427115	311.4	14319	8	2.9				
08-40	9489-102.9436-2-15-	2-109014	132546	0.01	757	37919	2172	371	106.6	588	0.0	3	38.4	496908	255.3	34222	8	2.3				
08-40	9386-102.9447-2-15-	3-109015	894	0.00	0	0	0	U	0.0	0	0.0	0	0.0	0	0.0	0	0	0.0				
08-40	9564-102.9450-2-15-	3-109016	74338	0.00	1187	33977	2154	U	94.7	663	0.0	12	43.0	445045	251.3	25845	8	2.7				
08-40	9611-102.9400-2-11-	2-109017	68215	0.00	820	22045	412	229	0.0	274	0.0	3	17.0	0	96.0	27139	0	1.4				
08-40	9650-102.9511-2-15-	2-109018	67713	0.00	1241	35490	2095	U	113.7	664	0.0	11	41.4	467739	326.5	26727	8	3.3				
08-40	9736-102.9569-2-15-	2-109020	78342	0.00	840	30747	852	U	83.0	293	0.0	5	25.6	219190	143.4	31717	3	1.4				
08-40	8708-103.2231-2-15-	1-109024	83036	0.00	1293	52323	782	U	0.0	377	0.0	4	15.6	0	93.6	24706	0	1.2				
08-40	8708-103.2231-2-15-	2-109024	84103	0.00	425	112103	1011	U	152.2	298	0.0	6	13.4	359007	57.4	28413	3	1.7				
08-40	8483-103.3478-2-15-	1-109027	87679	0.00	644	31943	779	U	160.7	518	0.0	6	16.3	335555	59.4	31708	3	1.3				
08-40	8057-103.3425-2-15-	1-109028	79679	0.00	708	44115	671	U	128.7	312	0.0	4	20.1	302402	90.6	33132	3	1.1				
08-40	8061-103.0457-2-12-	1-109030	72844	0.02	1104	41003	1003	244	0.0	330	0.0	7	26.4	0	135.7	28339	0	1.7				
08-40	8342-103.0167-2-12-	1-109031	65922	0.02	878	33583	750	174	81.0	342	0.0	5	26.5	188124	157.6	28461	3	1.3				
08-40	8489-103.0372-2-15-	3-109032	46792	0.00	545	35225	78	144	5.7	27	4.5	3	1.2	17223	9.1	17444	74	0.3				
08-40	8658-103.1069-2-12-	1-109034	44480	0.00	656	44422	42	145	5.9	14	5.7	2	1.0	14077	5.1	20306	57	0.3				
08-40	8411-103.1197-2-14-	1-109035	78477	0.00	1324	14484	988	171	134.2	418	0.0	5	20.8	309135	114.8	31415	4	1.4				
08-40	8075-103.0433-2-13-	1-109037	80347	0.00	647	40415	826	1321	97.3	251	0.0	4	22.1	250049	99.7	25485	4	1.1				
08-40	9772-102.9469-2-15-	1-109039	58221	0.00	1443	25043	3482	U	0.0	1044	0.0	17	61.9	0	598.5	22716	0	5.0				
08-40	8197-103.0747-2-13-	1-109041	76597	0.00	708	50553	449	274	114.1	344	0.0	5	20.4	279076	113.2	24413	4	1.6				
08-40	7614-103.1014-2-12-	1-109043	63706	0.00	474	62692	403	173	105.3	394	0.0	4	22.7	234528	132.3	25460	3	1.2				
08-40	7947-103.1036-2-15-	1-109045	70815	0.00	814	44212	444	250	121.8	340	0.0	4	17.9	213258	74.0	31077	2	1.1				
08-40	7908-103.1238-2-12-	1-109047	43079	0.00	514	30794	53	150	7.3	28	6.5	3	1.3	19459	8.8	17106	19	0.2				
08-40	8708-103.2192-2-15-	0-109053	71190	0.00	713	12625	111	U	12.0	44	7.7	4	3.1	32562	14.3	24484	33	0.3				
08-40	8703-103.2161-2-15-	0-109054	47802	0.00	1252	31901	143	40	9.0	53	4.8	5	2.0	31562	17.4	15488	142	0.6				

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

4

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS (continued)															U / Th RATIO	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).															
							Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb	Zn	
08-40.4022-103.1174-2-11-	1-108946	14984	723	13706	92	0	10.4	5.1	499	2	0	15.0	3976	75	4.4	0	0.287					
08-40.4878-103.1072-2-14-	1-108948	8491	555	18066	82	0	10.2	9.2	269	1	1	31.1	4682	80	5.3	107	0.167					
08-40.4267-103.1425-2-15-	1-108949	26667	414	15351	91	0	11.4	5.3	0	1	0	14.1	4308	73	3.0	0	0.319					
08-40.4386-102.4475-2-11-	2-108956	27932	432	15353	160	1	12.0	10.1	223	2	0	18.0	3309	50	3.3	182	0.278					
08-40.4147-102.4410-2-15-	2-108957	4447	430	15484	99	0	16.1	42.2	0	7	4	107.0	10785	195	14.6	246	0.100					
08-40.4444-102.4667-2-15-	1-108958	10931	434	17306	94	1	6.0	16.1	481	3	2	35.4	6848	116	7.5	0	0.175					
08-40.4906-102.4836-2-15-	2-108959	12723	445	15734	130	0	8.0	20.7	0	3	2	40.3	8407	129	4.8	124	0.164					
08-40.4467-102.4403-2-15-	2-108960	0	475	19385	78	0	8.0	26.7	465	3	2	57.7	10309	143	13.2	0	0.192					
08-40.4367-103.1539-2-15-	2-108961	20330	726	14346	119	0	9.5	11.2	447	1	0	25.0	5733	91	6.1	128	0.188					
08-40.4367-103.1539-2-15-	3-108961	21122	734	12844	288	0	14.6	27.6	436	6	3	63.0	6219	96	12.8	210	0.083					
08-40.4135-103.1442-2-15-	2-108962	26170	734	10589	80	1	8.3	7.5	708	0	0	12.0	4668	87	3.7	116	0.357					
08-40.4217-102.4874-2-15-	2-108969	8373	874	16164	144	1	10.3	33.7	0	4	2	72.7	10025	177	14.7	0	0.128					
08-40.7614-103.1022-2-12-	4-108970	24657	610	16900	105	1	6.7	6.3	124	0	1	11.7	4115	85	2.3	90	0.427					
08-40.7964-103.1039-2-12-	2-108973	20477	390	10374	143	1	9.6	10.5	482	0	0	15.9	3502	73	6.1	182	0.478					
08-40.8222-103.1153-2-12-	2-108975	21667	530	14094	38	0	6.0	4.6	466	0	0	11.7	3387	67	3.6	0	0.701					
08-40.8342-103.1084-2-12-	2-108976	22381	507	13779	99	0	9.7	12.5	425	0	0	23.3	4667	75	5.7	135	0.223					
08-40.8324-103.0624-2-12-	2-108980	17084	644	17242	95	0	6.0	7.2	0	1	0	15.8	3186	58	0.6	0	0.342					
08-40.4342-103.0258-2-12-	2-108984	13475	433	17024	92	0	7.4	3.9	432	0	0	13.4	4016	66	3.8	83	0.366					
08-40.3058-103.0617-2-13-	3-108987	15114	448	17474	115	0	6.0	5.8	450	0	0	14.8	3925	72	4.2	88	0.777					
08-40.7611-103.1342-2-12-	4-108991	16780	531	14387	0	0	0.0	1.9	404	0	0	213.1	8130	137	12.0	3387	0.027					
08-40.8353-103.1464-2-15-	1-108994	26666	406	11817	0	0	0.0	2.3	410	2	0	231.1	3403	97	10.2	5199	0.021					
08-40.8353-103.1464-2-15-	2-108994	41153	1065	26969	753	0	09.7	0.8	170	15	0	140.5	7403	169	7.6	0	0.037					
08-40.8453-103.1464-2-15-	3-108994	21523	1141	17205	765	0	88.1	2.5	404	52	0	273.5	15710	280	8.8	1360	0.021					
08-40.8353-103.1464-2-15-	4-108994	27842	734	7676	337	0	123.1	5.1	271	37	19	618.4	3273	72	18.3	2164	0.016					
08-40.4192-102.4264-2-15-	2-109011	15477	426	17101	0	0	0.0	1.4	495	0	0	153.8	10878	236	6.8	2454	0.022					
08-40.4253-102.4311-2-15-	1-109012	16347	869	14850	1055	0	100.4	4.0	487	62	20	509.9	11057	255	16.4	1669	0.017					
08-40.4294-102.4339-2-15-	1-109013	13464	713	12137	560	0	85.7	3.8	0	31	17	480.0	7103	180	15.5	1321	0.018					
08-40.4489-102.4536-2-15-	2-109014	20944	532	12594	0	0	76.8	4.5	429	26	11	476.4	3726	84	13.5	0	0.016					
08-40.4386-102.4347-2-15-	3-109015	0	0	102	0	0	0.0	0.0	0	0	0	0.0	0	0	0.0	0	0	0	0	0	0	0
08-40.4564-102.4509-2-15-	3-109016	21479	749	16495	439	0	08.3	3.7	0	17	42	470.5	6600	125	16.6	0	0.017					
08-40.4611-102.4500-2-11-	2-109017	18550	320	14332	0	0	0.0	1.0	472	8	0	114.2	3233	87	5.4	3200	0.054					
08-40.4650-102.4511-2-15-	2-109018	9343	407	17037	856	0	05.2	3.6	440	71	10	472.3	6982	121	14.7	0	0.018					
08-40.4736-102.4589-2-15-	2-109020	15333	374	17471	258	0	70.1	1.3	0	0	0	174.3	3674	59	5.0	0	0.018					
08-40.4704-103.2231-2-15-	1-109024	27327	598	11501	0	0	0.0	1.3	457	0	0	169.2	3822	98	7.2	4584	0.018					
08-40.8708-103.2231-2-15-	2-109024	34093	522	8519	1069	0	128.2	1.6	0	39	0	164.4	4275	117	7.1	1763	0.023					
08-40.8493-103.3878-2-15-	1-109027	36580	563	7816	1086	0	122.2	1.2	0	23	0	145.6	4131	111	4.9	2267	0.023					
08-40.8067-103.3825-2-15-	1-109028	31827	665	9264	476	1	106.1	1.2	483	0	0	119.9	3746	89	4.8	0	0.033					
08-40.8061-103.4367-2-12-	1-109030	22071	541	10490	0	0	0.0	1.8	458	0	0	174.3	4101	68	8.2	3447	0.028					
08-40.8342-103.0167-2-12-	1-109031	9177	357	10526	699	0	49.4	1.4	463	34	3	125.0	3682	40	5.4	849	0.028					
08-40.8489-103.0372-2-15-	3-109032	13774	305	8874	143	0	7.7	8.7	296	1	0	16.2	2518	48	4.0	109	0.469					
08-40.8454-103.1063-2-12-	1-109034	16654	435	10602	203	1	5.0	7.6	435	2	0	11.7	1778	37	5.9	81	0.436					
08-40.8411-103.1197-2-14-	1-109035	27623	567	12268	424	0	09.5	1.5	423	33	1	164.3	4356	98	9.2	1588	0.032					
08-40.8075-103.0633-2-13-	1-109037	24491	506	15676	855	0	00.2	1.1	412	9	0	147.4	3203	88	7.7	0	0.128					
08-40.4772-102.4609-2-15-	1-109039	8177	1147	15830	0	0	0.0	5.6	0	25	0	793.8	12900	210	26.3	47703	0.016					
08-40.8197-103.0767-2-13-	1-109041	27213	563	13316	489	0	04.1	1.7	473	36	8	160.0	4123	76	6.3	1801	0.083					
08-40.7614-103.1014-2-12-	1-109043	13221	406	13360	661	0	02.2	1.2	483	28	7	122.5	3006	71	5.5	1338	0.044					
08-40.7947-103.1036-2-15-	1-109045	25917	730	12324	783	0	02.4	1.2	0	34	7	130.9	3944	64	6.8	1634	0.034					
08-40.7908-103.1258-2-12-	1-109047	13057	321	8311	63	0	7.1	3.2	440	1	1	9.6	2359	43	2.3	104	0.625					
08-40.8708-103.2192-2-15-	0-109053	13600	577	13308	0	0	11.2	3.6	0	1	0	19.0	5200	78	3.9	0	0.206					
08-40.8703-103.2101-2-15-	0-109054	11877	434	0793	146	0	7.8	19.1	417	0	0	40.2	3882	89	5.8	87	0.137					

[illegible]

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE										ELEMENTAL CONCENTRATIONS DETERMINED BY ARC - SOURCE EMISSION SPECTROGRAPHY		
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).										Concentrations in weight ppm.	
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W		Be	Li
08-40.8736-103.2306-2-15-						0-109056	<4	<4	<4	28	<4	21	59	<9	<14		1	45
08-40.8736-103.2306-2-15-						1-109056	<4	<4	<4	31	<4	<17	54	<9	<14		2	40
08-40.8267-103.1597-2-15-						0-109058	<4	<4	<4	18	<4	<14	17	<9	<14		1	50
08-40.3417-104.0614-2-12-						1-109061	<4	<4	<4	12	<4	<14	41	<9	<14		1	10
08-40.9339-102.9325-2-15-						1-109090	<4	<4	<4	11	<4	<14	16	<9	<14		1	42
08-40.9339-102.9325-2-15-						2-109090	<4	<4	<4	20	<4	<14	14	<9	<14		2	112
08-40.9536-102.9486-2-15-						1-109091	<4	<4	<4	<4	<4	<14	17	<9	<14		2	26
08-40.9606-102.9561-2-15-						1-109092	<4	<4	<4	<4	<4	<14	11	<9	<14		1	24
08-40.9144-103.0192-2-15-						2-109094	<4	<4	<4	<4	<4	<14	14	<9	<14		1	30
08-40.9236-103.0383-2-15-						1-109095	<4	<4	<4	<4	<4	<14	17	<9	<14		1	17
08-40.9664-103.0033-2-15-						1-109097	<4	<4	<4	19	<4	<14	26	<9	<14		2	29
08-40.8867-103.2069-2-15-						1-109098	<4	<4	<4	21	<4	<14	12	<9	<14		2	42
08-40.8831-103.1158-2-15-						2-109099	<4	<4	<4	28	<4	<14	21	<9	<14		1	57
08-40.7939-102.9506-2-15-						1-109102	<4	<4	<4	29	<4	<14	38	<9	<14		2	30
08-40.7939-102.9506-2-15-						2-109102	<4	<4	<4	32	<4	<14	46	<9	<14		1	20
08-40.7719-103.4786-2-15-						0-109104	<4	<4	<4	27	<4	<14	17	<9	<14		1	31
08-40.7722-103.4597-2-14-						0-109105	<4	<4	<4	12	<4	<14	13	<9	<14		2	30
08-40.7722-103.4597-2-14-						1-109105	<4	<4	<4	13	<4	<14	13	<9	<14		1	20
08-40.8039-103.4300-2-15-						1-109106	<4	<4	<4	25	<4	<14	12	<9	<14		1	20
08-40.8189-103.4515-2-15-						0-109107	<4	<4	<4	<4	<4	<14	<4	<9	<14		1	20
08-40.9744-103.4592-2-15-						0-109108	<4	<4	<4	13	<4	<14	20	<9	<14		2	32
08-40.9744-103.4592-2-15-						1-109108	<4	<4	<4	15	<4	<14	15	<9	<14		2	26
08-40.8092-103.3792-2-14-						0-109112	<4	<4	<4	13	<4	<14	19	<9	<14		2	30
08-40.8092-103.3792-2-15-						0-109113	<4	<4	<4	<4	<4	<14	10	<9	<14		2	30
08-40.8092-103.3792-2-15-						1-109113	<4	<4	<4	22	<4	<14	9	<9	<14		1	30
08-40.7889-103.3689-2-15-						0-109115	<4	<4	<4	13	<4	<14	22	<9	<14		2	30
08-40.8192-103.4231-2-15-						0-109118	<4	<4	<4	<4	<4	<14	16	<9	<14		2	30
08-40.7631-103.3042-2-14-						0-109121	<4	<4	<4	19	<4	<14	15	<9	<14		2	50
08-40.7606-103.3064-2-12-						0-109122	<4	<4	<4	12	<4	<14	<4	<9	<14		2	47
08-40.7736-103.2734-2-14-						0-109123	<4	<4	<4	16	<4	<14	21	<9	<14		2	10
08-40.7933-103.2661-2-14-						0-109124	<4	<4	<4	17	<4	<14	12	<9	<14		2	36
08-40.8053-103.2567-2-14-						0-109125	<4	<4	<4	17	<4	<14	15	<9	<14		2	40
08-40.8108-103.2972-2-15-						0-109132	<4	<4	<4	12	<4	<14	9	<9	<14		2	20
08-40.0633-104.0504-2-15-						0-109139	<4	<4	<4	<4	<4	<14	25	<9	<14		2	30
08-40.0431-104.0753-2-15-						0-109140	<4	<4	<4	12	<4	<14	21	<9	<14		2	30
08-40.8347-103.1475-2-15-						0-109141	<4	<4	<4	10	<4	<14	23	<9	<14		2	47
08-40.8333-103.1425-2-15-						0-109142	<4	<4	<4	14	<4	<14	12	<9	<14		1	40
08-40.0153-104.1064-2-15-						0-109144	<4	<4	<4	<4	<4	<14	17	<9	<14		2	20
08-40.0733-104.1011-2-15-						0-109145	<4	<4	<4	16	<4	<14	14	<9	<14		2	20
08-40.0728-104.1119-2-15-						0-109146	<4	<4	<4	32	<4	<14	23	<9	<14		2	36
08-40.0394-104.0364-2-15-						0-109147	<4	<4	<4	<4	<4	<14	12	<9	<14		1	14
08-40.0731-104.0131-2-15-						0-109148	<4	<4	<4	<4	<4	<14	17	<9	<14		2	10
08-40.0153-103.8764-2-15-						0-109149	<4	<4	<4	13	<4	<14	18	<9	<14		2	20
08-40.0397-103.8867-2-15-						0-109150	<4	<4	<4	<4	<4	<14	10	<9	<14		2	24
08-40.9561-103.3978-2-15-						0-109155	<4	<4	<4	<4	<4	<14	16	<9	<14		Insufficient sediment	
08-40.9753-103.4189-2-15-						0-109156	<4	<4	<4	17	<4	<14	10	<9	<14			
08-40.9775-103.4158-2-15-						0-109157	<4	<4	<4	32	<4	<14	<4	<9	<14		2	70
08-40.9722-103.4267-2-15-						0-109158	<4	<4	<4	22	<4	<14	9	<9	<14		2	50
08-40.9650-103.4425-2-15-						0-109159	<4	<4	<4	13	<4	<14	17	<9	<14		2	40
08-40.9386-103.3275-2-15-						0-109160	<4	<4	<4	15	<4	<14	<4	<9	<14		2	36
08-40.9325-103.3197-2-15-						0-109161	<4	<4	<4	14	<4	<14	12	<9	<14		1	25

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

③

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Al	Au	Ba	Ca	Ce	Cl	Co	Cr	Cs	Dy	Eu	Fe	Hf	K	La	Lu
Concentrations reported in weight parts per million (ppm).																						
08-40.8736-103.2306-2-15-	0	109056	1104	0.00	n	0	70	U	11.1	40	5.9	n	1.3	23322	7.6	n	57	0.4				
08-40.8736-103.2306-2-15-	1	109056	1378	0.00	n	0	8	U	11.9	50	5.4	n	1.1	23158	6.7	0	56	0.4				
08-40.8267-103.1497-2-15-	0	109058	95260	0.00	478	13655	45	U	8.3	24	5.4	3	1.0	19208	7.7	21009	74	0.4				
08-40.3417-104.0414-2-12-	1	109061	51348	0.00	982	81090	125	U	5.1	14	n	7	1.6	14831	15.6	43450	86	0.4				
08-40.9339-102.9425-2-15-	1	109090	68745	0.00	1319	46855	143	100	15.2	74	0.3	7	3.5	54755	22.7	25912	47	0.4				
08-40.9339-102.9425-2-15-	2	109090	51309	0.00	512	26924	73	170	8.4	21	10.5	3	1.7	23918	8.0	27944	25	0.2				
08-40.9536-102.9486-2-15-	1	109091	50653	0.03	1041	28042	173	U	10.4	44	5.3	4	4.1	40430	25.8	21492	57	0.4				
08-40.9608-102.9461-2-15-	1	109092	68812	0.02	988	120337	147	U	8.7	34	4.9	10	2.8	29637	18.2	25236	47	0.3				
08-40.9144-103.0392-2-15-	2	109094	68047	0.00	803	13834	103	U	12.6	49	4.3	5	3.1	30911	21.7	27491	41	0.4				
08-40.9236-103.0383-2-15-	1	109095	63632	0.00	1011	13830	147	U	14.9	97	4.3	11	7.6	65097	51.2	27128	101	1.2				
08-40.9664-103.0003-2-15-	1	109097	52732	0.00	537	83251	82	U	8.7	35	4.7	4	1.1	20683	8.3	17483	72	0.4				
08-40.8867-103.2069-2-15-	1	109098	48484	0.00	1025	27253	194	100	9.4	44	4.4	7	2.6	32650	26.0	18118	154	0.9				
08-40.8831-103.1158-2-15-	2	109099	53323	0.00	425	28512	70	120	7.7	23	4.9	3	1.0	19447	6.3	24446	58	0.4				
08-40.7939-102.9406-2-15-	1	109102	52044	0.00	303	20373	192	U	10.3	40	3.8	7	2.5	28311	24.5	18128	198	0.9				
08-40.7939-102.9406-2-15-	2	109102	51932	0.00	479	18647	163	U	8.1	30	3.4	7	2.4	28328	18.8	19434	133	0.6				
08-40.7719-103.4754-2-15-	0	109104	51425	0.00	354	10723	107	U	7.3	42	4.8	3	1.6	21124	13.7	19295	80	0.6				
08-40.7722-103.4497-2-14-	0	109105	50534	0.00	454	13480	68	90	7.2	40	4.0	4	1.1	19321	11.1	19015	41	0.3				
08-40.7722-103.4497-2-14-	1	109105	50049	0.00	439	15111	71	U	8.3	39	5.0	3	1.5	17772	9.0	20072	58	0.4				
08-40.8039-103.4300-2-15-	0	109106	53641	0.00	376	7321	72	U	9.0	44	7.4	3	0.8	20729	5.4	21038	66	0.4				
08-40.8189-103.4475-2-15-	0	109107	41793	0.00	491	20620	127	U	7.7	33	4.3	3	1.9	18407	16.2	18786	80	0.6				
08-40.9744-103.4492-2-15-	0	109108	53705	0.00	409	8147	57	104	7.1	27	4.4	3	1.2	15497	7.0	22728	49	0.3				
08-40.9744-103.4492-2-15-	1	109108	52308	0.00	402	8497	79	50	8.6	41	4.3	3	1.2	20403	6.5	21712	55	0.3				
08-40.8092-103.3792-2-14-	0	109112	50509	0.00	415	8083	89	70	7.3	33	5.3	4	1.4	19757	9.0	20318	60	0.4				
08-40.8092-103.3792-2-15-	0	109113	52844	0.00	348	19095	47	U	7.4	30	7.9	3	1.2	18905	7.5	23033	55	0.3				
08-40.8092-103.3792-2-15-	1	109113	50440	0.00	341	19322	44	U	7.2	34	7.3	3	1.3	18897	7.0	22495	58	0.3				
08-40.7889-103.3489-2-15-	0	109114	47883	0.00	417	15453	74	50	7.4	38	5.1	3	1.5	16202	8.4	20056	50	0.3				
08-40.8192-103.3931-2-15-	0	109118	56491	0.00	515	16798	85	U	9.7	53	7.6	4	1.5	22818	10.6	22190	63	0.4				
08-40.7631-103.3042-2-14-	0	109121	54647	0.00	455	28044	58	U	7.2	36	8.1	2	1.1	17757	3.3	21002	49	0.3				
08-40.7606-103.3064-2-12-	0	109122	49878	0.00	477	20133	69	110	11.2	54	6.7	3	1.2	25329	8.4	18778	51	0.4				
08-40.7736-103.2739-2-14-	0	109123	35336	0.00	537	15337	66	70	7.3	35	5.1	4	1.0	15848	7.9	18003	47	0.3				
08-40.7933-103.2451-2-14-	0	109124	53694	0.00	494	25334	113	40	6.4	38	n	3	2.7	18166	21.7	21430	79	0.7				
08-40.8053-103.2457-2-14-	0	109125	50445	0.00	570	20925	72	80	6.0	27	6.1	3	1.5	17374	8.5	21845	55	0.4				
08-40.0108-103.9077-2-15-	0	109132	38478	0.00	425	3111	52	84	6.8	40	5.2	4	0.8	14854	6.0	19662	34	0.3				
08-40.0633-104.0454-2-15-	0	109139	46410	0.00	540	11775	110	U	7.4	27	3.5	4	2.4	12735	21.3	20478	77	0.6				
08-40.0431-104.0753-2-15-	0	109140	50341	0.00	479	5193	75	U	7.4	37	4.1	7	1.4	17358	12.6	17919	56	0.5				
08-40.8347-104.1475-2-15-	0	109141	50034	0.00	1041	30353	193	180	7.7	44	9.4	3	2.5	19918	22.0	21746	118	1.1				
08-40.8333-103.1424-2-15-	0	109142	51199	0.00	484	20402	n	U	n	n	n	5	0.0	0	0.0	14725	0	0.0				
08-40.0153-104.1064-2-15-	0	109144	41540	0.03	533	4733	183	51	8.2	42	5.4	6	2.3	29896	17.1	20192	125	0.7				
08-40.0733-104.1011-2-15-	0	109145	39776	0.07	451	9105	135	30	7.2	30	3.7	3	2.5	14554	18.9	20700	80	0.7				
08-40.0728-104.1119-2-15-	0	109146	112915	0.04	477	30531	103	U	17.4	49	13.5	8	2.2	43259	8.1	42691	30	0.3				
08-40.0394-104.0454-2-15-	0	109147	45243	0.00	747	4703	145	40	7.6	39	4.4	10	4.5	17855	30.5	28001	53	0.8				
08-40.0731-104.0131-2-15-	0	109148	55799	0.05	741	4272	274	U	12.4	49	6.7	13	6.7	27554	45.6	27116	71	1.4				
08-40.0153-103.8764-2-15-	0	109149	68509	0.00	795	20409	88	U	10.3	40	2.7	4	3.2	27397	15.7	29419	28	0.4				
08-40.0397-103.8867-2-15-	0	109150	44141	0.00	498	5391	48	50	6.5	33	3.1	4	0.9	14116	4.4	21463	49	0.4				
08-40.9561-103.3978-2-15-	0	109155	47540	0.00	604	34353	74	150	7.4	20	4.7	3	1.2	16907	5.9	19458	46	0.3				
08-40.9753-103.4189-2-15-	0	109156	49365	0.00	474	32951	71	200	7.3	15	4.1	3	1.0	14400	5.2	20109	50	0.3				
08-40.9775-103.4158-2-15-	0	109157	54153	0.00	506	30367	83	100	8.0	32	5.9	3	1.4	22617	11.7	21222	76	0.4				
08-40.9722-103.4257-2-15-	0	109158	49540	0.00	516	42509	74	U	6.4	26	4.7	2	1.1	19459	10.6	17220	54	0.3				
08-40.9650-103.4425-2-15-	0	109159	51530	0.00	444	36655	73	70	6.9	25	4.7	3	1.2	19123	9.5	20775	56	0.4				
08-40.9386-103.3274-2-15-	0	109160	44891	0.00	410	27104	77	170	6.7	34	2.9	3	1.4	15098	11.5	18989	60	0.5				
08-40.9325-103.3197-2-15-	0	109161	53474	0.00	802	37445	74	151	7.9	23	4.1	2	1.2	17542	9.4	24486	55	0.4				

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

④

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS (continued)																	U / Th RATIO
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAST SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).																
							Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb	Zn		
08-40.8736-103.2304-2-15-						0-109056	537	n	30	115	0	9.6	4.1	0	0	0	13.0	0	0	2.3	118	0.300	
08-40.8736-103.2304-2-15-						1-109056	v	n	37	165	1	9.8	5.3	0	5	0	13.7	0	0	3.2	118	0.292	
08-40.8736-103.1547-2-15-						0-109058	17774	541	7914	204	0	8.5	8.2	0	1	0	16.4	2645	45	3.8	100	0.211	
08-40.8417-104.0614-2-12-						1-109061	23681	1635	15157	81	1	4.9	3.5	436	2	0	22.5	4559	120	5.6	123	0.596	
08-40.9339-102.9325-2-15-						1-109090	13232	413	10404	53	1	8.7	5.1	160	1	0	13.8	2502	45	2.3	130	0.312	
08-40.9339-102.9325-2-15-						2-109090	22824	774	13537	68	0	11.0	7.4	285	2	0	27.8	5270	109	3.4	179	0.165	
08-40.9536-102.9486-2-15-						1-109091	9661	617	12831	50	0	7.4	9.3	0	3	1	35.3	5830	106	5.5	120	0.184	
08-40.9606-102.9561-2-15-						1-109092	15183	518	16644	65	0	6.7	8.0	221	3	1	28.2	5143	93	3.5	90	0.174	
08-40.9144-103.0392-2-15-						2-109094	12599	449	14832	92	0	10.2	5.8	411	2	1	19.4	4472	71	3.6	166	0.196	
08-40.9235-103.0383-2-15-						1-109095	9213	741	14747	82	0	12.9	20.5	488	6	2	68.8	7370	116	12.7	194	0.116	
08-40.9664-103.0003-2-15-						1-109097	12547	437	6221	100	0	9.5	8.3	0	1	0	17.0	2507	55	5.4	106	0.212	
08-40.8867-103.2069-2-15-						1-109098	15360	608	8558	121	0	9.2	17.7	266	3	2	38.5	4515	82	4.2	n	0.179	
08-40.8831-103.1158-2-15-						2-109099	17051	444	9303	94	0	8.5	5.8	421	2	0	15.3	3029	47	3.7	102	0.294	
08-40.7939-102.9506-2-15-						1-109102	18647	679	6804	118	0	9.0	13.3	169	3	0	38.1	3385	62	6.9	n	0.186	
08-40.7939-102.9506-2-15-						2-109102	11297	713	6764	186	0	10.7	15.3	0	3	3	34.1	4050	70	7.2	145	0.211	
08-40.7719-103.4786-2-15-						0-109104	14197	317	6081	206	0	8.6	10.9	0	0	0	19.3	2302	50	3.9	123	0.166	
08-40.7722-103.4597-2-14-						0-109105	14861	273	6783	144	0	8.1	5.6	0	0	2	12.5	2299	58	4.0	87	0.248	
08-40.7722-103.4597-2-14-						1-109105	16870	261	6488	140	0	8.6	7.0	40	3	0	12.5	2428	57	5.0	88	0.264	
08-40.8039-103.4300-2-15-						0-109106	17973	347	2964	259	0	9.9	5.6	0	0	0	14.2	2734	64	3.9	104	0.204	
08-40.8189-103.4575-2-15-						0-109107	12942	317	7446	108	0	7.7	11.0	146	1	0	24.5	2577	49	6.6	118	0.131	
08-40.9744-103.4592-2-15-						0-109108	17040	396	6243	140	1	7.4	5.6	0	0	0	12.1	2989	59	3.6	107	0.240	
08-40.9744-103.4592-2-15-						1-109108	13067	393	6923	168	0	9.1	6.5	156	1	0	13.4	2366	56	5.1	97	0.231	
08-40.8092-103.3792-2-14-						0-109112	12660	208	7499	143	0	8.2	6.5	147	1	0	15.5	2704	52	3.5	89	0.200	
08-40.8092-103.3792-2-15-						0-109113	26100	161	6992	148	1	8.7	6.9	137	1	0	11.4	3037	68	3.4	n	0.298	
08-40.8092-103.3792-2-15-						1-109113	23202	174	5791	193	0	9.1	5.1	246	1	0	10.3	2639	65	3.2	n	0.340	
08-40.7889-103.3689-2-15-						0-109115	14067	262	6559	139	0	6.8	10.7	0	0	1	12.5	2667	55	2.7	83	0.216	
08-40.8192-103.3231-2-15-						0-109118	20310	340	6225	180	1	10.4	7.5	0	0	0	14.6	2603	68	3.2	113	0.192	
08-40.7631-103.3042-2-14-						0-109121	23022	309	6771	170	0	8.1	5.4	221	2	0	11.3	2937	88	3.7	72	0.345	
08-40.7606-103.3064-2-12-						0-109122	17521	260	6330	212	2	10.5	5.4	186	1	0	11.3	2587	61	3.5	106	0.292	
08-40.7736-103.2739-2-14-						0-109123	9313	244	6643	192	0	7.1	4.4	148	1	0	10.4	2882	41	4.3	n	0.330	
08-40.7933-103.2661-2-14-						0-109124	19150	239	6401	137	2	7.3	3.4	0	1	0	18.3	2927	85	5.4	96	0.224	
08-40.8053-103.2567-2-14-						0-109125	15070	361	8459	112	0	8.0	7.2	249	0	0	14.7	2306	49	3.5	78	0.252	
08-40.0108-103.0072-2-15-						0-109132	4570	265	7404	193	0	7.3	3.8	84	1	1	9.0	2749	34	3.1	71	0.444	
08-40.0633-104.0564-2-15-						0-109139	10013	283	7173	200	0	6.6	6.8	148	1	2	16.4	2724	51	5.5	80	0.213	
08-40.0431-104.0753-2-15-						0-109140	8249	306	6497	142	0	7.6	5.3	115	1	0	14.6	3106	53	4.4	88	0.438	
08-40.8347-103.1475-2-15-						0-109141	14607	514	9936	137	0	9.9	23.8	250	0	0	36.3	3054	56	4.9	99	0.140	
08-40.8333-103.1424-2-15-						0-109142	12667	603	13116	0	0	0.0	0.0	445	0	0	0.0	3815	75	0.0	9		
08-40.0153-104.1064-2-15-						0-109144	6331	286	6691	158	0	8.7	14.2	115	2	0	34.3	2531	42	1.6	95	0.143	
08-40.0733-104.1011-2-15-						0-109145	6040	220	7013	158	1	7.1	10.2	0	0	1	25.5	2072	44	1.5	75	0.125	
08-40.0728-104.1110-2-15-						0-109146	31711	803	7763	108	1	17.6	6.9	0	0	0	16.5	5250	147	4.0	179	0.206	
08-40.0394-104.0764-2-15-						0-109147	4837	399	8042	68	0	7.1	9.3	0	2	2	31.7	4202	42	7.6	80	0.183	
08-40.0731-104.0131-2-15-						0-109148	6362	498	7131	73	2	11.0	17.2	0	4	3	50.3	5362	51	12.7	181	0.141	
08-40.0153-103.8784-2-15-						0-109149	18562	434	10972	70	0	10.9	6.5	0	2	0	15.2	4304	78	4.1	n	0.230	
08-40.0397-103.9467-2-15-						0-109150	4102	333	7400	163	0	6.3	4.7	0	0	0	10.1	2530	43	3.8	77	0.337	
08-40.0561-103.3975-2-15-						0-109151	15289	301	6361	80	0	7.3	6.3	163	2	1	13.5	2203	51	3.6	117	0.363	
08-40.0751-103.0480-2-15-						0-109156	12842	472	9447	231	1	7.0	6.3	0	0	0	12.9	2688	49	3.0	72	0.380	
08-40.0775-103.4158-2-15-						0-109157	19412	347	6944	137	0	8.4	4.0	215	0	0	17.4	2388	56	5.6	n	0.282	
08-40.0772-103.4267-2-15-						0-109158	19850	296	7570	171	0	8.1	7.4	255	0	0	13.0	2029	61	2.8	106	0.273	
08-40.0650-103.4624-2-15-						0-109159	18431	327	6803	137	0	8.0	5.1	123	1	0	14.7	2660	51	2.5	48	0.306	
08-40.0386-103.3276-2-15-						0-109160	12123	303	9002	124	0	6.7	8.6	0	1	1	13.8	2066	42	4.6	78	0.283	
08-40.0325-103.3197-2-15-						0-109161	19093	411	0957	227	0	8.4	7.1	0	0	0	13.4	2349	52	2.9	n	0.358	

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

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APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

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DOE SAMPLE NUMBER						LASL SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE										ELEMENTAL CONCENTRATIONS DETERMINED BY ARC - SOURCE EMISSION SPECTROGRAPHY	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)										Concentrations in weight ppm.	
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W	Be	Li	
08-40	9306-103.3109-2-15-	2-109162	< 4	< 4	< 4	29	< 10	< 14	10	< 9	< 14	2	77					
08-40	9356-103.3475-2-15-	2-109163	< 4	< 4	< 4	10	< 10	< 14	17	< 9	< 14	3	47					
08-40	9356-103.3475-2-15-	1-109163	< 4	< 4	< 4	16	< 10	< 14	13	< 9	< 14	3	67					
08-40	8736-103.2283-2-15-	2-109168	< 4	< 4	< 4	15	< 10	< 14	16	< 9	< 14	2	50					

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

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DOE SAMPLE NUMBER						LASL SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm).																	
							Al	Au	Ba	Ca	Co	Cl	Co	Cr	Cs	Dy	Eu	Fe	Hf	K	La	Lu		
08-40.9306-103.3169-2-15-						1-109162	55446	0.00	441	20975	44	140	6.4	31	4.2	2	1.2	19335	7.6	27266	52	0.3		
08-40.9356-103.3474-2-15-						0-109163	53274	0.00	424	24343	44	230	8.3	10	4.5	3	0.9	17019	5.8	21417	53	0.3		
08-40.9356-103.3474-2-15-						1-109163	54344	0.00	404	24595	47	246	6.4	11	5.3	1	0.8	18230	8.0	23651	56	0.3		
08-40.8736-104.2243-2-15-						0-109164	53946	0.00	420	12437	40	42	3.4	13	3.2	4	1.1	11230	8.4	17431	58	0.3		

APPENDIX C-III (continued). Elemental Concentrations for Sediment Samples (Phase III)

4

DOE SAMPLE NUMBER						LASL SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS (continued)															U / Th RATIO
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)															
							Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb	Zn	
08-40.9305-103.1164-2-15-						n-109162	15056	408	16634	149	0	8.0	5.0	140	0	0	15.4	2371	52	3.2	82	0.338
08-40.9355-103.1475-2-15-						n-109163	15840	410	9807	139	0	7.7	5.1	123	0	0	13.2	2314	46	3.1	80	0.364
08-40.9356-103.1475-2-15-						n-109163	15776	392	9591	199	0	8.2	5.7	178	0	0	14.4	1971	43	3.6	81	0.333
08-40.8736-103.2283-2-15-						n-109168	10239	304	13406	144	0	5.2	5.3	228	1	0	10.9	3571	77	2.9	64	0.541

APPENDIX C-IV

Elemental Concentrations for Sediment Samples,
Phase IV, July into August 1977

(See Appendix D for Code to Listings)

APPENDIX C-IV. Elemental Concentrations for Sediment Samples (Phase IV)

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DOE SAMPLE NUMBER						LASL SAMPLE NUMBER AND FIELD DATA																				U CONCENTRATION									
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (µmho/cm)	SCINTILLOMETER (µU ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	SEDIMENT SAMPLES ANALYZED BY DELAYED NEUTRON COUNTING (DNC)	UNITS IN ppm
							DATE	HOUR																											
08-40.9022-103.1178-2-11-	2-108946-07/22/77-14-	32-24.0-	-	-	-	5.9-	710-	17-1-1-6-8-2-3-1-3-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.70		
08-40.8578-103.3072-2-11-	2-108948-07/20/77-10-	32-22.0-	-	-	-	9.0-	365-	17-1-1-4-9-1-3-4-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.30	
08-40.9267-103.3425-2-15-	2-108949-07/19/77-18-	34-	-	-	-	-	-	11-1-1-4-1-1-1-4-2-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40.9494-102.9457-2-15-	3-108958-07/23/77-10-	31-	-	-	-	-	-	11-1-1-4-1-1-1-4-3-3-3-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.20	
08-40.9506-102.9836-2-15-	3-108959-07/23/77-10-	31-	-	-	-	-	-	17-1-1-4-4-6-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.10	
08-40.9467-102.9403-2-15-	3-108960-07/22/77-9-	30-	-	-	-	-	-	11-1-1-4-4-6-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.90	
08-40.9367-103.1539-2-15-	3-108961-07/21/77-13-	20-	-	-	-	-	-	17-1-1-4-5-6-1-1-4-3-3-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.70	
08-40.9136-103.1542-2-15-	3-108962-07/21/77-13-	22-	-	-	-	-	-	11-1-1-4-6-1-1-1-4-3-3-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	
08-40.9217-102.9878-2-15-	3-108969-07/23/77-10-	31-	-	-	-	-	-	17-1-1-4-1-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.50	
08-40.7614-103.1022-2-12-	5-108970-07/21/77-8-	20-14.1-	-	-	-	-	2500-	11-1-7-5-8-3-3-4-1-4-3-2-4-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.70	
08-40.7964-103.1039-2-12-	3-108973-07/21/77-9-	22-15.1-	-	5.4-	2700-	17-1-7-5-8-1-3-1-1-6-3-2-4-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.30		
08-40.8222-103.1153-2-12-	3-108975-07/21/77-10-	18-17.0-	-	7.0-	2120-	11-1-7-5-8-3-3-2-4-3-2-4-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.00		
08-40.8328-103.0628-2-12-	3-108980-07/22/77-12-	27-21.0-	-	7.5-	1700-	11-1-1-4-6-3-3-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.40		
08-40.8342-103.0258-2-12-	3-108984-07/22/77-11-	23-21.0-	-	7.5-	1950-	11-1-7-5-8-3-3-4-1-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00		
08-40.8058-103.0417-2-15-	4-108987-07/22/77-9-	21-	-	-	-	-	-	11-1-7-5-7-2-4-1-4-3-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.60	
08-40.9522-103.3954-2-15-	1-109003-07/19/77-16-	34-	-	-	-	-	-	11-1-1-7-1-1-1-3-3-2-5-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	
08-40.9472-103.3911-2-15-	1-109004-07/19/77-17-	36-	-	-	-	-	-	17-1-1-7-1-1-1-2-3-2-5-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30	
08-40.9503-103.3860-2-15-	2-109005-07/19/77-17-	36-	-	-	-	-	-	11-1-1-7-1-1-1-2-3-2-5-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10	
08-40.9500-103.3911-2-15-	1-109004-07/19/77-17-	37-	-	-	-	-	-	11-1-1-7-1-1-1-2-4-2-5-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.00	
08-40.9192-102.9250-2-15-	3-109011-07/23/77-11-	32-	-	-	-	-	-	13-1-1-4-1-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.70	
08-40.9489-102.9536-2-15-	3-109014-07/23/77-8-	-	-	-	-	-	-	23-1-1-4-6-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.20	
08-40.9386-102.9347-2-15-	4-109015-07/23/77-12-	32-	-	-	-	-	-	17-1-1-4-1-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10	
08-40.9611-102.9500-2-15-	3-109017-07/22/77-20-	22-24.5-	-	9.2-	371-	11-1-1-4-5-2-3-3-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.10		
08-40.9650-102.9511-2-15-	3-109018-07/22/77-19-	24-	-	-	-	-	-	23-1-4-4-6-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40.9653-102.9547-2-11-	3-109019-07/22/77-19-	24-15.5-	-	5.6-	332-	17-1-1-4-1-1-3-3-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.40		
08-40.8192-103.3108-2-15-	1-109025-07/20/77-9-	26-	-	-	-	-	-	5-1-5-5-5-1-1-2-4-2-2-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40.8483-103.3878-2-15-	2-109027-07/19/77-12-	43-	-	-	-	-	-	17-1-4-5-7-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.30	
08-40.8067-103.3825-2-15-	2-109028-07/19/77-11-	42-	-	-	-	-	-	23-1-4-5-6-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	
08-40.8061-103.0357-2-12-	2-109030-07/22/77-11-	21-18.5-C-	-	7.4-	2000-	23-1-7-5-7-3-3-4-2-4-3-1-3-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.50		
08-40.8658-103.1059-2-12-	2-109034-07/21/77-11-	20-18.0-	-	5.9-	700-	11-1-1-5-6-2-3-2-1-4-3-2-4-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.30		
08-40.9772-102.9469-2-15-	2-109039-07/22/77-18-	24-	-	-	-	-	-	23-1-1-4-1-1-1-2-4-3-3-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.10	
08-40.8197-103.0767-2-13-	3-109041-07/22/77-13-	31-21.0-	-	7.4-	2380-	17-1-7-5-7-2-2-2-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.70		
08-40.7614-103.1014-2-12-	2-109043-07/21/77-8-	22-18.0-	-	7.2-	2800-	17-1-7-5-8-2-3-1-1-4-3-2-4-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.20		
08-40.9481-102.9544-2-11-	2-109084-07/23/77-8-	20-19.0-	-	6.4-	300-	17-1-1-3-6-3-3-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00		
08-40.9536-102.9484-2-15-	2-109091-07/23/77-9-	28-	-	-	-	-	-	17-1-1-4-6-1-1-1-3-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.90	
08-40.9606-102.9561-2-15-	2-109092-07/22/77-19-	24-	-	-	-	-	-	23-1-4-4-6-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.70	
08-40.9236-103.0393-2-15-	2-109095-07/22/77-16-	30-	-	-	-	-	-	17-1-4-4-6-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.90	
08-40.9664-103.0003-2-15-	2-109097-07/22/77-17-	26-	-	-	-	-	-	28-1-4-6-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.80	
08-40.8831-103.1158-2-15-	3-109099-07/22/77-13-	32-	-	-	-	-	-	23-1-1-4-6-1-1-1-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.40	
08-40.8039-103.4300-2-15-	1-109104-07/18/77-17-	36-	-	-	-	-	-	5-1-1-5-7-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00	
08-40.8411-103.4592-2-15-	2-109108-07/19/77-12-	42-	-	-	-	-	-	23-1-7-5-7-1-1-2-4-3-2-2-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-												

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples

(Phase IV)

(2)

DOE SAMPLE NUMBER						LAST SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE										ELEMENTAL CONCENTRATIONS DETERMINED BY ARC - SOURCE EMISSION SPECTROGRAPHY	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm)										Concentrations in weight ppm.	
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W	Be	Li	
08-40.9022-103.1178-2-11-					2	108946	<4	<4	<4	21	<19	<14	25	<9	<14		2	46
08-40.8578-103.3072-2-11-					1	108948	<4	<4	<4	29	<19	<14	14	<9	15		1	27
08-40.9267-103.3425-2-15-					2	108949	<4	<4	<4	15	<19	<14	11	<9	<14		2	83
08-40.9494-102.9467-2-15-					3	108958	<4	<4	<4	<9	<19	<14	<4	<9	<14	<1		4
08-40.9506-102.9434-2-15-					3	108959	<4	<4	<4	<9	<19	<14	12	<9	<14		2	30
08-40.9467-102.9403-2-15-					3	108960	<4	<4	<4	<9	<19	<14	8	<9	18		2	23
08-40.9367-103.1439-2-15-					3	108961	<4	<4	<4	15	<19	<14	15	<9	<14		2	28
08-40.9136-103.1442-2-15-					3	108962	<4	<4	<4	<9	<19	<14	17	<9	<14		2	49
08-40.9217-102.9478-2-15-					3	108969	<4	<4	<4	<9	<19	<14	10	<9	<14		2	20
08-40.7614-103.1022-2-12-					5	108970	<4	<4	<4	13	<19	<14	11	<9	<14		2	53
08-40.7964-103.1039-2-12-					3	108973	<4	<4	<4	17	<19	<14	10	<9	<14		2	57
08-40.8222-103.1153-2-12-					3	108975	<4	<4	<4	<9	<19	<14	<4	<9	<14		2	63
08-40.8328-103.0428-2-12-					3	108980	<4	<4	<4	74	<19	<14	20	<9	<14		2	84
08-40.8342-103.0258-2-12-					3	108984	<4	<4	<4	<9	<19	<14	8	<9	<14		2	75
08-40.8058-103.0417-2-96-					4	108987	<4	<4	<4	15	<19	<14	17	<9	<14		2	43
08-40.9522-103.3964-2-15-					1	109003	<4	<4	<4	12	<19	<14	18	<9	<14		1	46
08-40.9472-103.3911-2-15-					1	109004	<4	<4	<4	18	<19	<14	15	<9	<14		2	49
08-40.9503-103.3869-2-15-					2	109005	<4	<4	<4	11	<19	<14	16	<9	<14		1	76
08-40.9500-103.3911-2-15-					1	109006	<4	<4	<4	11	<19	<14	<4	<9	<14		2	81
08-40.9192-102.9269-2-15-					3	109011	<4	<4	<4	<9	<19	<14	20	<9	<14		1	39
08-40.9489-102.9434-2-15-					3	109014	<4	<4	<4	<9	<19	<14	19	<9	<14	<1		13
08-40.9386-102.9447-2-15-					4	109015	<4	<4	<4	15	<19	<14	8	<9	<14		2	65
08-40.9611-102.9400-2-13-					3	109017	<4	<4	<4	13	<19	<14	16	<9	<14		1	23
08-40.9650-102.9411-2-15-					3	109018	<4	<4	<4	<9	<19	<14	14	<9	<14		1	24
08-40.9653-102.9447-2-11-					3	109019	<4	<4	<4	<9	<19	<14	24	<9	<14		1	18
08-40.8192-103.3108-2-15-					1	109025	<4	<4	<4	28	<19	<14	12	<9	<18		1	53
08-40.8483-103.3878-2-15-					2	109027	<4	<4	<4	27	<19	<14	19	<9	<14		2	49
08-40.8067-103.3425-2-15-					2	109028	<4	<4	<4	19	<19	<14	21	<9	18		1	24
08-40.8061-103.0467-2-12-					2	109030	<4	<4	<4	14	<19	<14	24	<9	23		2	44
08-40.8658-103.1069-2-12-					2	109034	<4	<4	<4	<9	<19	<14	13	<9	<14		1	59
08-40.9772-102.9469-2-15-					2	109039	<4	<4	<4	10	<19	<14	13	<9	<14		1	52
08-40.8197-103.0767-2-13-					2	109041	<4	<4	<4	<9	<19	<14	16	<9	<14		2	33
08-40.7614-103.1014-2-12-					2	109043	<4	<4	<4	11	<19	<14	4	<9	<14		1	42
08-40.9481-102.9444-2-11-					2	109084	<4	<4	<4	19	<19	<14	24	<9	16		1	24
08-40.9536-102.9484-2-15-					2	109091	<4	<4	<4	<9	<19	<14	26	<9	<14		1	27
08-40.9606-102.9461-2-15-					2	109092	<4	<4	<4	<9	<19	<14	8	<9	<14		2	27
08-40.9236-103.0483-2-15-					2	109095	<4	<4	<4	15	<19	<14	15	<9	<14		2	32
08-40.9684-103.0003-2-15-					2	109097	<4	<4	<4	14	<19	<14	14	<9	<14		1	31
08-40.8831-103.1158-2-15-					3	109099	<4	<4	<4	<9	<19	<14	<4	<9	18		1	45
08-40.8039-103.4700-2-15-					1	109104	<4	<4	<4	27	<19	<14	19	<9	22		1	30
08-40.8411-103.4492-2-15-					2	109108	<4	<4	<4	<9	<19	<14	16	<9	<14		3	25
08-40.8092-103.3792-2-97-					1	109117	<4	<4	<4	14	<19	<14	17	<9	<14		2	34
08-40.8092-103.3792-2-15-					2	109113	<4	<4	<4	12	<19	<14	14	<9	<14		2	33
08-40.7889-103.3489-2-15-					1	109115	<4	<4	<4	25	<19	<14	11	<9	<14		2	38
08-40.7631-103.3042-2-14-					1	109121	<4	<4	<4	<9	<19	<14	15	<9	<14		2	47
08-40.7606-103.3064-2-15-					1	109122	<4	<4	<4	<9	<19	<14	11	<9	<14		2	28
08-40.7736-103.2739-2-14-					1	109123	<4	<4	<4	<9	<19	<14	5	<9	<14		2	16
08-40.8053-103.2467-2-14-					1	109124	<4	<4	<4	22	<19	<14	29	<9	<14		2	41
08-40.9561-103.3978-2-15-					1	109154	<4	<4	<4	19	<19	<14	10	<9	<14		2	47
08-40.9753-103.4189-2-15-					1	109154	<4	<4	<4	15	<19	<14	11	<9	<14		2	51

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

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DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Al	Au	Ba	Ca	Ce	Cl	Co	Cr	Cs	Dy	Eu	Fe	Hf	K	La	Lu
Concentrations reported in weight parts per million (ppm).																						
08-40	9022-103.1174-2-11-	2-108946	83960	0.04	1045	49476	84	0	13.4	51	5.3	4	2.3	28703	14.1	25314	26	0.4				
08-40	8578-103.3072-2-11-	1-108948	63792	0.04	1132	51721	151	1.03	11.4	50	6.3	5	4.3	36537	25.7	24590	65	0.6				
08-40	9267-103.3425-2-15-	2-108949	89820	0.04	2312	70359	92	1.00	14.1	45	9.8	6	2.6	35475	13.4	40971	42	0.4				
08-40	9494-102.9667-2-15-	3-108958	42447	0.04	1445	14650	1100	0	35.7	289	3.7	45	20.6	323418	196.8	12985	490	3.6				
08-40	9506-102.9836-2-15-	3-108959	46777	0.04	695	11191	169	1.09	11.7	67	6.9	6	4.8	34990	30.9	26182	76	0.7				
08-40	9467-102.9403-2-15-	3-108960	81394	0.04	1459	30776	467	2.47	17.4	136	9.1	27	7.9	100482	58.3	32309	187	1.3				
08-40	9367-103.1549-2-15-	3-108961	81741	0.04	1227	14297	87	0	6.4	40	3.8	6	1.9	20911	4.7	39164	46	0.3				
08-40	9136-103.1542-2-15-	3-108962	74013	0.04	1172	35095	115	1.09	12.2	39	7.0	6	3.2	34072	19.7	29694	57	0.4				
08-40	9217-102.9873-2-15-	3-108969	65382	0.04	1224	27006	278	0	12.4	80	2.4	10	6.6	62782	44.8	29593	123	1.0				
08-40	7614-103.1022-2-12-	3-108970	74483	0.02	732	44920	90	1.89	11.4	59	10.5	5	2.2	33179	12.1	26548	39	0.3				
08-40	7964-103.1033-2-12-	3-108973	87669	0.04	899	77084	76	2.03	10.4	38	9.5	6	2.0	27344	8.7	33363	31	0.3				
08-40	8222-103.1153-2-12-	3-108975	70010	0.04	910	62363	107	2.67	11.4	50	8.8	5	2.8	32431	14.5	26436	52	0.4				
08-40	8328-103.0623-2-12-	3-108980	100772	0.04	1327	46837	90	2.60	10.1	18	10.6	6	2.0	29837	10.2	35405	39	0.3				
08-40	8342-103.0258-2-12-	3-108984	72103	0.01	812	51294	113	2.09	14.4	77	10.4	4	3.3	37990	17.3	30387	45	0.5				
08-40	8058-103.0617-2-96-	4-108987	100234	0.05	1116	62193	110	2.59	11.7	35	6.9	6	2.8	30466	14.1	35715	54	0.4				
08-40	9522-103.3964-2-15-	1-109003																				
08-40	9472-103.3911-2-15-	1-109004																				
08-40	9503-103.3869-2-15-	2-109005																				
08-40	9500-103.3911-2-15-	1-109006																				
08-40	9192-102.9269-2-15-	3-109011																				
08-40	9489-102.9536-2-15-	3-109014																				
08-40	9386-102.9347-2-15-	4-109015	156221	0.00	1428	38322	722	272	129.0	301	0.0	6	19.4	268231	76.2	36957	3	1.6				
08-40	9611-102.9500-2-13-	3-109017	157237	0.04	1370	32864	914	0	83.4	421	0.0	8	30.8	204848	179.5	32094	4	1.4				
08-40	9650-102.9511-2-15-	3-109018	117355	0.04	914	28255	1085	52	0.0	393	0.0	9	31.2	0	219.8	28477	0	1.9				
08-40	9653-102.9547-2-11-	3-109019	172100	0.04	3248	50868	1419	0	75.4	452	0.0	35	37.3	276410	227.9	29424	5	2.1				
08-40	8192-103.3108-2-15-	1-109025	200202	0.04	840	40246	811	0	149.5	274	0.0	4	19.2	342581	64.8	39396	3	1.3				
08-40	8483-103.3878-2-15-	2-109027	144871	0.04	681	36894	745	74	0.0	541	0.0	4	15.2	0	63.0	28719	0	1.1				
08-40	8067-103.3825-2-15-	2-109028	148614	0.04	1025	71230	599	234	140.7	428	0.0	5	22.9	291087	73.7	33689	3	1.2				
08-40	8061-103.0367-2-12-	2-109030	146380	0.04	905	75123	885	0	121.7	391	0.0	5	24.3	235731	120.2	31427	4	1.6				
08-40	8658-103.1063-2-12-	2-109034	164150	0.04	1064	59130	660	0	84.2	344	0.0	5	23.3	225746	89.2	36974	3	1.1				
08-40	9772-102.9469-2-15-	2-109039	130307	0.04	744	38844	812	286	0.0	366	0.0	5	19.3	0	121.1	23125	0	1.3				
08-40	8197-103.0767-2-13-	2-109041	146007	0.04	855	40879	1049	98	106.4	401	0.0	7	24.6	310723	136.4	28871	5	1.3				
08-40	7614-103.1014-2-12-	2-109043	131933	0.04	1174	202905	1059	0	127.1	461	0.0	6	29.6	257421	224.6	21506	4	1.8				
08-40	9481-102.9544-2-11-	2-109086	124389	0.04	684	29525	835	105	121.4	278	0.0	4	19.5	263505	112.3	30310	3	1.6				
08-40	8353-102.9336-2-12-	2-109089	161070	0.04	1058	61980	788	0	0.0	507	0.0	13	26.5	0	150.8	28500	0	1.6				
08-40	9538-102.9488-2-15-	2-109091	123863	0.04	636	67630	2430	104	113.4	772	0.0	5	42.2	553781	325.1	21469	9	3.0				
08-40	9406-102.9551-2-15-	2-109092	144013	0.04	973	14532	1007	0	112.7	326	0.0	5	30.1	218878	160.7	34228	4	1.4				
08-40	9236-103.0383-2-15-	2-109095	145764	0.04	807	15160	950	109	96.2	346	0.0	5	26.3	261330	145.4	30223	4	1.3				
08-40	9664-103.0003-2-15-	2-109097	111529	0.04	3234	34859	829	04	0.0	586	0.0	23	23.0	0	126.5	31589	0	1.5				
08-40	8831-103.1158-2-15-	3-109099	114710	0.04	441	10020	289	0	117.4	493	0.0	4	29.9	255143	164.0	22373	4	1.6				
08-40	8039-103.4300-2-15-	1-109106	175850	0.04	1074	21438	767	0	139.4	733	0.0	4	18.8	347429	63.6	50277	3	1.2				
08-40	8411-103.4572-2-15-	2-109108	134943	0.04	710	22795	624	0	0.0	433	0.0	5	17.0	0	78.6	30043	0	1.1				
08-40	8092-103.3792-2-97-	1-109112	131724	0.04	408	28447	677	172	88.4	480	0.0	4	18.1	288029	83.4	33378	3	1.5				
08-40	8092-103.3792-2-15-	2-109113	159240	0.04	625	24446	626	0	134.4	544	0.0	4	20.4	234714	76.2	37081	2	1.5				
08-40	7889-103.3480-2-15-	1-109115	152799	0.04	801	49169	672	107	122.4	642	0.0	4	20.7	286774	72.8	35077	2	1.0				
08-40	7631-103.3042-2-14-	1-109121	149879	0.04	911	38763	538	1195	0.0	646	0.0	9	16.1	0	85.5	31226	0	1.0				
08-40	7606-103.3064-2-15-	1-109122	96544	0.04	964	19040	1006	0	101.1	578	0.0	6	37.6	321796	255.9	23944	4	1.9				
08-40	7730-103.2739-2-14-	1-109123	106790	0.04	480	15020	1013	57	97.2	465	0.0	3	29.6	194080	204.2	17058	4	1.6				
08-40	8053-103.2567-2-14-	1-109125	187400	0.04	1792	71644	714	204	122.4	475	0.0	6	15.7	338277	85.3	41433	3	1.3				
08-40	9561-103.3974-2-15-	1-109155	133094	0.04	402	68757	762	224	2.4	398	0.0	5	21.3	0	140.6	31567	0	1.5				
08-40	9753-103.4189-2-15-	1-109156	170133	0.04	1150	55123	726	183	125.4	342	0.0	6	16.6	278096	91.7	40884	4	1.4				

Insufficient sediment to obtain multielement results

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

4

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS (continued)																U / Th RATIO	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).																
							Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb	Zn		
08-40,9022-103,1178-2-11-						2-108946	23346	3835	14741	54	1	9.9	5.4	0	1	0	15.1	3667	92	4.0	164	0.245	
08-40,8578-103,3072-2-11-						1-108948	9246	418	17450	86	0	10.8	15.0	683	2	0	28.6	4155	53	7.5	165	0.150	
08-40,9267-103,3425-2-15-						2-108949	30147	913	17506	113	1	12.6	7.7	575	1	1	14.2	5830	106	3.1	127	0.310	
08-40,9494-102,9467-2-15-						3-108958	4906	3133	10579	46	0	26.5	77.7	0	26	11	239.1	37873	596	38.7	778	0.130	
08-40,9506-102,9436-2-15-						3-108959	11637	398	14533	110	0	10.4	14.9	430	3	1	31.2	4510	67	5.3	136	0.131	
08-40,9467-102,9403-2-15-						3-108960	16732	1507	17505	74	0	15.6	24.4	0	8	3	94.2	16437	259	16.2	200	0.148	
08-40,9367-103,1439-2-15-						3-108961	0	570	24549	44	0	5.6	7.3	0	0	0	16.8	5205	70	3.2	0	0.161	
08-40,9136-103,1542-2-15-						3-108962	14083	554	18508	121	0	11.6	9.8	432	3	0	22.8	4765	77	5.0	165	0.137	
08-40,9217-102,9478-2-15-						3-108969	13473	770	19573	0	0	11.2	21.4	219	2	3	57.1	8687	145	11.0	233	0.149	
08-40,7614-103,1022-2-12-						3-108970	20693	479	12965	144	0	12.2	5.5	509	1	0	17.1	4103	73	3.6	180	0.275	
08-40,7964-103,1039-2-12-						3-108973	30881	427	14045	80	0	10.5	6.6	796	1	0	14.1	4639	104	2.5	142	0.730	
08-40,8222-103,1153-2-12-						3-108975	23942	538	15188	70	0	11.8	8.3	545	0	0	19.0	3330	80	3.2	156	0.621	
08-40,8328-103,0428-2-12-						3-108980	31549	835	18561	144	0	11.2	7.4	441	2	0	15.6	5250	74	4.4	122	0.346	
08-40,8342-103,0258-2-12-						3-108984	19102	439	14497	94	0	13.1	13.3	296	0	2	20.7	3953	67	3.9	190	0.242	
08-40,8058-103,0417-2-15-						4-108987	32133	590	14143	139	0	11.5	10.2	942	2	0	17.6	5444	108	4.4	133	1.000	
08-40,9522-103,3954-2-15-						1-109003																	
08-40,9472-103,3911-2-15-						1-109004																	
08-40,9503-103,3869-2-15-						2-109005																	
08-40,9500-103,3911-2-15-						1-109006																	
08-40,9192-102,9269-2-15-						3-109011																	
08-40,9489-102,9436-2-15-						3-109014																	
08-40,9386-102,9447-2-15-						4-109015	17752	442	20058	1097	0	31.4	1.3	364	0	5	155.9	7054	110	6.7	1616	0.033	
08-40,9611-102,9500-2-15-						3-109017	13802	527	23505	509	0	59.5	1.4	680	0	0	180.6	7129	117	8.0	0	0.028	
08-40,9650-102,9511-2-15-						3-109018	10546	357	12268	0	0	0.0	2.0	463	0	0	204.4	5830	109	8.6	29451	0.022	
08-40,9653-102,9547-2-11-						3-109019	23018	2234	25260	611	0	56.9	2.6	0	29	11	265.3	32520	567	11.5	1404	0.024	
08-40,8192-103,3108-2-15-						1-109025	54647	627	10276	1477	0	129.2	1.1	283	0	0	137.8	4424	193	5.7	2384	0.032	
08-40,8483-103,3478-2-15-						2-109027	32147	550	0643	0	0	0.0	1.3	0	0	0	144.5	5073	104	5.5	20291	0.023	
08-40,8067-103,3825-2-15-						2-109028	24390	599	15349	545	0	111.1	1.0	364	36	0	121.4	6571	100	5.0	1448	0.037	
08-40,8061-103,0767-2-12-						2-109030	24211	747	15735	485	0	95.8	1.5	466	20	7	168.7	4393	105	6.4	2105	0.039	
08-40,8658-103,1069-2-12-						2-109034	23326	455	17363	500	0	82.9	1.0	0	11	0	141.8	5413	121	5.5	0	0.037	
08-40,9772-102,9469-2-15-						2-109039	24209	502	12223	0	0	0.0	1.3	366	0	0	159.5	4492	104	5.3	37199	0.019	
08-40,8197-103,0767-2-13-						2-109041	25271	542	16269	885	0	96.7	1.6	501	36	12	134.0	7929	132	7.3	1571	0.053	
08-40,7614-103,1014-2-12-						2-109043	20748	643	13873	503	0	87.3	1.7	401	35	12	187.0	4741	150	7.5	2554	0.039	
08-40,9481-102,9444-2-11-						2-109086	17255	333	14345	801	0	74.7	1.3	309	0	17	152.5	4427	79	8.5	1488	0.020	
08-40,8353-102,9236-2-12-						2-109089	20006	1094	22139	0	0	0.0	1.4	675	10	0	141.2	13343	270	4.8	21678	0.035	
08-40,9536-102,9486-2-15-						2-109091	16348	426	13576	872	0	99.2	4.0	293	52	18	488.3	4518	94	17.3	1419	0.018	
08-40,9606-102,9561-2-15-						2-109092	20791	477	14191	490	0	59.4	1.8	156	29	9	204.2	4946	101	9.2	1077	0.018	
08-40,9236-103,0793-2-15-						2-109095	18352	615	14347	817	0	90.5	1.1	387	3	0	178.0	5716	116	10.3	0	0.022	
08-40,9664-103,0003-2-15-						2-109097	15886	1375	14290	0	0	0.0	1.5	0	0	0	155.8	17714	323	6.2	39237	0.024	
08-40,8831-103,1158-2-15-						3-109099	22404	391	5539	546	0	79.9	1.8	58	28	0	181.6	3674	101	7.1	1408	0.024	
08-40,8039-103,4100-2-15-						1-109106	24617	670	20413	934	0	128.0	0.9	368	0	0	134.1	5475	153	10.8	2436	0.022	
08-40,8411-103,4592-2-15-						2-109108	24372	377	0857	0	0	0.0	1.0	128	0	0	107.5	4076	113	5.6	28742	0.022	
08-40,8092-103,3792-2-15-						1-109112	29551	342	0484	454	0	103.5	1.3	0	24	10	139.4	5152	105	4.9	1762	0.020	
08-40,8092-103,3792-2-15-						2-109113	27009	493	10925	897	0	93.0	1.1	0	20	0	107.5	5375	134	9.0	1555	0.030	
08-40,7889-103,3649-2-15-						1-109115	44716	327	0826	011	0	105.7	0.8	284	0	0	125.1	5477	170	5.9	0	0.022	
08-40,7631-103,3042-2-14-						1-109121	27481	633	18755	0	0	0.0	0.9	496	0	0	95.7	8301	167	6.4	2503	0.046	
08-40,7606-103,3064-2-15-						1-109122	9745	313	4790	887	0	92.4	1.4	0	16	6	179.8	4210	109	8.5	1422	0.025	
08-40,7736-103,2739-2-14-						1-109123	20645	328	5227	414	0	55.6	1.9	210	22	7	155.7	3327	86	9.4	1472	0.024	
08-40,8053-103,2567-2-14-						1-109125	32091	917	19455	718	0	124.8	0.5	0	0	0	152.0	6977	185	4.8	0	0.022	
08-40,9561-103,3978-2-15-						1-109158	30310	454	12016	0	0	0.0	1.3	0	0	0	148.7	4081	103	7.6	40498	0.034	
08-40,9753-103,4189-2-15-						1-109156	28833	579	17516	638	0	102.3	1.2	263	33	0	134.6	6097	137	7.2	1616	0.033	

Insufficient sediment to obtain multielement results

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

1

DOE SAMPLE NUMBER										LASL SAMPLE NUMBER AND FIELD DATA																			U CONCENTRATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
STATE		LATITUDE		LONGITUDE		DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	TIME SAMPLED		DATE		HOUR	AIR TEMPERATURE	WATER TEMPERATURE	COMMENTS	SPECIAL MEASUREMENTS	pH	SPECIFIC CONDUCTANCE (µmho/cm)	SCINTILLOMETER (el ppm)	ROCK TYPE	ROCK COLOR	SEDIMENT TYPE	SEDIMENT COLOR	WATER FLOW	WATER LEVEL	WATER COLOR	STREAM CHANNEL	VEGETATION TYPE	VEGETATION DENSITY	RELIEF	WEATHER	OWNERSHIP	CONTAMINANTS	WELL TYPE	WELL DIAMETER (INCHES)	WELL DEPTH (FEET)	WATER DEPTH (FEET)	SEDIMENT SAMPLES ANALYZED BY DELAYED NEUTRON COUNTING (DNC) UNITS IN ppm																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
08-40.9775-103.4158-2-12-	1-109157-07/19/77-14-	39-	-	-	-	28-1-1-5-1-	-1-	-2-4-3-3-2-	-1-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

②

DOE SAMPLE NUMBER						LASL SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY X-RAY FLUORESCENCE										ELEMENTAL CONCENTRATIONS DETERMINED BY ARC - SOURCE EMISSION SPECTROGRAPHY	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		Concentrations reported in weight parts per million (ppm).										Concentrations in weight ppm.	
							Ag	Bi	Cd	Cu	Nb	Ni	Pb	Sn	W	Be	Li	
OR	40.9775	-103.4158	-2-15-	1-109157			<4	<4	<4	25	<19	<14	15	<9	<14	2	77	
OR	40.9722	-103.4257	-2-15-	1-109158			<4	<4	<4	18	<19	<14	19	<9	<14	2	50	
OR	40.9650	-103.4428	-2-15-	1-109159			<4	<4	<4	21	<19	<14	13	<9	<14	2	54	
OR	40.9386	-103.3275	-2-15-	1-109160			<4	<4	<4	17	<19	<14	15	<9	<14	2	56	
OR	40.9306	-103.3159	-2-15-	1-109162			<4	<4	<4	13	<19	<14	9	<9	<14	2	52	
OR	40.9356	-103.3475	-2-15-	2-109163			<4	<4	<4	14	<19	<14	16	<9	<14	2	86	

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

③

DOE SAMPLE NUMBER						ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS																	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LASL SAMPLE NUMBER	Concentrations reported in weight parts per million (ppm).																
							Al	Au	Ba	Ca	Ce	Cl	Co	Cr	Cs	Dy	Eu	Fe	Hf	K	La	Lu	
08-40.9775	-103.4158	-2-15-	1-109157	15329*	0.00	1102	67849	705	141	117.7	283	0.0	4	21.3	255093	129.0	32963	3	1.3				
08-40.9722	-103.4267	-2-15-	1-109158	13099/	0.00	1188	51306	747	274	95.1	498	0.0	5	17.9	279807	105.8	28154	3	1.4				
08-40.9650	-103.4428	-2-15-	1-109159	14309/	0.00	849	51572	194	244	0.0	398	0.0	5	26.2	0	126.3	33426	0	1.5				
08-40.9386	-103.3275	-2-15-	1-109160	155170	0.00	1395	55851	691	260	110.4	420	0.0	5	24.2	317826	133.5	34422	3	1.5				
08-40.9306	-103.3169	-2-15-	1-109162	15297/	0.00	799	54899	817	284	132.2	273	0.0	4	16.2	315983	87.7	38221	3	1.2				
08-40.9356	-103.3475	-2-15-	2-109163	16453*	0.00	1074	39307	577	222	91.1	260	0.0	8	10.7	305433	45.1	37478	3	0.8				

APPENDIX C-IV (continued). Elemental Concentrations for Sediment Samples (Phase IV)

4

DOE SAMPLE NUMBER						LASL SAMPLE NUMBER	ELEMENTAL CONCENTRATIONS DETERMINED BY NEUTRON ACTIVATION ANALYSIS (continued)															U / Th RATIO	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPL. TYPE			REPLICATE	Concentrations reported in weight parts per million (ppm)															
								Mg	Mn	Na	Rb	Sb	Sc	Sm	Sr	Ta	Tb	Th	Ti	V	Yb		Zn
08-40.9775-103.4152-2-15-						1-109157	34421	579	12776	622	n	99.9	1.4	0	25	0	146.7	6112	139	7.2	1263	0.031	
08-40.9722-103.4267-2-15-						1-109158	26174	575	12705	449	n	98.5	0.9	462	0	0	169.9	4435	121	7.0	0	0.027	
08-40.9650-103.4422-2-15-						1-109159	24005	603	15438	0	n	0.0	1.4	453	0	0	153.4	5485	118	7.6	39939	0.033	
08-40.9386-103.3275-2-15-						1-109160	27637	703	15043	803	n	110.6	1.4	586	19	12	137.4	6288	131	6.2	1448	0.034	
08-40.9306-103.3159-2-15-						1-109162	31632	520	12580	779	n	105.5	0.7	0	0	0	144.2	4783	113	6.7	1442	0.035	
08-40.9356-103.3475-2-15-						2-109163	22100	759	22876	1208	n	111.8	0.7	579	0	3	140.1	10253	171	8.7	0	0.035	

APPENDIX D

CODE TO DATA LISTINGS

APPENDIX D-I

Explanation of Codes Used

APPENDIX D-II

Key to Sample Types

APPENDIX D-I

EXPLANATION OF CODES USED

DOE SAMPLE NUMBER

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

Alaska	= 02	Montana	= 30	South Dakota	= 46
Arizona	= 04	Nebraska	= 31	Texas	= 48
Colorado	= 08	New Mexico	= 35	Utah	= 49
Idaho	= 16	North Dakota	= 38	Wyoming	= 56
Kansas	= 20	Oklahoma	= 40		

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

DOE LAB: A Department of Energy (DOE) one-digit identifier designating the DOE laboratory responsible for taking the samples and data shown in the listings, as well as providing the analyses of the uranium and other elemental concentrations, if any. The LASL is designated by the numeral 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 "Key to Sample Types," Appendix D-II.

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 all smaller sequential numbers representing earlier samples back to 0, 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 a single zero.

LASL SAMPLE LOCATION NUMBER AND FIELD DATA

LASL SAMPLE LOCATION NUMBER: A unique six-place alphanumeric designator permanently assigned by the LASL to every location sampled. 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 various areas for which the LASL is responsible as follows.

<u>Location Numbers</u>	<u>State</u>
000 001 through 099 999	= New Mexico
100 001 through 199 999	= Colorado
200 001 through 299 999	= Wyoming
300 001 through 399 999	= Montana
400 001 and above	= Alaska
Ø00 001 and above	= Areas beyond the eastern boundary of LASL's region as established by DOE in 1977.

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 date to the nearest whole HOUR on a 24-hour clock.

AIR TEMPERATURE: The temperature that was measured in the shade at the time of sampling, to the nearest whole degree Celsius ($^{\circ}\text{C}$).

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.

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.

CONDUCTIVITY: The conductivity, in $\mu\text{mho/cm}$, that was measured in the water at the sample location at the time of sampling.

SCINTILLOMETER: The equivalent uranium (eU), in ppm, as measured on a flat ground surface within 10 m 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/Buff
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
2 = Yellow
3 = Orange

4 = Pink/Red
5 = Green
6 = Brown

7 = Gray
8 = Black
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, as given 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, as given 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, as given 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 below.

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

OWNERSHIP: Not used.

CONTAMINANTS: The single digit here indicates known or suspected local factors likely to influence analytical results, as given below.

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

WELL TYPE: If a well water sample, the single digit in this column provides a general description of the type of well from which the sample was taken, as given 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: When shown, the one or two digits in this column give the measured or estimated inside diameter, in inches, of the well casing from which the water sample came.

WELL DEPTH: When shown, the one, two, or three digits in this column give the total drilled depth from the surface, in feet, of the well from which the sample came. Three 9s in this column indicates a well depth greater than 1000 ft.

WATER DEPTH: When shown, the one, two, or three digits in this column give the known depth, in feet, from the surface to the standing water in the 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 total uranium concentration found in the water sample (in ppb) or in the sediment sample (in ppm). Those uranium concentrations in water that are shown with an asterisk were measured using the delayed-neutron counting method, while those without an asterisk were determined fluorometrically. The uranium analyses in water samples as determined by both of these methods at the LASL are directly comparable, as noted in Appendix A.

REMAINING ENTRIES: The data presented in the remaining entries of the listings utilize no codes as such and are described in the respective column headings. However, there are a number of conventions used throughout the listings of elemental concentrations: a) concentrations in waters are reported in ppb for Appendix B and in ppm of equivalent ion for Appendix F; b) concentrations in sediments are reported in ppm; and c) concentrations "less than" the lower detection limit are denoted by a less than symbol before the concentration value (except for fluorometrically determined uranium in waters, the convention for which is described in Appendix A).

APPENDIX D-II

KEY TO SAMPLE TYPES

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

The two-digit key number assigned to each sample type designates three distinct properties of the samples taken. These properties are: (a) The general sample source (spring, stream, dry stream, etc.); (b) The sample medium (water or sediment); 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 sample type columns of the specially formatted DOE sample numbering system to positively identify the sample type for all LASL sample data submitted.

<u>KEY NO.</u>	<u>SOURCE</u> / <u>MEDIUM</u> / <u>TREATMENT</u>
01 -	<u>Spring water</u> sample <u>untreated</u> .
02 -	<u>Stream water</u> sample <u>untreated</u> .
03 -	<u>Well water</u> sample <u>untreated</u> .
04 -	<u>Natural pond water</u> sample <u>untreated</u> .
05 -	<u>Artificial pond water</u> sample <u>untreated</u> .
06 -	<u>Spring water</u> sample <u>filtered</u> through a 0.45- μ membrane filter <u>and acidified</u> to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
07 -	<u>Stream water</u> sample <u>filtered</u> through a 0.45- μ membrane filter <u>and acidified</u> to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
08 -	<u>Well water</u> sample <u>filtered</u> through a 0.45- μ membrane filter <u>and acidified</u> to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
09 -	<u>Natural pond water</u> sample <u>filtered</u> through a 0.45- μ membrane filter <u>and acidified</u> to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
10 -	<u>Artificial pond water</u> sample <u>filtered</u> through a 0.45- μ membrane filter <u>and acidified</u> to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
11 -	<u>Wet spring sediment</u> sample <u>dried</u> at $\leq 100^\circ\text{C}$ <u>and sieved to -100 mesh</u> through stainless steel sieves.
12 -	<u>Wet stream sediment</u> sample <u>dried</u> at $\leq 100^\circ\text{C}$ <u>and sieved to -100 mesh</u> through stainless steel sieves.
13 -	<u>Wet natural pond sediment</u> sample <u>dried</u> at $\leq 100^\circ\text{C}$ <u>and sieved to -100 mesh</u> through stainless steel sieves.

- 14 - Wet artificial pond 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.
- 27 - Stream water sample acidified to a pH of ≤ 1 with reagent-grade nitric acid (HNO_3).
- 29 - Natural pond or lake 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.
- 97 - Dry artificial pond sediment sample dried at $\leq 100^{\circ}\text{C}$ (if necessary) and sieved to -100 mesh through stainless steel sieves.
- 98 - Other water These key numbers are to be used only for water (98) or sediment (99) samples coming from a special source and/or given a special treatment not described for any of the types of samples above. When used in the listings published herein, the source and treatment of the samples so designated are described in the text.
- 99 - Other sediment

APPENDIX E

SUMMARY OF UNIVERSITY OF COLORADO FIELD AND ANALYTICAL PROCEDURES

APPENDIX E

SUMMARY OF UNIVERSITY OF COLORADO FIELD AND ANALYTICAL PROCEDURES

FIELD PROCEDURES

Water samples utilized by the University of Colorado for their special measurements were unfiltered, but otherwise were taken as described for Field Procedures, Water Sampling, in Appendix A.

ANALYTICAL PROCEDURES

Water samples were analyzed using a Hach kit, Model DR-EL/2. The following procedures and techniques were used on the ensuing list of ions:

<u>Ion</u>	<u>Method</u>	<u>Standard</u>
Iron, Ferrous	Reagent	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 189
Nitrate	Reagent	Nitra Ver V Method, Hach Chemical Co.
Phosphate	Reagent	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 532
Alkalinity	Titration	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 52
Calcium	Titration	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 84
Chloride	Titration	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 97
Hardness, Total	Titration	APHA Standard Methods, 1971, 13th Ed., Stnd. No. 179
Nitrite	Colormetric	
APHA Standard Methods, 1975, 14th Ed., Stnd. No. 420		

Magnesium was computed as the difference between total hardness and calcium, as determined by the above standard methods.

APPENDIX F

LISTINGS OF FIELD ANALYTICAL DATA FOR UNFILTERED WATER SAMPLES

APPENDIX F-I

FIELD ANALYTICAL CHEMISTRY RESULTS FOR UNFILTERED
WATER SAMPLES - PHASE I

APPENDIX F-I. Field Analytical Chemistry Results on Unfiltered Water Samples (Phase I)

DOE SAMPLE NUMBER						CHEMICAL RESULTS ON UNFILTERED WATER SAMPLES BY HACH KIT MODEL DR-EL/2								Units in mg/L (ppm) of equivalent parts CaCO ₃	
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE	LAS SAMPLE LOCATION NUMBER	PHASE I, DECEMBER 1976-JANUARY 1977								Hardness
							Concentrations reported in mg/L (ppm) of equivalent ion								
							Alkalinity	Ca	Cl	Fe ⁺²	Mg	Nitrate	Nitrite	Phosphate	
08-40.2083-103.8875-2-08-	0-108901-	122	92				0.00	14		5.8	0.02	0.58	290		
08-40.1678-103.9172-2-08-	0-108902-	128	60				0.27	24		2.0	0.02	0.34	252		
08-40.1511-103.9108-2-08-	0-108903-	153	52					28		2.2	0.04	1.82	248		
08-40.1308-103.9458-2-08-	0-108904-	189	125				0.20	14		3.2		0.27	473		
08-40.1300-103.9186-2-08-	0-108905-	151	66			24	0.00	24		0.9		0.77	264		
08-40.1167-103.9050-2-08-	0-108906-	145	246			11	0.00	83		2.3		0.37	958		
08-40.1411-103.9108-2-08-	0-108907-	165	264			22	0.20	134		1.3	0.01	0.06	1120		
08-40.1439-103.9464-2-08-	0-108908-	104	60			5	0.09	12		6.0	0.01	0.30	200		
08-40.0731-104.0564-2-08-	0-108909-	134	118			9		14					362		
08-40.0528-104.0747-2-08-	0-108910-	104	43			5		8					140		
08-40.0347-104.0742-2-08-	0-108911-	153	216			11		91					918		
08-40.1158-103.9333-2-08-	0-108912-	155	92			32	0.12	24		5.5	0.03	0.48	330		
08-40.0664-103.9064-2-08-	0-108913-	157	252			44	0.16	103		2.2		0.03	1060		
08-40.0153-104.0750-2-08-	0-108914-	61	156			6		19					494		
08-40.0706-103.8867-2-08-	0-108915-	159	272			19		130				0.28	1220		
08-40.0425-104.0942-2-08-	0-108916-	98	132			5		19					410		
08-40.0150-104.0942-2-08-	0-108917-	207	232			18		32					714		
08-40.0239-104.0364-2-08-	0-108918-	122	136			5		24					438		
08-40.1022-104.0261-2-08-	0-108919-	189	283			11		15					972		
08-40.1022-104.0711-2-08-	0-108920-	134	70			5		7					204		
08-40.1353-104.0564-2-08-	0-108921-	116	109			8		14					330		
08-40.1744-104.0564-2-08-	0-108922-	110	96			3		18					314		
08-40.2178-104.0781-2-08-	0-108923-	122	119			4		12					348		
08-40.2089-104.0939-2-08-	0-108924-	165	128			9		29					440		
08-40.1667-104.0928-2-08-	0-108930-	146	91			9		9					266		
08-40.1403-104.0367-2-08-	0-108931-	122	102			5		24					354		
08-40.2183-104.0361-2-08-	0-108932-	104	82			2		18					278		
08-40.2250-103.9431-2-08-	0-108933-	250	286			560		62					974		
08-40.2325-103.8908-2-08-	0-108934-	171	194			35		37					640		
08-40.7756-103.0753-2-08-	0-108935-	207	288			42		65			0.21		990		
08-40.8381-103.0759-2-08-	0-108936-	311	24			49	0.18	10			0.12		100		
08-40.9386-103.1142-2-08-	0-108937-	107	46			7		12			0.08		165		
08-40.9472-103.1533-2-08-	0-108938-	95	42			8		12			0.07		155		
08-40.9636-103.2396-2-08-	0-108939-	98	46			14		13			0.10		170		
08-40.8575-103.2019-2-08-	0-108940-	79	24			2		7			0.12		90		
08-40.7611-103.1275-2-08-	0-108941-	415	20			91		5					70		
08-40.7750-103.1717-2-08-	0-108942-	281	26			60		8					100		
08-40.7753-103.2396-2-08-	0-108943-	378	12			32		5					50		
08-40.7969-103.2372-2-08-	0-108944-	409	10			25		5					45		
08-40.8561-103.2325-2-08-	0-108945-	82	40			2		7					130		
08-40.9022-103.1178-2-08-	0-108946-	116	48			3		10					160		
08-40.8211-103.2850-2-08-	0-108947-	183	72			23		19					260		
08-40.8578-103.3072-2-08-	0-108948-	256	68			5		22					260		
08-40.9792-103.2875-2-08-	0-108950-	98	44			5		12					160		
08-40.8894-103.2106-2-08-	0-108951-	67	36			1		4					105		
08-40.8886-103.1844-2-08-	0-108952-	85	28			2		10					110		
08-40.9361-103.3993-2-08-	0-108953-	96	32			3		11					125		
08-40.9492-103.4033-2-08-	0-108954-	110	24			15		8					95		
08-40.8317-102.9578-2-08-	0-108955-	268	2			17		3					18		
08-40.8317-102.9578-2-08-	1-108955-														
08-40.8386-102.9475-2-08-	0-108956-	140	142			33		21					445		

APPENDIX F-I (continued). Field Analytical Chemistry Results on Unfiltered Water Samples (Phase I)

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	CHEMICAL RESULTS ON UNFILTERED WATER SAMPLES BY HACH KIT MODEL DR-EL/2								Units in mg/L (ppm) of equivalent parts CaCO ₃ Hardness
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		PHASE I, DECEMBER 1976-JANUARY 1977								
							Concentrations reported in mg/L (ppm) of equivalent ion.								
							Alkalinity	Ca	Cl	Fe ⁺²	Mg	Nitrate	Nitrite	Phosphate	
08-40	8443-102	9439-2-08	0-108963-	145	140	32		16					416		
08-40	9011-103	2454-2-08	0-108964-	93	19	2		7					78		
08-40	9475-103	2439-2-08	0-108965-	90	18	9		6					70		
08-40	9644-103	1625-2-08	0-108966-	87	26	6		5					85		
08-40	9631-103	0442-2-08	0-108967-	84	22	4		6					78		
08-40	9200-103	0054-2-08	0-108968-	84	23	2		4					75		
08-40	7614-103	1022-2-07	0-108970-	195	156	46		42					562		
08-40	7614-103	1022-2-07	1-108970-												
08-40	7603-103	1067-2-08	0-108971-	307	14	35		5					55		
08-40	7756-103	1153-2-08	0-108972-	317	14	245		6					60		
08-40	7964-103	1039-2-07	0-108973-	89	128	20		30					445		
08-40	8214-103	1122-2-08	0-108974-	356	18	1		5					65		
08-40	8222-103	1153-2-07	0-108975-	193	128	42		24					420		
08-40	8342-103	1203-2-08	0-108976-	366	12	2		0					30		
08-40	8561-103	0554-2-08	0-108981-	89	56	12		10					180		
08-40	8339-103	0228-2-08	0-108983-	146	318	36		32					927		
08-40	8342-103	0258-2-07	0-108984-	124	201	27		27					615		
08-40	7817-103	0553-2-08	0-108985-	201	530	144		127					1855		
08-40	7917-103	0554-2-08	0-108986-	348	20	71		5					70		
08-40	7917-103	0554-2-08	1-108986-												
08-40	8125-103	0367-2-08	0-108988-	329	16	46		2					50		
08-40	7869-103	0419-2-08	0-108989-	389	16	74		5					60		
08-40	7689-103	0439-2-08	0-108990-	366	12	121		5					50		
08-40	7611-103	1362-2-07	0-108991-	195	276	47		70					980		
08-40	7892-103	1496-2-08	0-108992-	262	24	8		6					83		
08-40	8547-103	1783-2-08	0-108995-	131	42	3		10					146		
08-40	8189-103	1917-2-08	0-108996-	107	77	17		14					252		
08-40	7611-103	2011-2-08	0-108997-	387	16	39		10					80		
08-40	7611-103	2011-2-08	1-108997-												
08-40	7608-103	2333-2-08	0-108999-	390	21	33		8					86		
08-40	8925-102	9589-2-08	0-109001-	284	18	14		0					40		
08-40	8561-102	9506-2-08	0-109002-	256	6	14		0					15		
08-40	8425-102	9725-2-08	0-109007-	128	204	25		30					636		
08-40	8486-102	9936-2-08	0-109008-	244	8	14		3					33		
08-40	8308-102	9400-2-08	0-109009-	159	360	37		40					1067		
08-40	7572-103	0491-2-08	0-109010-	403	16	122		10					80		
08-40	9611-102	9500-2-08	0-109017-	92	42	3		8					139		
08-40	8239-103	3439-2-08	0-109026-	409	4	8		0					10		
08-40	8000-103	3661-2-08	0-109029-	311	10	7		4					43		

APPENDIX F-II

FIELD ANALYTICAL CHEMISTRY RESULTS FOR UNFILTERED
WATER SAMPLES - PHASE II

APPENDIX F-II. Field Analytical Chemistry Results on Unfiltered Water Samples (Phase II)

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	CHEMICAL RESULTS ON UNFILTERED WATER SAMPLES BY HACH KIT MODEL DR-EL/2				Units in mg/L (ppm) of equivalent parts CaCO ₃ Hardness
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		PHASE II, MARCH-APRIL 1977				
							Concentrations reported in mg/L (ppm) of equivalent ion.				
							Alkalinity	Ca	Cl	Mg	
08-40.2083-103.8A75-2-08-						1-10A901-	115		11		
08-40.1678-103.9172-2-08-						1-10A902-	132		11		
08-40.1511-103.9108-2-08-						1-10A903-	160		5		
08-40.1300-103.9186-2-08-						1-10A905-	142		3		
08-40.1167-103.9050-2-08-						1-10A906-	141		12		
08-40.1411-103.9108-2-08-						1-10A907-	163		23		
08-40.0731-104.0564-2-08-						1-10A909-	123		9		
08-40.0528-104.0747-2-08-						1-10A910-	99		5		
08-40.0347-104.0742-2-08-						1-10A911-	150		12		
08-40.1158-103.9333-2-08-						1-10A912-	145		4		
08-40.0664-103.9064-2-08-						1-10A913-	139		45		
08-40.0153-104.0750-2-08-						1-10A914-	120		7		
08-40.0706-103.8867-2-08-						1-10A915-	154		19		
08-40.0425-104.0942-2-08-						1-10A916-	99		5		
08-40.0150-104.0942-2-08-						1-10A917-	199		19		
08-40.0239-104.0764-2-08-						1-10A918-	107		5		
08-40.1022-104.0711-2-08-						1-10A920-	122		6		
08-40.2250-103.9422-2-08-						0-10A921-	253	466	298	89	
08-40.2322-103.9242-2-08-						0-10A922-	187	303	31	44	
08-40.2328-103.9350-2-08-						0-10A923-	181	270	31	60	
08-40.2306-103.9422-2-08-						0-10A924-	199	324	30	46	
08-40.2322-103.9514-2-08-						0-10A925-	178	233	23	36	
08-40.1353-104.0564-2-08-						1-10A926-	112		17		
08-40.1744-104.0564-2-08-						1-10A927-	106		3		
08-40.2178-104.0781-2-08-						1-10A928-	125		17		
08-40.2089-104.0939-2-08-						1-10A929-	167		10		
08-40.1667-104.0928-2-08-						1-10A930-	151		18		
08-40.1403-104.0367-2-08-						1-10A931-	112		6		
08-40.2183-104.0361-2-08-						1-10A932-	96		3		
08-40.2250-103.9431-2-08-						1-10A933-	234	546	401	122	
08-40.2325-103.8908-2-08-						1-10A934-	173		24		
08-40.7756-103.0753-2-08-						1-10A935-	192		52		
08-40.8381-103.0789-2-08-						1-10A936-	314	18	47	5	
08-40.9386-103.1142-2-08-						1-10A937-	87		5		
08-40.9472-103.1533-2-08-						1-10A938-	104		16		
08-40.9636-103.2386-2-08-						1-10A939-	87	46	12	11	
08-40.8575-103.2019-2-08-						1-10A940-	229		29		
08-40.7611-103.1275-2-08-						1-10A941-	394		76		
08-40.7750-103.1717-2-08-						1-10A942-	295		57		
08-40.7750-103.1717-2-08-						2-10A942-	295		57		
08-40.7753-103.2386-2-08-						1-10A943-	371		0		
08-40.9792-103.2075-2-08-						1-10A950-	98	45	5	10	
08-40.8886-103.1844-2-08-						1-10A952-	84		2		
08-40.8317-102.9578-2-08-						2-10A955-	232	4	15	2	
08-40.8386-102.9475-2-08-						1-10A956-	146	318	34	38	
08-40.8483-102.9439-2-08-						1-10A963-	134	297	32	32	
08-40.9011-103.2464-2-08-						1-10A964-	93		3		
08-40.9475-103.2439-2-08-						1-10A965-	88	35	9	10	
08-40.9644-103.1625-2-08-						1-10A966-	93	53	7	7	
08-40.9631-103.0442-2-08-						1-10A967-	79	42	4	11	
08-40.7614-103.1022-2-07-						2-10A970-	176		49		

APPENDIX F-II (continued). Field Analytical Chemistry Results on Unfiltered Water Samples (Phase II)

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	CHEMICAL RESULTS ON UNFILTERED WATER SAMPLES BY HACH KIT MODEL DR-EL/2				Units in mg/L (ppm) of equivalent parts CaCO ₃ Hardness
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		PHASE II, MARCH-APRIL 1977				
							Concentrations reported in mg/L (ppm) of equivalent ion.				
							Alkalinity	Ca	Cl	Mg	
08-40.7614-103.1022-2-07-						3-108970-	192		50		
08-40.7603-103.1067-2-08-						1-108971-	298		34		
08-40.7756-103.1153-2-08-						1-108972-	327		52		
08-40.7964-103.1039-2-07-						1-108973-	148		39		
08-40.8214-103.1122-2-08-						1-108974-	366	13	74	5	
08-40.8222-103.1153-2-07-						1-108975-	168	244	43	48	
08-40.8342-103.1203-2-08-						1-108978-	366	12	50	0	
08-40.8328-103.0628-2-07-						1-108980-	121	117	18	25	
08-40.8561-103.0564-2-08-						1-108981-	92	111	14	16	
08-40.8339-103.0228-2-08-						1-108983-	146	308	35	45	
08-40.8342-103.0258-2-07-						1-108984-	101	202	27	19	
08-40.7817-103.0553-2-08-						1-108985-	199		117		
08-40.7917-103.0564-2-08-						2-108986-	327		71		
08-40.8125-103.0367-2-08-						1-108988-	323		47		
08-40.7869-103.0419-2-08-						1-108989-	372	42	77	13	
08-40.7689-103.0439-2-08-						1-108990-	342	21	127	6	
08-40.7611-103.1342-2-07-						2-108991-	176		51	80	
08-40.7611-103.1342-2-07-						3-108991-			51		
08-40.7892-103.1486-2-08-						1-108992-	269		9		
08-40.8547-103.1783-2-08-						1-108995-	185		20		
08-40.8189-103.1917-2-08-						1-108996-	106		19		
08-40.7611-103.2011-2-08-						2-108997-	365		35		
08-40.7608-103.2333-2-08-						1-108999-	369		29		
08-40.8925-102.9589-2-08-						1-109001-	267	12	15	2	
08-40.8561-102.9506-2-08-						1-109002-	238	9	1	3	
08-40.8425-102.9725-2-08-						1-109007-	100	212	35	32	
08-40.8486-102.9936-2-08-						1-109008-	71	11	15	0	
08-40.8308-102.9903-2-08-						1-109009-	139	344	35	48	
08-40.7572-103.1681-2-08-						1-109010-	398		114		
08-40.9611-102.9500-2-06-						1-109017-	58		1		
08-40.8061-103.0367-2-07-						0-109030-	118	180	25	32	
08-40.8342-103.0167-2-07-						0-109031-	88	191	24	19	
08-40.8642-103.1025-2-08-						0-109033-	209	22	11	5	
08-40.8658-103.1069-2-07-						0-109034-	104	53	4	6	
08-40.8411-103.1197-2-09-						0-109035-	58		28	61	
08-40.7794-103.0553-2-08-						0-109036-	173		48		
08-40.8419-103.0389-2-08-						0-109038-	104		16		
08-40.8467-103.0353-2-08-						0-109040-	229		29		
08-40.7900-103.0750-2-08-						0-109042-	357		82		
08-40.7614-103.1014-2-07-						0-109043-	154		48		
08-40.7925-103.1028-2-10-						0-109046-	185		24		
08-40.7925-103.1028-2-10-						1-109046-	185		24		
08-40.7908-103.1258-2-07-						0-109047-	144		43		
08-40.7617-103.2336-2-07-						0-109048-	146		32		
08-40.8575-103.1972-2-08-						0-109049-	92		2		
08-40.8575-103.1972-2-08-						1-109049-	92		2		
08-40.0750-104.0039-2-08-						0-109051-	122		27		
08-40.0431-103.9694-2-08-						0-109052-	131		6		
08-40.2986-104.0556-2-08-						0-109059-	179		17		

APPENDIX F-II (continued). Field Analytical Chemistry Results on Unfiltered Water Samples (Phase IV)

DOE SAMPLE NUMBER						LASL SAMPLE LOCATION NUMBER	CHEMICAL RESULTS ON UNFILTERED WATER SAMPLES BY HACH KIT MODEL DR-EL/2				Units in mg/L (ppm) of equivalent parts CaCO ₃ Hardness
STATE	LATITUDE	LONGITUDE	DOE LAB	SAMPLE TYPE	REPLICATE		PHASE II, MARCH-APRIL 1977				
							Concentrations reported in mg/L (ppm) of equivalent ion.				
							Alkalinity	Ca	Cl	Mg	
08-40.3317-104.5550-2-08-						0-109060-	157		21		
08-40.3417-104.5614-2-07-						0-109061-	148		24		
08-40.3572-104.5733-2-08-						0-109062-	195		31		
08-40.2767-104.5911-2-08-						0-109063-	99		4		
08-40.2836-104.5556-2-08-						0-109064-	182		14		
08-40.3719-104.5647-2-08-						0-109065-	181		32		
08-40.3653-104.5314-2-08-						0-109066-	182		29		
08-40.3644-103.9919-2-08-						0-109067-	157		26		
08-40.3353-103.9683-2-07-						0-109068-	162		25		
08-40.3203-103.9797-2-08-						0-109069-	135		15		
08-40.2983-103.9978-2-08-						0-109070-	135		18		
08-40.2778-103.9872-2-08-						0-109071-	126		18		
08-40.2550-103.9439-2-08-						0-109072-	162		15		
08-40.9931-102.9833-2-08-						0-109073-	106		4		
08-40.9967-102.9789-2-08-						0-109074-	84		5		
08-40.9947-102.9411-2-08-						0-109075-	64		3		
08-40.9944-102.9244-2-08-						0-109076-	74		4		
08-40.9544-102.9225-2-08-						0-109077-	78		3		
08-40.9731-102.9242-2-08-						0-109078-	117		5		
08-40.9919-102.9981-2-08-						0-109079-	67		3		
08-40.9792-103.5131-2-08-						0-109080-	77		3		
08-40.9417-102.9961-2-08-						0-109081-	76		1		
08-40.9497-103.5181-2-08-						0-109082-	90		4		
08-40.9489-103.5783-2-08-						0-109083-	77		9		
08-40.9411-103.5756-2-08-						0-109084-	83		12		
08-40.9392-103.5931-2-08-						0-109085-	96		9		
08-40.9481-102.9544-2-06-						0-109086-	67		1		
08-40.7872-102.9972-2-08-						0-109087-	218		42		
08-40.8075-102.9431-2-08-						0-109088-	133		52		
08-40.8353-102.9736-2-08-						0-109089-	362		43		
08-40.9536-102.9486-2-07-						0-109091-	71		3		
08-40.8939-102.9967-2-08-						0-109093-	96		2		
08-40.9350-103.5725-2-08-						0-109096-	94		3		

APPENDIX G

SAMPLING PHASE CORRELATION CODE

APPENDIX G

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
108901	0(W)	1(W)	2(W)	
108902	0(W)	1(W)	2(W)	
108903	0(W)	1(W)	2(W)	
108904	0(W)			1(W)
108905	0(W)	1(W)	2 and 3(W)	
108906	0(W)	1(W)	2(W)	3(W)
108907	0(W)	1(W)		
108908	0(W)			
108909	0(W)	1(W)	2(W)	3(W)
108910	0(W)	1(W)	2(W)	3(W)
108911	0(W)	1(W)	2(W)	3(W)
108912	0(W)	1(W)	2(W)	3(W)
108913	0(W)	1(W)	2(W)	3(W)
108914	0(W)	1(W)	2(W)	3(W)
108915	0(W)	1(W)	2(W)	3(W)
108916	0(W)	1(W)	2(W)	3(W)
108917	0(W)	1(W)	2(W)	3(W)
108918	0(W)	1(W)	2(W)	3(W)
108919	0(W)		1(W)	2(W)
108920	0(W)	1(W)	2(W)	3(W)
108921		0(W)	1(W)	2(W)
108922		0(W)	1(W)	2(W)
108923		0(W)	1(W)	2(W)
108924		0(W)	1(W)	2(W)
108925		0(W)	1(W)	2(W)
108926	0(W)	1(W)	2(W)	3 and 4(W)
108927	0(W)	1(W)	2(W)	3(W)
108928	0(W)	1(W)	2(W)	3(W)
108929	0(W)	1(W)	2(W)	3(W)
108930	0(W)	1(W)	2(W)	3(W)
108931	0(W)	1(W)	2 and 3(W)	4(W)
108932	0(W)	1(W)	2(W)	3 and 4(W)
108933	0(W)	1(W)		2(W)
108934	0(W)	1(W)	2(W)	3(W)
108935	0(W)	1(W)	2(W)	3(W)
108936	0(W)	1(W)	2(W)	
108937	0(W)	1(W)	2(W)	3(W)
108938	0(W)	1(W)		2(W)
108939	0(W)	1(W)	2(W)	3(W)
108940	0(W)	1(W)	2(W)	
108941	0(W)	1(W)	2(W)	
108942	0(W)	1 and 2(W)	3(W)	
108943	0(W)	1(W)	2(W)	3(W)
108944	0(W)		1 and 2(W)	
108945	0(W)		1 and 2(W)	
108946	0(B)		1(B)	2(B)
108947	0(W)		1(W)	
108948	0(B)		1(B)	2(B)
108949	0(S)		1(S)	2(S)
108950	0(W)	1(W)	2(W)	

(W) - Water sample

(S) - Sediment sample

(B) - Both a water and a sediment sample

APPENDIX G (cont'd.)

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
108951	0(W)			1(W)
108952	0(W)	1(W)	2(W)	
108953	0(W)		1(W)	2(W)
108954	0(W)			
108955	0 and 1(W)	2(W)	3(W)	4(W)
108956	0(B)	1(B)	2(B)	
108957	0(S)	1(S)	2(S)	
108958	0(S)		1(S)	2(S)
108959	0(S)	1(S)	2(S)	3(S)
108960	0(S)	1(S)	2(S)	3(S)
108961	0(S)	1(S)	2 and 3(S)	4(S)
108962	0(S)	1(S)	2(S)	3(S)
108963	0(W)	1(W)	2(W)	3(W)
108964	0(W)	1(W)	2(W)	3(W)
108965	0(W)	1(W)	2(W)	3(W)
108966	0(W)	1(W)	2(W)	3(W)
108967	0(W)	1(W)	2(W)	3(W)
108968	0(W)		1(W)	
108969	0(S)	1(S)	2(S)	3(S)
108970	0 and 1(B)	2 and 3(B)	4(B)	5(S)
108971	0(W)	1(W)	2(W)	3(W)
108972	0(W)	1(W)	2(W)	3(W)
108973	0(B)	1(B)	2(B)	3(B)
108974	0(W)	1(W)	2(W)	3(W)
108975	0(B)	1(B)	2(B)	3(B)
108976	0(S)	1(S)	2(B)	
108977	0(S)			
108978	0(W)	1(W)	2(W)	3(W)
108979	0(S)			
108980	0(S)	1(B)	2(B)	3(B)
108981	0(W)	1(W)	2(W)	3(W)
108982	0(S)			
108983	0(W)	1(W)	2(W)	3(W)
108984	0(B)	1(B)	2(B)	3(B)
108985	0(W)	1(W)	2(W)	3(W)
108986	0 and 1(W)	2(W)	3(W)	4(W)
108987	0 and 1(S)	2(S)	3(S)	4(S)
108988	0(W)	1(W)	2(W)	3(W)
108989	0(W)	1(W)	2(W)	3(W)
108990	0(W)	1(W)	2(W)	3(W)
108991	0 and 1(B)	2 and 3(B)	4(B)	
108992	0(W)	1(W)	2(W)	
108993	0(S)			
108994	0(S)		1, 2, 3, and 4(S)	
108995	0(W)	1(W)	2(W)	
108996	0(W)	1(W)	2(W)	3(W)
108997	0 and 1(W)	2(W)	3(W)	4(W)
108999	0(W)	1(W)	2(W)	
109000	0(S)			

(W) - Water sample

(S) - Sediment sample

(B) - Both a water and a sediment sample

APPENDIX G (cont'd.)

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
109001	0(W)	1(W)	2(W)	3(W)
109002	0(W)	1(W)	2(W)	
109003	0(S)			1(S)
109004	0(S)			1(S)
109005	0 and 1(S)			2(S)
109006	0(W)			1(W)
109007	0(W)	1(W)	2(W)	3(W)
109008	0(W)	1(W)	2(W)	
109009	0(W)	1(W)	2(W)	
109010	0(W)	1(W)		2(W)
109011	0 and 1(S)		2(S)	3(S)
109012	0(S)		1(S)	
109013	0(S)		1(S)	
109014	0(S)	1(S)	2(S)	3(S)
109015	0 and 1(S)	2(S)	3(S)	4(S)
109016	0 and 1(S)	2(S)	3(S)	
109017	0(W)	1(B)	2(B)	3(B)
109018	0(S)	1(S)	2(S)	3(S)
109019	0 and 1(S)			2(B)
109020	0(S)	1(S)	2(S)	
109021	0 and 1(S)	2(S)		
109022	0(S)			
109023	0(S)			
109024	0(S)		1 and 2(S)	
109025	0(S)			1(S)
109026	0(W)			1(W)
109027	0(S)		1(S)	2(S)
109028	0(S)		1(S)	2(S)
109029	0(W)		1 and 2(W)	3(W)
109030		0(B)	1(B)	2(B)
109031		0(F)	1(B)	
109032		0, 1, and 2(S)	3(S)	
109033		0(W)	1(W)	2(W)
109034		0(B)	1(B)	2(B)
109035		0(B)	1(B)	
109036		0(W)	1(W)	
109037		0(S)	1(S)	
109038		0(W)	1(W)	2(W)
109039	0(S)		1(S)	2(S)
109040		0(W)	1 and 2(W)	3(W)
109041		0(S)	1(S)	2(B)
109042		0(W)	1(W)	2(W)
109043		0(B)	1(B)	2(B)
109045		0(S)	1(S)	
109046		0 and 1(W)	2(W)	3(W)
109047		0(B)	1(B)	
109048		0(B)		
109049		0 and 1(W)	2(W)	

(W) - Water sample

(S) - Sediment sample

(B) - Both a water and a sediment sample

APPENDIX G (cont'd.)

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
109051		0(W)	1(W)	2(W)
109052		0(W)	1 and 2(W)	3(W)
109053			0(S)	
109054			0(S)	
109055			0(W)	1(W)
109056			0 and 1(S)	
109057			0(W)	1(W)
109058			0(S)	
109059		0(W)	1(W)	
109060		0(W)	1(W)	
109061		0(B)	1(B)	
109062		0(W)	1(W)	
109063		0(W)	1(W)	
109064		0(W)	1(W)	
109065		0(W)	1(W)	
109066		0(W)	1(W)	
109067		0(W)		
109068		0(B)		
109069		0(W)	1(W)	
109070		0(W)	1(W)	
109071		0(W)	1(W)	
109072		0(W)	1(W)	
109073		0(W)	1(W)	2(W)
109074		0(W)	1(W)	
109075		0(W)		1(W)
109076		0(W)	1(W)	
109077		0(W)	1(W)	2(W)
109078		0(W)	1(W)	
109079		0(W)		
109080		0(W)	1(W)	2(W)
109081		0(W)	1(W)	
109082		0(W)	1 and 2(W)	3(W)
109083		0(W)	1(W)	2(W)
109084		0(W)	1(W)	2(W)
109085		0(W)	1(W)	2(W)
109086		0(W)	1(W)	2(B)
109087		0(W)	1(W)	2(W)
109088		0(W)	1(W)	2(W)
109089		0(W)	1(W)	
109090		0(S)	1 and 2(S)	
109091		0(B)	1(S)	2(S)
109092		0(S)	1(S)	2(S)
109093		0(W)	1(W)	
109094		0 and 1(S)	2(S)	
109095		0(S)	1(S)	2(S)
109096		0(W)	1(W)	2(W)
109097		0(S)	1(S)	2(S)
109098		0(S)	1(S)	
109099		0 and 1(S)	2(S)	3(S)
109100		0(S)		

(W) - Water sample

(S) - Sediment sample

(B) - Both a water and a sediment sample

APPENDIX G (cont'd.)

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
109101		0(S)		
109102		0(S)	1 and 2(S)	
109103			0 and 1(W)	2(W)
109104			0(S)	
109105			0 and 1(B)	
109106			0(S)	1(S)
109107			0(S)	
109108			0 and 1(S)	2(S)
109109			0 and 1(W)	2(W)
109110			0(W)	
109111			0 and 1(W)	2(W)
109112			0(B)	1(S)
109113			0 and 1(S)	2(S)
109114			0 and 1(W)	2(W)
109115			0(S)	1(S)
109116			0 and 1(W)	
109117			0(W)	1(W)
109118			0(S)	
109119			0(W)	1(W)
109120			0 and 1(W)	2(W)
109121			0(B)	1(B)
109122			0(B)	1(S)
109123			0(B)	1(B)
109124			0(B)	
109125			0(B)	1(B)
109126			0 and 1(W)	2(W)
109127			0(W)	2(W)
109128			0 and 1(W)	2(W)
109129			0(W)	1(W)
109130			0(W)	1(W)
109131			0(W)	1(W)
109132			0(S)	
109133			0(W)	1(W)
109134			0(W)	1(W)
109135			0(W)	1(W)
109136			0(W)	
109137			0(W)	1(W)
109138			0 and 1(W)	2(W)
109139			0(S)	
109140			0(S)	
109141			0(S)	
109142			0(S)	
109144			0(W)	
109145			0(S)	
109146			0(S)	
109147			0(S)	
109148			0(S)	
109149			0(S)	
109150			0(S)	

(W) - Water sample
(S) - Sediment sample
(B) - Both a water and a sediment sample

APPENDIX G (cont'd.)

SAMPLING PHASE CORRELATION CODE

LASL Sample Location Number	PHASE I Dec. 76 - Jan. 77 DOE Replicate Number	PHASE II March - April 77 DOE Replicate Number	PHASE III April - May 77 DOE Replicate Number	PHASE IV July - August 77 DOE Replicate Number
109151			0(W)	
109152			0(W)	
109153			0(W)	1(W)
109154			0(W)	1(W)
109155			0(S)	1(S)
109156			0(S)	1(S)
109157			0(S)	1(S)
109158			0(S)	1(S)
109159			0(S)	1(S)
109160			0(S)	1(S)
109161			0(S)	
109162			0(S)	1(S)
109163			0 and 1(S)	2(S)
109164			0(W)	
109168			0(S)	
109171			0(W)	1(W)
109172			0(W)	1(W)
109173			0(W)	1(W)

(W) - Water sample

(S) - Sediment sample

(B) - Both a water and a sediment sample

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