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MESA NTMS 1° × 2° QUADRANGLE AREA

SUPPLEMENTAL DATA REPORT

NATIONAL URANIUM RESOURCE EVALUATION PROGRAM

HYDROGEOCHEMICAL AND STREAM SEDIMENT RECONNAISSANCE

G. R. KOLLER

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FOREWORD

This supplemental data report is released without standard editorial and technical review in order to make the information available as soon as possible to interested organizations and to assist the search for uranium resources.

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MASTER

by

G. R. Koller

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ABSTRACT

This data report presents supplemental analytical results for stream sediments and ground water. The samples were collected as part of the SRL-NURE reconnaissance in the National Topographic Map Series (NTMS) Mesa 1° x 2° quadrangle. Results are reported for 24 elements (Ag, As, Ba, Be, Ca, Co, Cr, Cu, K, Li, Mg, Mo, Nb, Ni, P, Pb, Se, Sn, Sr, Th, W, Y, Zn, and extractable U) in sediments and 31 elements (Ag, Al, As, B, Ba, Be, Ca, Ce, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Sc, Se, Si, Sr, Th, Ti, V, Y, Zn, and Zr) as well as pH, alkalinity, and conductivity in ground water. Field data and NAA data will be open-filed when they are available.

Microfiche cards have been placed in a pocket on the last page of this report. These cards contain the following information:

- Cards marked Pg. 1, Pg. 2, and Pg. 3 contain histograms, cumulative frequency plots, and areal distribution plots for sediment samples.
- The card marked Plate 1 is a site-code map for sediment samples.

ERRATA:

Pages 36 and 37, Sample MMCD031: UX = 6.4 Th = -100

Pages 40 and 41, Sample MMDA015: UX = 0.3 Th = 70

Pages 42 and 43, Sample MMDC015: UX = 0.5 Th = -70

Pages 42 and 43, Sample MMDC031: UX = 0.1 Th = -55

Groundwater samples with type codes of 7 (see pp. 15 and 17) should have type codes of 52.

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SUPPLEMENTAL DATA REPORT, MESA 1° x 2° NTMS QUADRANGLE

INTRODUCTION

The National Uranium Resource Evaluation (NURE) program was established to evaluate domestic uranium resources in the continental United States and to identify areas favorable for uranium exploration. The Grand Junction Office (GJO) of the Department of Energy (DOE) is responsible for administering and coordinating NURE program efforts. The Savannah River Laboratory (SRL) has responsibility for hydrogeochemical and stream sediment reconnaissance (HSSR) of 3.9 million square kilometers (1,500,000 square miles) in 37 eastern and western states. Other DOE laboratories are responsible for similar reconnaissance in the rest of the continental United States including Alaska. The significance of the distribution of uranium in natural waters and stream sediments will be assessed as an indicator of areas favorable for the location of uranium deposits.

The principal objectives of the NURE program are:

- Increase geologic knowledge of U.S. uranium resources in regions where uranium ore bodies are known to exist and are candidate supplies under present and near-term market conditions.
- Complete assessment of lower cost potential uranium resources in the conterminous U.S. and Alaska.
- Improve reliability and validate resource estimates and increase confidence levels.
- Expand scope of uranium assessment to include higher cost and relatively unknown domestic resources that may be feasible uranium supply alternatives.
- Apply advanced technologies for detection and assessment of uranium resources.

DOE-GJO is responsible for administering and coordinating efforts to meet these objectives including distribution of reports. Inputs to the NURE program come from DOE prime contractors, DOE-sponsored research and development, the uranium industry, U.S. Geological Survey, U.S. Bureau of Mines, other federal and state government agencies, and independent sources.

The NURE program consists of six parts:

1. Hydrogeochemical and Stream Sediment Reconnaissance Survey
2. Aerial Radiometric Survey
3. Intermediate Grade Resource Studies
4. World Class Geologic Studies
5. Subsurface Geologic Investigation
6. Technology Application

The data presented here are reconnaissance data intended for use in identifying broad areas for further study. While care has been taken to provide reliable sampling and analyses, verification of individual analyses is beyond the scope of this report. The data should be viewed statistically because "one-point anomalies" may be misleading. Regional trends, however, should be reliable. With careful consideration of regional geology, these data should provide reliable guides to areas warranting further study.

This report is one of a series presenting SRL reconnaissance supplementary data. Detailed descriptions of sampling techniques, field data, and neutron activation results (including U, Th, and Hf) will be reported in a subsequent basic data report for the Mesa quadrangle. Identification numbers (both SRL and DOE) and supplemental analysis data are presented in this report in tabular form. Page-size areal distribution plots of selected elements may be included (as Part III of the Appendix) if deemed appropriate. All data will be available on magnetic tape from:

GJOIS Project
UCC-ND Computer Applications Department
4500 North Building
Oak Ridge National Laboratory
P.O. Box X
Oak Ridge, Tenn. 37830

A summary of the SRL development program in support of the reconnaissance is available in SRL-NURE progress reports (SRL-138).

The location of the Mesa quadrangle is shown in Figure 1.

Table 1 summarizes the quadrangle abbreviations used in SRL sample identification numbers.

FIGURE 1. Location Map for the Mesa 1° x 2° NTMS Quadrangle

TABLE 1

SRL Site Code Abbreviations for Western 1° x 2° NTMS Quadrangles

<u>Quadrangle</u>	<u>Designator</u>	<u>Quadrangle</u>	<u>Designator</u>
Adel	AD	Hailey	HA
Ajo	AJ	Holbrook	HO
Alturas	AT	Hoquiam	HQ
Baker	BA	Idaho Falls	IF
Bakersfield	BF		
Bend	BN		
Boise	BO	Jordan Valley	JV
Brigham City	BC		
Burns	BU	Kingman	KI
		Klamath Falls	KF
Caliente	CL		
Canyon City	CN	Las Vegas	LV
Cape Flattery	CA	Long Beach	LB
Cedar City	CD	Los Angeles	LS
Challis	CH	Lovelock	LL
Chico	CI	Lukeville	LK
Concrete	CO	Lund	LU
Coos Bay	CB		
Copalis Beach	CP	Marble Canyon	MC
Crescent	CR	Mariposa	MR
		McDermitt	MT
Death Valley	DV	Medford	MF
Delta	DL	Mesa	MM
		Millett	ML
El Centro	EL		
Elko	EK	Needles	NE
Ely	EY	Nogales	NO
Escalante	ES		
Eureka	EU	Okanogan	ON
Flagstaff	FS	Pendleton	PN
Fresno	FR	Phoenix	PX
		Pocatello	PC
Goldfield	GO	Prescott	PR
Grand Canyon	GC	Price	PE
Grangeville	GV	Pullman	PU

TABLE 1 (Continued)

<u>Quadrangle</u>	<u>Designator</u>	<u>Quadrangle</u>	<u>Designator</u>
Redding	RD	Ukiah	UK
Reno	RN		
Richfield	RF		
Ritzville	RZ	Vancouver	VN
Roseburg	RO	Victoria	VC
		Vya	VY
Sacramento	SX		
Salem	SM	Walker Lake	WL
Salina	SL	Walla Walla	WW
Salt Lake City	SY	Weed	WD
Salton Sea	SS	Wells	WE
San Bernardino	SB	Wenatchee	WN
San Diego	SD	Williams	WS
San Francisco	SF	Winnemucca	WM
San Jose	SJ		
San Luis Obispo	SO		
Santa Ana	SA	Yakima	YK
Santa Cruz	SZ		
Santa Maria	SI		
Santa Rosa	SN		
Seattle	SE		
Spokane	SK		
Susanville	SU		
The Dalles	TD		
Tonopah	TP		
Tooele	TO		
Trona	TR		
Tucson	TU		
Twin Falls	TF		

METHODS OF ANALYSIS

Stream Sediment samples were analyzed for supplemental elements by a contract vendor. Methods of sample dissolution and analysis for each supplemental element are shown in Figure 2. A summary of analytical results for 100 test standards (unknown to the vendor) are shown in Table 2. Analytical results (Table 2) are well within specifications. A standard and blank were analyzed with each group of 40 samples.

Water samples were filtered through a polycarbonate filter membrane (0.45 μ m pore size) and were acidified to a pH lower than 1.0 with 6M high-purity nitric acid. The samples were analyzed at the Oak Ridge Gaseous Diffusion Plant by direct-reading emission spectrography and by flameless atomic absorption spectroscopy. The analytical methods are reviewed by Cagle (1977).

DESCRIPTION OF DATA TABLES

The supplemental data are presented in tabular form in the Appendix. Below is a brief description of the columnar entries.

SRL Identification Number

Each SRL site code contains 4 letters and a three-digit number. The first two letters identify the quadrangle (see "Designator" column in Table 1). MM is the two-letter designator for the Mesa 1° x 2° NTMS quadrangle. The third and fourth letters are taken from the chart below.

FIGURE 2. Analysis Scheme for Supplemental Elements

PHASE II:

FIGURE 2. Continued

PHASE III:

FIGURE 2. Continued

TABLE 2

Results of Certification Test for Supplementary Analyses*

Element**	Concentration, ppm			Accuracy, † %	Relative Precision, (3σ), %
	Accepted	Measured	Diff.		
Ag	29.4	33.6	4.2	12	5
Ba	498	508	10	2	6
Be	13.6	15.1	1.5	1	15
Co	49.6	46.4	-3.2	-7	10
Cr	149	152	3	2	22
Cu	50.1	51.1	1.0	2	24
K	5015	5170	155	3	5
Li	150	147	-3	-2	6
Mg	4995	5149	154	3	3
Mo	25	25	0	0	12
Nb	49.9	47.5	-2.4	-5	27
Ni	149	139	-10	-7	6
P	802	794	-8	-1	17
Pb	308	335	27	12	5
Sn	125	121	-4	-3	14
Sr	970	1169	199	17	10
W	149.5	148	-1.5	-1	16
Y	490	434	-56	-13	12
Zn	120	112	-8	-7	4

* Standards included the geochemical soil standards and rock standards currently available from U.S. Geological Survey, SRL stream sediment standards doped with varying levels of the elements, and synthetic standards.

** No statistical data have been collected for As, Se, Ca, Th, and extractable U.

† "Accuracy" is a measure of deviation from the accepted value.

Sites are numbered sequentially within each map unit. Numbers from 001 to 499 designate surface sites. Numbers from 501 to 999 designate ground water sites. The first sediment sample, therefore, taken from the extreme northwestern portion of the Mesa quadrangle would be MMAA001.

Columns 8 and 9 represent the sample analyzed. In most reports, the S1 fraction [finer than 149 micrometers (U.S. Std. 100 mesh)] was analyzed. S0 and S2 mean that coarser or finer fractions, respectively, were analyzed. Specific fractions will be identified in individual reports as necessary.

DOE Identification Number

Each sample is assigned a DOE ID number. The number consists of 28 characters as follows:

- 1- 2 State (See Table 3)
- 4-10 Latitude of site
- 12-19 Longitude of site
- 21 Laboratory code (4 = ERL)
- 23-24 Sample type (See Table 4)
- 26-28 Replication code. Generally only original samples (-000) are reported in the Data Reports.

Supplemental Elemental Analyses

The elements are listed alphabetically. Concentrations of each element are reported in parts per million (ppm) by weight. Values have been rounded to appropriate significant figures. Note that the elemental (not oxide) concentration is quoted in this table. Values below detection limits are indicated by a minus (-). For example, -3 means that the sample contains less than 3 ppm of that element. If background limit is not available, a period (.) is used to indicate not only that the element was not detected, but that the detection limit is unusually high in that sample. Missing data are indicated by "M." Missing data are indicative of insufficient sample for analysis.

TABLE 3

State Codes Used in DOE Identification Number

<u>State</u>	<u>Code</u>	<u>State</u>	<u>Code</u>
Alabama	01	Nevada	32
Arizona	04	New Hampshire	33
Arkansas	05	New Jersey	34
California	06	New York	36
Connecticut	09	North Carolina	37
Delaware	10	Ohio	39
District of Columbia	11	Oklahoma	40
Florida	12	Oregon	41
Georgia	13	Pennsylvania	42
Idaho	16	Rhode Island	44
Illinois	17	South Carolina	45
Indiana	18	Tennessee	47
Kentucky	21	Texas	48
Louisiana	22	Utah	49
Maine	23	Vermont	50
Maryland	24	Virginia	51
Massachusetts	25	Washington	53
Michigan	26	West Virginia	54
Mississippi	28		
Missouri	29		

TABLE 4

Type Codes Used in DOE Sample Identification Number*

Digit	Sample Type
50	Stream sediment from flowing stream, sieved <149 μm and dried $\leq 110^{\circ}\text{C}$
51	Stream water, filtered through $\leq 0.8 \mu\text{m}$ filter at the site
52	Well water, filtered through $\leq 0.8 \mu\text{m}$ filter at the site
53	Spring water, filtered through $\leq 0.8 \mu\text{m}$ filter at the site
54	Lake water, filtered through $\leq 0.8 \mu\text{m}$ filter at the site
55	Lake sediment
56	Glacial till
57	Peat
58	Soil, sieved >149 μm and <1000 μm
59	Soil, sieved <149 μm
60	Stream sediment from dry stream, sieved >149 μm and <1000 μm , and dried $\leq 110^{\circ}\text{C}$
61	Stream sediment from dry stream, sieved <149 μm and dried $\leq 110^{\circ}\text{C}$.
62	Talus
63	Volcanic neck
64	Playa sediment
65	Hot springs, sinter
66-69	Spare numbers**

* The 28-character DOE-GJO identification number for NURE samples contains two digits to denote sample type. The digits 50 through 69 have been set aside for SRL use.

** To be noted in individual reports as needed.

REFERENCES

Cagle, G. W., "The Oak Ridge Analytical Program," pp. 133-156 in **Symposium on Hydrogeochemical and Stream Sediment Reconnaissance in the United States.** DOE-GJO Report GJBX-77(77).*

SRL-138, **Savannah River Laboratory Quarterly and Semiannual Reports, Hydrogeochemical and Stream Sediment Reconnaissance, National Uranium Resource Evaluation Program:** E. I. du Pont de Nemours & Co. (Inc.), Savannah River Laboratory, Aiken, S.C.

No.	Period	SRL Doc. No.	DOE-GJO Doc. No.*
1	January-March 1975	DPST-75-138-1	GJBX-5(76)
2	April-June 1975	DPST-75-138-2	GJBX-6(76)
3	July-September 1975	DPST-75-138-3	GJBX-7(76)
4	October-December 1975	DPST-75-138-4	GJBX-8(76)
5	January-March 1976	DPST-76-138-1	GJBX-17(76)
6	April-June 1976	DPST-76-138-2	GJBX-27(76)
7	July-September 1976	DPST-76-138-3	GJBX-63(76)
8	October-December 1976	DPST-76-138-4	GJBX-6(77)
9	January-March 1977	DPST-77-138-1	GJBX-35(77)
10	April-June 1977	DPST-77-138-2	GJBX-55(77)
11	July-September 1977	DPST-77-138-3	GJBX-90(77)
12	October-December 1977	DPST-77-138-4	GJBX-37(78)
13	January-March 1978	DPST-78-138-1	GJBX-66(78)
14	April-September 1978	DPST-78-138-2	GJBX-13(79)
15	October 1978-March 1979	DPST-79-138-1	GJBX-86(79)
16	April-September 1979	DPST-79-138-2	GJBX-160(79)

* DOE-GJO reports are available on microfiche from the Grand Junction Office, DOE, for \$6.00. Prepaid orders should be sent to: Bendix Field Engineering Corporation, Technical Library, P.O. Box 1569, Grand Junction, CO 81501. Checks or money orders should be made out to Bendix Field Engineering Corporation, the operations contractor for DOE's Grand Junction Office.

APPENDIX: Tabulation of Supplementary Analytical Data

I. Sediment Analyses from the Mesa Quadrangle

Data are tabulated for concentrations of extractable uranium and 23 supplementary elements in sediments. The 23 elements are Ag, As, Ba, Be, Ca, Co, Cr, Cu, K, Li, Mg, Mo, Nb, Ni, P, Pb, Se, Sn, Sr, Th, W, Y, and Zn.

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	JX	AG	AS	BA	BE	CA	CO	CR	CU	K
YMAA001S1	04-33.7990-111.9248-4-59-000	8.9	0.1	1	280	2.5	1200	7	155	17	12000
YMAA002S1	04-33.8061-111.8907-4-59-000	2.6	0.1	3	325	2.5	3500	7	195	14	10000
YMAA003S1	04-33.7987-111.9780-4-59-000	2.8	0.1	2	165	2.0	2200	5	190	15	13000
YMAA004S1	04-33.7708-111.9811-4-59-000	4.8	-0.1	1	228	2.5	1500	5	205	13	12000
YMAA005S1	04-33.7707-111.9384-4-59-000										
YMAA006S1	04-33.7707-111.8907-4-59-000	2.4	0.1	4	372	2.0	29700	15	180	20	12000
YMAA007S1	04-33.7998-111.8470-4-59-000	5.1	0.2	4	318	2.5	3100	7	175	20	14000
YMAA008S1	04-33.7750-111.8642-4-59-000	6.7	0.2	4	403	2.0	55200	12	145	20	10000
YMAA009S1	04-33.8068-111.8117-4-59-000	6.8	0.2	3	320	2.5	4700	12	185	92	12000
YMAA010S1	04-33.7705-111.7661-4-59-000	1.2	0.1	2	235	2.5	1200	7	195	16	12000
YMAA011S1	04-33.7701-111.8139-4-59-000	4.3	0.3	3	328	2.5	5100	12	185	23	13000
YMAA012S1	04-33.9097-111.8436-4-59-000	1.1	0.1	7	275	2.0	4700	12	310	36	10000
YMAA013S1	04-33.9123-111.8155-4-59-000	1.2	0.1	1	275	1.5	6200	17	345	31	9000
YMAA014S1	04-33.9657-111.8240-4-59-000	3.1	0.2	1	73	2.5	2900	20	180	27	10000
YMAA015S1	04-33.9626-111.8759-4-59-000	1.1	0.3	1	393	1.5	4500	15	200	37	10000
YMAA016S1	04-33.9886-111.9312-4-59-000	1.3	0.3	6	468	2.0	3700	22	200	45	5000
YMAA017S1	04-33.9948-111.9782-4-59-000	1.8	0.1	2	253	2.0	3000	15	390	35	9000
YMAA018S1	04-33.8404-111.9283-4-59-000	3.7	0.1	2	195	2.0	48900	10	150	14	15000
YMAA019S1	04-33.8482-111.9031-4-59-000	1.1	0.2	1	195	2.5	1000	10	255	15	7000
YMAA020S1	04-33.9884-111.8759-4-59-000	0.5	0.2		525	1.5	2400	27	220	67	6000
YMAA021S1	04-33.8336-111.8521-4-59-000	2.9	0.4	6	243	2.5	3500	15	185	18	12000
YMAA022S1	04-33.8638-111.8468-4-59-000	7.0	0.2	3	325	3.5	23900	15	180	23	12000
YMAA023S1	04-33.8477-111.8051-4-59-000	29.4	0.1	5	288	3.5	7900	15	180	27	14000
YMAA024S1	04-33.8435-111.7741-4-59-000	3.3	0.3	1	478	2.5	11000	15	230	23	15000
YMAA025S1	04-33.8126-111.7579-4-59-000	6.0	0.1	3	253	2.5	2400	12	230	19	13000
YMAA026S1	04-33.8757-111.7675-4-59-000	28.7	0.3	3	330	4.5	2000	15	160	41	12000
YMAA027S1	04-33.8322-111.9594-4-59-000	-0.1	0.3	1	275	2.0	5700	10	160	17	14000
YMAA028S1	04-33.9040-111.7693-4-59-000	21.3	0.1	3	258	4.5	1000	10	90	18	15000
YMAA029S1	04-33.8857-111.8035-4-59-000	14.2	0.2	1	270	2.0	3200	25	225	37	5000
YMAA030S1	04-33.9823-111.7967-4-59-000	0.8	0.5	7	418	1.5	3100	35	550	75	2000
YMAA031S1	04-33.9933-111.8345-4-59-000	0.7	0.5	1	360	2.0	1700	35	450	51	6000
YMAA032S1	04-33.9733-111.8663-4-59-000	0.8	0.3		618	1.5	6100	35	275	94	6000
YMAA033S1	04-33.9510-111.8595-4-59-000	1.5	0.2	1	403	2.0	9600	30	420	61	8000
YMAA034S1	04-33.9365-111.8197-4-59-000	2.8	0.1	1	170	2.0	600	7	295	14	14000
YMAA035S1	04-33.8769-111.9086-4-59-000	2.4	0.3	11	285	4.0	8400	12	210	24	9000
YMAA036S1	04-33.8772-111.9309-4-59-000	1.0	0.1	1	258	2.0	600	7	200	27	11000
YMAA037S1	04-33.9201-111.9509-4-59-000	0.8	0.3	2	350	2.0	500	10	205	11	12000
YMAA038S1	04-33.8976-111.9445-4-59-000	1.0	0.3	9	433	2.0	8500	20	325	52	8000
YMAA039S1	04-33.8683-111.9682-4-59-000	0.8	0.3	1	448	1.5	41000	20	235	59	9000
YMAA040S1	04-33.9420-111.9507-4-59-000	1.1	0.2	1	225	2.0	2200	7	150	19	9000
YMAB001S1	04-33.8779-111.7337-4-59-000	0.2	0.6	4	297	3.0	2600	10	156	16	21000
YMAB002S1	04-33.8476-111.6958-4-59-000	3.5	0.2	1	297	2.5	4500	-5	208	18	17000
YMAB003S1	04-33.8876-111.7033-4-59-000	0.5	0.6	1	183	2.5	2500	12	302	42	12000
YMAB004S1	04-33.8422-111.6400-4-59-000	0.6	0.1	1	150	2.5	800	7	186	17	19000
YMAB005S1	04-33.8096-111.6489-4-59-000	5.7	0.2	1	113	1.0	3800	7	185	15	13000
YMAB006S1	04-33.9020-111.5117-4-59-000	0.6	0.9	1	190	2.0	7000	15	199	35	14000
YMAB007S1	04-33.9796-111.7202-4-59-000	4.9	0.4	2	153	1.0	43200	-5	134	13	12000
YMAB008S1	04-33.8835-111.5307-4-59-000	0.8	0.4		247	2.0	18600	12	204	29	10000
YMAB009S1	04-33.9545-111.7320-4-59-000	0.3	0.1	3	220	3.0	2400	15	400	25	15000
YMAB010S1	04-33.8715-111.5444-4-59-000	0.8	0.7	3	242	1.0	6400	20	210	19	6000
YMAE011S1	04-33.9534-111.6936-4-59-000	3.8	0.3	3	247	3.0	1500	7	166	18	18000
YMAB012S1	04-33.7543-111.5090-4-59-000	1.5	0.1	5	297	4.0	4600	17	217	33	12000
YMAB013S1	04-33.9176-111.7285-4-59-000	6.3	0.2	3	125	3.0	2800	7	192	14	12000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMAA001S1	28	2800	-2	10	17	1100	30	-1	25	55	-51	-2	10	54
MMAA002S1	20	1550	-2	10	17	1100	19	-1	-5	-50	-51	-2	5	43
MMAA003S1	20	1950	2	10	15	600	25	-1	-5	60	-55	-2	15	38
MMAA004S1	15	1400	2	10	12	500	20	-1	5	-50	-55	-2	5	35
MMAA005S1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MMAA006S1	26	3600	-2	10	15	1700	29	-1	5	82	-55	-2	5	58
MMAA007S1	30	2850	-2	10	12	1500	30	-1	5	-50	-55	-2	-5	72
MMAA008S1	52	3650	-2	10	20	3900	25	-1	35	96	-55	2	15	65
MMAA009S1	36	2000	-2	15	17	3400	31	1	10	-50	-55	4	20	107
MMAA010S1	20	1750	2	10	10	1100	24	-1	5	-50	110	-2	40	52
MMAA011S1	25	2050	3	10	12	1900	26	-1	10	-50	-55	-2	20	85
MMAA012S1	19	2250	2	5	32	900	25	-1	20	70	-55	-2	20	64
MMAA013S1	21	4450	2	10	65	900	26	-1	-5	222	-59	-2	35	47
MMAA014S1	17	3000	-2	10	40	1100	24	-1	20	137	-55	3	5	49
MMAA015S1	13	2500	3	10	37	1000	348	-1	5	165	-59	-2	10	512
MMAA016S1	32	2850	2	10	37	700	300	1	-5	53	-55	4	30	600
MMAA017S1	17	2700	2	15	55	800	22	-1	-5	88	70	-2	10	52
MMAA018S1	40	5700	-2	5	17	1300	42	-1	5	198	-59	-2	5	101
MMAA019S1	23	1100	-2	10	17	300	25	-1	10	-50	-55	-2	10	40
MMAA020S1	5	3150	-2	15	75	1100	17	-1	-5	85	150	-2	5	63
MMAA021S1	27	2350	2	5	15	1500	24	-1	5	-50	-55	-2	10	76
MMAA022S1	50	3850	-2	10	15	3100	38	-1	5	57	-64	12	25	104
MMAA023S1	42	2550	3	15	20	3900	35	-1	-5	-50	-64	4	50	113
MMAA024S1	24	2800	2	10	30	1800	25	-1	10	140	-59	-2	5	57
MMAA025S1	22	1900	3	10	27	200	29	-1	10	60	-59	-2	25	60
MMAA026S1	28	1300	2	15	17	900	28	-1	5	-50	-64	5	20	105
MMAA027S1	26	2350	2	10	20	1000	29	-1	15	80	-59	2	10	54
MMAA028S1	34	1150	3	10	15	1000	30	-1	15	-50	-64	4	30	72
MMAA029S1	28	1300	2	10	60	1000	18	-1	-5	-50	-55	-2	30	83
MMAA030S1	18	2100	-2	5	82	600	33	-1	15	68	-75	-2	15	165
MMAA031S1	12	3400	-2	5	97	800	20	-1	55	67	-75	-2	15	61
MMAA032S1	15	2500	2	5	52	900	16	1	-5	89	-64	-2	15	69
MMAA033S1	20	7700	3	-5	21	1200	15	1	15	146	-64	-2	5	62
MMAA034S1	18	1500	-2	5	17	900	29	-1	-5	64	-55	-2	10	40
MMAA035S1	21	1100	2	10	20	400	24	-1	-5	-50	-59	-2	35	45
MMAA036S1	23	900	-2	5	12	500	22	1	5	-50	-55	-2	5	43
MMAA037S1	10	650	-2	5	10	300	24	1	-5	-50	-51	-2	5	29
MMAA038S1	28	3500	2	5	62	1100	24	-1	10	93	-70	-2	10	77
MMAA039S1	33	5000	5	5	93	900	20	1	10	139	-70	-2	35	48
MMAA040S1	18	1750	-2	-5	22	400	21	1	5	58	-51	-2	10	39
MMAB001S1	18	1200	4	20	30	2100	25	-1	15	-50	-70	-2	30	97
MMAB002S1	13	1200	3	10	30	1600	25	-1	5	-50	-70	-2	25	60
MMAB003S1	11	7000	-2	10	62	2300	45	-1	5	148	-90	-2	-5	72
MMAB004S1	16	2050	-2	10	20	500	20	-1	-5	-50	-59	-2	-5	57
MMAB005S1	10	5900	-2	15	20	800	25	-1	5	118	-70	-2	-5	97
MMAB006S1	35	3250	-2	10	52	2100	25	-1	5	148	-82	-2	-5	67
MMAB007S1	106	16950	-2	10	35	400	20	-1	-5	612	-64	-2	5	40
MMAB008S1	26	4150	-2	15	50	1300	10	-1	15	114	-75	-2	5	62
MMAB009S1	12	2500	-2	10	62	1100	25	-1	-5	56	-90	-2	5	67
MMAB010S1	20	3250	-2	10	57	1000	10	.	5	51	90	-2	5	60
MMAB011S1	13	1150	-2	10	17	1200	10	-1	20	-50	-82	-2	10	77
MMAB012S1	14	2450	-2	5	40	2400	20	-1	5	60	-82	-2	5	72
MMAB013S1	15	2550	-2	10	12	1950	25	-1	10	-50	-90	4	20	95

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMAB014S1	04-33.7518-111.5438-4-59-000	0.9	0.2	2	225	2.5	1200	10	147	13	16000
MMAB015S1	04-33.9044-111.6952-4-59-000	5.3	0.4	3	220	6.0	3700	10	141	16	20000
MMAB016S1	04-33.7674-111.5844-4-59-000	0.6	0.3	2	230	4.0	20000	10	162	20	18000
MMAB017S1	04-33.9070-111.6628-4-59-000	4.1	0.2	3	147	3.0	13300	10	183	20	11000
MMAB018S1	04-33.8621-111.6265-4-59-000	6.7	0.2	2	197	3.5	5500	12	224	23	18000
MMAB019S1	04-33.7933-111.6934-4-59-000	3.8	0.1	3	192	2.5	4500	10	505	20	13000
MMAB020S1	04-33.8322-111.7356-4-59-000	2.3	0.1	3	215	2.5	4400	12	335	22	13000
MMAB021S1	04-33.8236-111.7243-4-59-000	1.3	0.3	3	245	2.5	10900	7	317	21	13000
MMAB022S1	04-33.7710-111.6661-4-59-000	1.2	0.9	4	225	1.5	8900	10	286	21	11000
MMAB023S1	04-33.7534-111.7079-4-59-000	1.2	0.2	4	247	2.5	1400	10	167	15	16000
MMAB024S1	04-33.7629-111.7272-4-59-000	0.5	0.1	2	347	2.0	1100	8	176	13	16000
MMAB025S1	04-33.8536-111.5588-4-59-000	0.4	0.1	1	190	2.0	3100	18	645	39	14000
MMAB026S1	04-33.8434-111.5740-4-59-000	2.8	0.4	1	272	2.5	3900	10	250	25	15000
MMAB027S1	04-33.8630-111.5929-4-59-000	1.0	0.4	1	347	2.5	10800	18	245	33	12000
MMAB028S1	04-33.8153-111.6177-4-59-000	1.4	0.2	1	273	3.5	900	8	149	14	22000
MMAB029S1	04-33.8378-111.5870-4-59-000	3.1	0.5	2	225	3.5	6500	13	167	26	19000
MMAC001S1	04-33.9475-111.4385-4-59-000	1.0	0.1	6	152	2.0	7500	15	174	35	13000
MMAC002S1	04-33.9159-111.3602-4-59-000	1.0	0.7	2	182	2.5	00	10	110	11	24000
MMAC003S1	04-33.9545-111.3994-4-59-000	0.3	0.9	7	273	2.5	50100	28	795	37	26000
MMAC004S1	04-33.9175-111.3191-4-59-000	0.5	0.6	1	47	1.5	4300	10	165	12	18000
MMAC005S1	04-33.9259-111.3991-4-59-000	0.1	0.5	14	112	1.0	2400	25	156	44	5000
MMAC006S1	04-33.9458-111.3192-4-59-000	0.3	0.1	6	225	1.5	4000	13	237	21	18000
MMAC007S1	04-33.9047-111.4075-4-59-000	0.5	0.3	4	497	2.0	6300	30	216	50	10000
MMAC008S1	04-33.9695-111.3240-4-59-000	0.4	0.1	6	175	2.0	8400	15	346	16	18000
MMAC009S1	04-33.9166-111.4406-4-59-000	1.7	0.5	4	242	3.5	2700	5	135	13	20000
MMAC010S1	04-33.9916-111.3236-4-59-000	0.3	0.9	6	195	1.5	48600	13	204	9	13000
MMAC011S1	04-33.9110-111.4825-4-59-000	0.8	0.1	4	247	2.0	12700	30	431	52	8000
MMAC012S1	04-33.9910-111.3713-4-59-000	0.7	0.1	4	62	2.5	1300	10	165	14	23000
MMAC013S1	04-33.8847-111.4759-4-59-000	0.6	0.2	2	297	2.0	6400	25	480	42	11000
MMAC014S1	04-33.9714-111.3902-4-59-000	0.5	5.1	150	12	1.5	500	13	176	298	15000
MMAC015S1	04-33.8781-111.4395-4-59-000	6.4	0.1	25	245	3.5	1200	10	123	20	23000
MMAC016S1	04-33.8772-111.3159-4-59-000	1.4	0.9	4	260	1.5	50100	10	96	21	18000
MMAC017S1	04-33.8835-111.4043-4-59-000	1.8	0.2	2	47	2.5	600	5	111	8	23000
MMAC018S1	04-33.8862-111.3631-4-59-000	0.7	0.4	2	273	2.5	800	5	111	12	27000
MMAC019S1	04-33.9420-111.4819-4-59-000	0.8	0.2	4	120	2.0	600	8	153	13	24000
MMAC020S1	04-33.7607-111.4953-4-59-000	1.8	0.1	5	245	2.5	1000	5	142	12	22000
MMAC021S1	04-33.9649-111.4813-4-59-000	0.3	0.4	3	397	2.5	13100	25	248	51	13000
MMAC022S1	04-33.7973-111.4864-4-59-000	1.9	0.2	3	285	3.0	3700	8	140	18	24000
MMAC023S1	04-33.9731-111.4402-4-59-000	1.5	0.1	5	247	2.0	700	8	95	19	27000
MMAC024S1	04-33.8067-111.4457-4-59-000	3.4	0.3	4	322	4.0	3800	8	162	22	20000
MMAC025S1	04-33.8696-111.3421-4-59-000	1.3	0.1	3	230	2.0	500	-5	645	10	18000
MMAC026S1	04-33.8364-111.4715-4-59-000	4.5	0.4	2	273	5.0	2200	15	250	25	17000
MMAC027S1	04-33.8691-111.3143-4-59-000	3.3	0.6	3	397	1.5	57000	13	245	18	17000
MMAC028S1	04-33.8452-111.4414-4-59-000	0.8	0.3	2	135	3.0	1000	-5	149	11	25000
MMAC029S1	04-33.8415-111.3056-4-59-000	3.7	0.4	2	447	2.0	2900	8	167	19	19000
MMAC030S1	04-33.8540-111.4149-4-59-000	1.1	0.2	3	322	2.0	700	-5	174	12	29000
MMAC031S1	04-33.8262-111.2958-4-59-000	2.9	0.9	4	547	2.5	44600	13	110	25	19000
MMAC032S1	04-33.8062-111.2961-4-59-000	3.9	0.3	3	273	3.5	4000	8	795	23	25000
MMAC033S1	04-33.8040-111.2730-4-59-000	2.6	0.3	1	247	3.5	1700	8	165	18	25000
MMAC034S1	04-33.7507-111.2651-4-59-000	1.9	0.1	1	133	2.0	1100	10	174	16	23000
MMAC035S1	04-33.7827-111.2809-4-59-000	6.2	0.3	1	153	3.5	4100	20	162	36	20000
MMAC036S1	04-33.7529-111.3084-4-59-000	2.2	0.1	2	273	3.0	1000	7	95	27	28000
MMAC037S1	04-33.8749-111.2901-4-59-000	0.4	0.1	2	80	1.5	500	12	244	14	23000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMAB014S1	17	1100	-2	5	20	400	15	-1	-5	-50	-70	20	10	80
MMAB015S1	35	2900	-2	5	15	2800	30	-1	5	-50	-70	10	5	97
MMAB016S1	24	2750	2	10	40	1300	30	-1	15	-50	-82	10	-5	60
MMAB017S1	16	2300	-2	5	32	1600	70	-1	-5	-50	75	4	15	72
MMAB018S1	24	1400	-2	5	20	2400	35	-1	5	-50	-100	-2	10	112
MMAB019S1	15	1400	-2	15	35	1600	20	-1	-5	-50	-90	-2	5	67
MMAB020S1	11	3750	-2	10	37	1600	20	-1	15	70	-82	-2	5	65
MMAB021S1	10	3400	-2	10	40	1500	25	-1	15	88	180	-2	5	57
MMAB022S1	16	3850	-2	15	55	1200	30	-1	-5	169	-82	-2	5	57
MMAB023S1	16	1050	-2	10	18	900	15	-1	5	-50	-100	.	-5	65
MMAB024S1	15	2450	-2	10	20	1000	15	-1	-5	-50	-100	.	10	60
MMAB025S1	6	5400	-2	15	83	2100	20	-1	-5	140	-100	.	5	70
MMAB026S1	16	2900	-2	15	30	2300	20	-1	-5	-50	-100	.	25	95
MMAB027S1	12	4250	-2	15	48	1600	20	-1	15	52	-40	.	5	77
MMAB028S1	15	2300	-2	15	13	300	25	-1	5	-50	-70	.	5	47
MMAB029S1	21	3100	-2	15	20	2100	30	-1	5	-50	82	.	15	110
MMAC001S1	22	3350	-2	10	25	500	25	-1	-5	-50	-90	.	5	67
MMAC002S1	13	1950	-2	15	15	200	15	-1	-5	-50	55	.	10	37
MMAC003S1	20	8500	-2	10	208	600	25	-1	5	51	-100	.	-5	55
MMAC004S1	16	5100	-2	5	30	300	20	-1	10	126	-90	.	5	35
MMAC005S1	16	3000	-2	5	15	300	20	-1	5	-50	-90	.	-5	67
MMAC006S1	10	3200	-2	10	40	1900	20	-1	10	58	-100	.	-5	355
MMAC007S1	15	3150	-2	10	43	900	25	-1	-5	-50	-90	.	5	275
MMAC008S1	12	3150	-2	10	38	950	15	-1	-5	-50	-82	.	-5	42
MMAC009S1	29	3000	2	15	18	700	20	-1	-5	-50	-55	.	5	60
MMAC010S1	9	3650	-2	10	40	1800	25	-1	5	90	-90	-2	-5	57
MMAC011S1	56	5500	2	15	190	2400	15	-1	5	-50	-82	-2	-5	95
MMAC012S1	14	3000	-2	10	18	1200	25	-1	10	-50	-75	4	-5	45
MMAC013S1	8	4800	-2	10	195	1400	20	-1	-5	118	-90	.	-5	77
MMAC014S1	11	2950	-2	10	18	150	70	-1	15	-50	-100	.	-5	6120
MMAC015S1	17	2850	-2	15	10	350	55	-1	-5	-50	-51	.	30	72
MMAC016S1	22	5600	-2	5	23	400	25	-1	5	61	-82	.	-5	50
MMAC017S1	14	2250	-2	15	8	300	20	-1	-5	-50	64	.	10	32
MMAC018S1	8	2150	-2	15	13	200	5	-1	-5	-50	-100	-2	30	27
MMAC019S1	16	2350	-2	15	18	300	25	-1	10	-50	-55	-2	-5	35
MMAC020S1	13	2350	-2	10	8	300	35	-1	-5	-50	-75	.	-5	67
MMAC021S1	39	3000	2	5	45	900	15	-1	-5	-50	-64	.	-5	90
MMAC022S1	16	3150	-2	10	13	1900	20	-1	10	-50	-75	.	-5	75
MMAC023S1	34	3050	-2	10	13	300	20	-1	5	-50	-90	.	5	30
MMAC024S1	22	3000	-2	15	15	1700	10	-1	-5	-50	-100	75	20	107
MMAC025S1	11	2050	-2	15	13	300	20	-1	15	-50	-70	.	20	70
MMAC026S1	16	3150	-2	15	18	400	45	-1	-5	-50	-70	.	-5	95
MMAC027S1	44	7000	-2	5	35	300	10	-1	5	295	-70	.	-5	77
MMAC028S1	14	2400	-2	10	18	800	20	-1	-5	-50	150	.	15	47
MMAC029S1	17	2650	-2	5	13	700	20	-1	5	-50	-59	.	5	110
MMAC030S1	12	2300	-2	15	28	450	15	-1	-5	-50	130	.	70	67
MMAC031S1	47	4350	2	10	15	700	15	-1	-5	444	-100	.	5	37
MMAC032S1	17	3300	-2	15	18	1700	20	-1	10	-50	82	-2	-5	55
MMAC033S1	16	2500	-2	10	18	1200	25	-1	-5	-50	-59	-2	-5	35
MMAC034S1	17	2800	-2	10	17	500	30	-1	5	-50	-75	2	-5	65
MMAC035S1	21	3450	3	15	17	2500	40	1	-5	-50	100	2	-5	315
MMAC036S1	27	600	-2	10	7	500	15	-1	-5	-50	70	2	30	80
MMAC037S1	20	3000	-2	10	22	300	15	1	-5	-50	-70	-2	15	19

APPENDIX 1 TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMAC038S1	04-33.8334-111.2756-4-59-000	0.6	0.1	2	82	1.5	400	15	190	15	22000
MMAD001S1	04-33.7759-111.1430-4-59-000	0.2	0.1	2	113	1.0	4600	22	290	26	18000
MMAD002S1	04-33.8943-111.2250-4-59-000	0.2	0.9	1	68	1.0	1500	17	265	16	16000
MMAD003S1	04-33.7735-111.1894-4-59-000	0.3	0.5	1	158	0.5	8300	30	203	33	16000
MMAD004S1	04-33.8334-111.2261-4-59-000	0.2	0.4	1	123	1.0	6000	32	254	29	15000
MMAD005S1	04-33.7768-111.2115-4-59-000	0.5	1.4	3	218	1.0	31900	22	140	28	16000
MMAD006S1	04-33.8691-111.2139-4-59-000	0.2	0.2	1	73	1.5	1200	12	211	16	24000
MMAD007S1	04-33.7674-111.0294-4-59-000	0.1	0.4	1	115	1.0	3100	33	285	25	16000
MMAD008S1	04-33.8867-111.2011-4-59-000	0.1	0.4	2	130	4.5	37200	27	214	19	16000
MMAD009S1	04-33.7865-111.0251-4-59-000	0.1	0.4	1	23	1.0	5800	20	205	18	21000
MMAD010S1	04-33.9090-111.2202-4-59-000	0.1	0.8	3	93	0.5	52300	17	165	22	13000
MMAD011S1	04-33.7690-111.0491-4-59-000	0.1	0.1	2	145	0.5	2200	30	291	19	22000
MMAD012S1	04-33.9182-111.1942-4-59-000	0.3	0.1	1	115	1.5	1400	20	238	17	19000
MMAD013S1	04-33.8056-111.0637-4-59-000	0.5	0.2	2	130	1.0	400	10	119	17	35000
MMAD014S1	04-33.9421-111.1681-4-59-000	1.3	0.1	.	105	0.5	6800	62	220	48	9000
MMAD015S1	04-33.8226-111.0659-4-59-000	0.2	0.2	3	113	0.5	4800	25	262	28	15000
MMAD016S1	04-33.9472-111.0193-4-59-000	0.2	0.2	2	8	0.5	600	7	95	6	20000
MMAD017S1	04-33.8262-111.0330-4-59-000	1.0	0.3	3	163	2.5	2200	20	213	29	24000
MMAD018S1	04-33.9678-111.0565-4-59-000	0.3	0.1	1	23	0.5	900	.	132	14	30000
MMAD019S1	04-33.7733-111.0838-4-59-000	0.3	0.1	1	33	1.0	2200	5	168	24	29000
MMAD020S1	04-33.9210-111.0514-4-59-000	0.2	0.1	.	35	1.0	3800	17	238	14	15000
MMAD021S1	04-33.7876-111.1810-4-59-000	0.5	0.1	0	72	0.5	6800	40	261	49	13000
MMAD022S1	04-33.9465-111.0586-4-59-000	0.3	0.2	1	60	1.0	1100	12	216	21	17000
MMAD023S1	04-33.7970-111.1632-4-59-000	0.6	0.5	0	118	0.5	6600	60	299	49	7000
MMAD024S1	04-33.9068-111.1177-4-59-000	0.2	0.5	.	183	1.0	1200	12	249	11	17000
MMAD025S1	04-33.8924-111.1078-4-59-000	0.3	0.1	2	67	1.0	800	-5	149	11	28000
MMAD026S1	04-33.8822-111.1459-4-59-000	0.3	0.4	.	108	-0.5	10900	67	246	44	3000
MMAD027S1	04-33.8957-111.1290-4-59-000	.	0.5	1	135	0.5	10800	50	218	39	8000
MMAD028S1	04-33.9550-111.1549-4-59-000	0.3	0.1	.	45	1.0	800	7	94	8	26000
MMAD029S1	04-33.9722-111.1373-4-59-000	0.3	0.2	3	95	1.5	23500	12	128	13	4000
MMAD030S1	04-33.9817-111.1204-4-59-000	0.3	0.3	3	80	0.5	700	7	163	8	20000
MMAD031S1	04-33.9349-111.0979-4-59-000	0.4	0.2	1	55	1.0	700	7	128	13	21000
MMAE001S1	04-33.7705-110.9456-4-59-000	1.0	0.2	0	153	1.5	5000	27	185	51	7000
MMAE002S1	04-33.7962-110.9822-4-59-000	1.1	2.2	5	158	1.0	1200	30	230	31	12000
MMAE003S1	04-33.8369-110.9781-4-59-000	0.9	0.4	0	138	1.0	18500	42	215	34	10000
MMAE004S1	04-33.8181-110.9300-4-59-000	1.7	0.2	2	228	1.5	900	15	160	17	14000
MMAE005S1	04-33.8393-110.9557-4-59-000	0.9	0.4	0	133	1.0	9900	60	235	80	3000
MMAE006S1	04-33.7802-110.9864-4-59-000	1.0	0.4	0	130	1.0	5500	52	305	34	5000
MMAE007S1	04-33.8674-110.9242-4-59-000	1.3	-0.1	0	100	1.0	200	5	125	6	29000
MMAE008S1	04-33.8619-110.9434-4-59-000	0.4	0.1	0	168	0.5	9500	55	200	68	2000
MMAE009S1	04-33.8705-110.9751-4-59-000	0.4	0.4	0	135	0.5	5000	42	355	20	3000
MMAE010S1	04-33.9000-110.9503-4-59-000	1.4	0.4	3	165	1.5	2900	17	185	25	11000
MMAE011S1	04-33.9266-110.9607-4-59-000	0.4	0.3	.	153	1.0	4600	35	190	44	8000
MMAE012S1	04-33.9584-110.9897-4-59-000	0.9	0.6	2	98	1.5	2000	7	115	19	19000
MMAE013S1	04-33.9823-110.9705-4-59-000	1.0	0.1	0	163	1.5	2500	25	145	22	15000
MMAE014S1	04-33.9851-110.9477-4-59-000	0.3	0.1	0	348	1.0	5100	30	145	41	7000
MMAE015S1	04-33.9376-110.9260-4-59-000	0.6	0.1	0	58	1.0	12200	15	110	25	6000
MMAE016S1	04-33.9229-110.9155-4-59-000	1.3	0.2	0	235	1.0	4700	17	240	16	7000
MMAE017S1	04-33.8981-110.9057-4-59-000	1.2	0.2	7	208	1.5	1000	15	195	18	16000
MMAE018S1	04-33.8713-110.8853-4-59-000	0.4	0.3	6	203	1.5	12600	30	250	17	3000
MMAE019S1	04-33.8519-110.8700-4-59-000	1.2	0.1	8	168	1.5	1600	15	245	15	18000
MMAE020S1	04-33.8231-110.8565-4-59-000	1.2	0.1	.	190	1.5	1600	27	195	21	11000
MMAE021S1	04-33.7760-110.7962-4-59-000	7.7	0.4	15	123	2.0	3000	20	295	24	14000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMAC038S1	22	2550	-2	10	25	500	20	-1	-5	-50	59	-2	-5	42
MMAD001S1	19	5300	-2	10	45	1600	25	-1	-5	52	90	-2	-5	65
MMAD002S1	15	2600	-2	15	35	400	20	1	-5	59	-100	-2	-5	47
MMAD003S1	27	3850	3	10	40	1900	25	-1	-5	-50	100	-2	10	70
MMAD004S1	16	5100	2	10	62	1550	25	-1	-5	57	100	-2	5	85
MMAD005S1	59	3400	-2	10	45	500	20	1	-5	134	100	-2	5	70
MMAD006S1	21	4600	3	10	32	1400	25	-1	10	53	-70	-2	-5	55
MMAD007S1	21	4500	3	10	25	1300	25	-1	10	53	-82	-2	5	70
MMAD008S1	17	8000	2	5	50	1600	25	1	-5	72	-75	-2	5	62
MMAD009S1	23	4850	2	10	32	1200	20	-1	-5	59	90	-2	25	50
MMAD010S1	20	10500	4	5	47	1750	25	-1	-5	86	-90	-2	5	57
MMAD011S1	12	2650	-2	5	42	150	20	-1	-5	-50	-75	-2	5	37
MMAD012S1	2	3500	-2	20	37	950	25	-1	-5	-50	-100	-2	-5	45
MMAD013S1	22	2800	2	10	17	900	25	-1	15	52	-55	-2	-5	25
MMAD014S1	16	10800	-2	10	77	2450	25	-1	5	74	-100	-2	-5	310
MMAD015S1	10	1700	2	5	47	2350	20	-1	-5	52	-100	-2	5	80
MMAD016S1	17	2900	-2	5	12	300	65	-1	5	-50	-70	-2	15	17
MMAD017S1	21	3500	2	10	42	1300	35	-1	-5	-50	-82	-2	15	55
MMAD018S1	21	3150	2	10	20	150	25	-1	-5	63	-55	-2	20	30
MMAD019S1	22	5500	3	10	22	850	25	1	10	-50	-64	-2	10	45
MMAD020S1	20	7000	-2	15	35	450	25	-1	-5	64	-100	-2	5	40
MMAD021S1	43	15500	3	5	120	2400	70	-1	-5	78	-90	-2	10	290
MMAD022S1	20	3000	2	15	42	200	25	-1	-5	-50	-70	-2	5	37
MMAD023S1	37	11000	-2	5	170	2100	25	-1	-5	-50	-82	-2	5	302
MMAD024S1	10	3400	2	10	52	650	20	-1	-5	-50	-64	-2	5	42
MMAD025S1	18	3100	-2	5	15	500	40	-1	-5	-50	-59	-2	5	50
MMAD026S1	37	10000	-2	-5	105	2750	25	-1	-5	-50	-90	-2	10	320
MMAD027S1	17	7500	2	5	75	2600	25	-1	-5	65	-100	-2	5	100
MMAD028S1	25	12500	-2	10	12	550	25	-1	5	75	-70	-2	10	27
MMAD029S1	49	28000	2	10	25	600	15	-1	-5	-50	-75	-2	5	50
MMAD030S1	18	1850	2	10	17	350	20	-1	5	52	-51	-2	10	22
MMAD031S1	24	3650	-2	10	17	900	20	-1	-5	-50	-70	-2	5	37
MMAE001S1	11	5000	-2	5	45	2000	20	-1	10	-50	-59	-2	5	51
MMAE002S1	16	3150	-2	10	30	-20	35	-1	5	-50	-64	-2	-5	150
MMAE003S1	21	3100	-2	10	37	2700	30	-1	5	-50	-90	-2	10	187
MMAE004S1	31	2000	-2	10	17	-20	10	-1	-5	-50	-55	4	-5	41
MMAE005S1	17	2250	-2	10	65	2000	10	1	5	53	-75	2	5	70
MMAE006S1	9	4600	2	5	72	2200	15	-1	10	76	-70	-2	15	81
MMAE007S1	14	2500	2	10	-5	100	15	-1	20	-50	-47	-2	15	11
MMAE008S1	14	5100	-2	10	13	3400	10	1	-5	52	82	-2	10	86
MMAE009S1	5	4050	-2	5	10	1500	15	1	-5	83	-75	-2	15	92
MMAE010S1	20	2100	-2	5	22	700	15	1	-5	-50	-70	-2	5	65
MMAE011S1	10	3200	3	5	42	1300	10	-1	-5	70	-70	-2	5	54
MMAE012S1	28	2550	-2	10	17	300	30	-1	15	50	-55	4	15	47
MMAE013S1	24	2450	3	10	27	-20	25	-1	15	-50	-70	-2	15	47
MMAE014S1	7	2450	-2	10	62	1200	10	-1	-5	74	-70	-2	5	47
MMAE015S1	19	4650	-2	5	30	500	35	1	-5	-50	-55	-2	5	44
MMAE016S1	21	3200	2	10	35	400	20	1	-5	82	-51	-2	35	35
MMAE017S1	17	2700	-2	10	25	500	30	1	15	-50	-59	5	15	49
MMAE018S1	17	4500	-2	10	87	800	10	-1	-5	103	-59	2	30	37
MMAE019S1	18	2950	-2	-5	30	900	20	-1	-5	-50	59	2	20	30
MMAE020S1	26	3200	-2	5	35	500	10	-1	-5	-50	120	4	20	44
MMAE021S1	22	2900	2	5	30	900	20	4	-5	-50	-90	-2	10	55

APPENDIX 1 TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
YMAE022S1	04-33.7968-110.8303-4-59-000	1.1	0.3	6	120	1.5	900	12	330	21	19000
YMAE023S1	04-33.7977-110.8007-4-59-000	1.0	0.5	12	283	1.0	122500	15	245	24	9000
YMAE024S1	04-33.7512-110.7813-4-59-000	0.7	0.5	9	138	1.5	1000	12	195	21	14000
YMAE025S1	04-33.3401-110.8017-4-59-000	0.9	0.2	7	80	1.0	4700	10	180	18	16000
YMAE026S1	04-33.3642-110.8109-4-59-000	1.3	0.1	8	245	1.5	600	12	140	17	23000
YMAE027S1	04-33.3481-110.7986-4-59-000	1.2	0.2	.	350	1.5	600	10	85	41	30000
YMAE028S1	04-33.3742-110.8062-4-59-000	0.9	0.3	0	88	1.0	4200	22	195	17	13000
YMAE029S1	04-33.3111-110.8217-4-59-000	1.2	0.1	9	43	2.0	600	15	180	17	13000
YMAE030S1	04-33.8891-110.8421-4-59-000	0.8	0.4	10	143	1.5	600	7	200	17	30000
YMBA001S1	04-33.5252-111.8570-4-59-000	0.3	0.2	1	72	1.5	1300	10	145	14	21000
YMBA002S1	04-33.5583-111.8555-4-59-000	0.4	0.1	2	95	1.5	1000	7	132	12	24000
YMBA003S1	04-33.5857-111.8564-4-59-000	0.2	0.1	2	72	2.0	800	7	136	11	23000
YMBA004S1	04-33.5056-111.8461-4-59-000	0.3	0.2	4	160	1.5	1000	7	156	13	21000
YMBA005S1	04-33.5882-111.8127-4-59-000	0.2	0.1	4	212	1.5	900	7	119	10	23000
YMBA006S1	04-33.6095-111.8045-4-59-000	0.2	0.3	3	225	1.5	800	7	116	13	20000
YMBA007S1	04-33.5789-111.7596-4-59-000	0.3	0.1	4	153	2.0	1800	7	131	16	20000
YMBA008S1	04-33.5632-111.7698-4-59-000	0.3	0.1	4	177	1.5	1100	10	143	18	17000
YMBA009S1	04-33.5563-111.8084-4-59-000	0.4	0.2	3	200	1.5	2300	10	116	14	21000
YMBA010S1	04-33.5318-111.8211-4-59-000	0.2	0.1	4	120	2.0	800	7	120	11	23000
YMBA011S1	04-33.5141-111.7747-4-59-000	0.3	0.2	4	183	1.0	11900	7	155	14	15000
YMBA012S1	04-33.6154-111.7748-4-59-000	0.3	0.3	3	237	1.5	100	10	115	17	20000
YMBA013S1	04-33.6021-111.8854-4-59-000	0.3	0.1	4	273	1.5	900	7	125	14	20000
YMBA014S1	04-33.5376-111.8891-4-59-000	0.3	0.3	4	17	1.5	900	5	130	13	21000
YMBA015S1	04-33.5630-111.8898-4-59-000	0.6	0.5	4	183	1.0	800	7	132	13	21000
YMBA016S1	04-33.5975-111.8907-4-59-000	0.4	0.2	3	190	2.0	1900	7	129	12	20000
YMBA017S1	04-33.7390-111.8897-4-59-000	0.5	0.4	4	247	1.5	1000	12	92	16	17000
YMBA018S1	04-33.7352-111.9423-4-59-000	0.4	0.4	3	202	2.0	1100	7	120	12	21000
YMBA019S1	04-33.7405-111.9781-4-59-000	0.6	0.3	3	260	2.0	1200	10	175	13	22000
YMBA020S1	04-33.5992-111.9426-4-59-000	0.3	0.1	3	212	2.0	1000	12	165	13	22000
YMBA021S1	04-33.6254-111.9254-4-59-000	0.1	0.1	3	135	2.0	1100	10	125	11	25000
YMBA022S1	04-33.6547-111.9264-4-59-000	0.5	0.5	3	127	2.0	1500	10	135	12	23000
YMBA023S1	04-33.6989-111.9770-4-59-000	0.6	0.1	3	122	2.0	1000	7	148	12	22000
YMBA024S1	04-33.6675-111.9597-4-59-000	0.4	0.2	2	170	2.0	1400	12	145	13	21000
YMBA025S1	04-33.6396-111.9761-4-59-000	0.3	0.3	3	133	1.5	1000	15	152	14	22000
YMBA026S1	04-33.6698-111.8388-4-59-000	0.3	0.1	4	190	1.5	600	12	124	13	23000
YMBA027S1	04-33.5285-111.8879-4-59-000	0.3	0.2	3	260	1.5	9400	17	145	16	14000
YMBA028S1	04-33.5499-111.8817-4-59-000	0.1	0.2	2	162	1.5	600	12	114	12	23000
YMBA029S1	04-33.5822-111.9582-4-59-000	0.2	0.1	3	235	1.5	2700	15	119	14	21000
YMBA030S1	04-33.5967-111.9770-4-59-000	0.3	0.3	3	232	2.0	1600	10	127	15	32000
YMBA031S1	04-33.5541-111.9745-4-59-000	0.5	0.1	3	245	1.5	1500	15	140	21	18000
YMBA032S1	04-33.5214-111.9730-4-59-000	0.4	0.1	8	222	1.5	1200	12	115	14	24000
YMBAC33S1	04-33.5381-111.9258-4-59-000	0.2	0.1	3	225	1.5	6200	12	132	11	15000
YMBA034S1	04-33.5381-111.9421-4-69-000	0.4	0.1	3	227	1.5	1100	12	165	16	20000
YMBA035S1	04-33.5262-111.9377-4-59-000	0.1	0.4	2	192	1.5	1500	12	143	14	21000
YMBA036S1	04-33.7103-111.8516-4-59-000	0.6	0.1	3	140	2.0	600	15	207	16	21000
YMBA037S1	04-33.7264-111.8524-4-59-000	0.5	0.2	4	160	2.0	900	12	158	15	21000
YMBA038S1	04-33.7410-111.8128-4-59-000	0.5	0.3	3	322	2.0	2800	17	146	20	16000
YMBA039S1	04-33.7418-111.7690-4-59-000	0.4	0.2	3	200	1.5	1100	17	136	13	20000
YMBA040S1	04-33.5726-111.8225-4-59-000	0.3	0.1	3	232	1.5	800	10	114	8	22000
YMBA041S1	04-33.5862-111.7699-4-59-000	0.6	0.1	2	230	1.5	900	15	195	11	19000
YMBA042S1	04-33.5552-111.7652-4-59-000	0.2	0.1	3	102	1.5	600	10	157	13	22000
YMBB001S1	04-33.5097-111.6830-4-59-000	0.4	-0.1	2	235	1.5	11400	17	161	24	15000
YMBB002S1	04-33.5294-111.6531-4-59-000	0.9	0.2	3	218	2.0	1800	15	143	17	22000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
YMAE022S1	19	2250	-2	5	27	500	15	-1	5	-50	-75	-2	35	38
YMAE023S1	16	3750	-2	5	27	700	20	-1	-5	60	-82	-2	35	40
YMAE024S1	21	1250	-2	10	17	400	-10	-1	-5	-50	-55	-2	20	31
YMAE025S1	15	2350	-2	10	15	1400	20	-1	15	-50	-55	-2	15	35
YMAE026S1	26	1100	-2	5	12	-20	20	-1	-5	-50	55	-2	15	23
YMAE027S1	21	1200	-2	5	17	120	-10	-1	5	-50	-55	-2	10	37
YMAE028S1	11	2950	3	10	37	2320	20	-1	15	-50	-75	-2	10	40
YMAE029S1	26	2050	-2	10	22	-20	20	-1	-5	-50	-51	-2	15	30
YMAE030S1	22	1550	3	5	12	400	20	-1	-5	-50	-55	-2	30	27
YMBA001S1	20	4500	-2	10	27	400	20	-1	5	57	-55	-2	10	50
YMBA002S1	19	1850	2	10	20	700	20	-1	5	52	-59	-2	5	47
YMBA003S1	23	3450	2	10	20	700	25	-1	-5	76	59	-2	5	47
YMBA004S1	13	2250	5	10	17	700	20	-1	-5	63	-55	-2	5	50
YMBA005S1	15	4100	2	10	10	400	170	-1	5	-50	-55	-2	5	70
YMBA006S1	16	1900	-2	10	15	400	45	-1	-5	-50	250	-2	5	40
YMBA007S1	14	2800	-2	15	15	500	130	-1	15	-50	-82	-2	5	45
YMBA008S1	12	1750	-2	10	20	500	30	-1	5	-50	-75	-2	15	42
YMBA009S1	15	2800	-2	10	15	500	25	-1	-5	67	-75	-2	25	42
YMBA010S1	18	3350	3	10	17	400	25	-1	-5	57	-55	-2	10	32
YMBA011S1	12	2800	-2	10	20	500	15	-1	-5	-50	75	-2	5	35
YMBA012S1	2	1000	-2	10	15	500	25	-1	-5	55	-59	-2	5	52
YMBA013S1	5	1400	-2	5	17	500	20	-1	-5	-50	-70	-2	-5	45
YMBA014S1	20	3350	2	5	12	400	25	-1	5	52	-70	-2	-5	40
YMBA015S1	15	1250	3	10	22	1000	30	-1	10	-50	-70	-2	-5	47
YMBA016S1	15	1350	2	10	17	1000	20	-1	-5	-50	-55	-2	5	42
YMBA017S1	17	2700	-2	5	17	1200	20	-1	-5	-50	-59	-2	10	55
YMBA018S1	15	2900	-2	10	17	1000	30	-1	-5	-50	90	-2	10	42
YMBA019S1	15	1950	4	10	15	1200	25	-1	-5	-50	-82	-2	10	45
YMBA020S1	16	1250	-2	10	17	800	20	-1	-5	-50	64	-2	15	42
YMBA021S1	22	2000	-2	10	17	1000	25	-1	-5	-50	-75	-2	15	47
YMBA022S1	26	2850	-2	15	17	1200	15	-1	5	-50	-59	-2	10	52
YMBA023S1	20	2500	-2	15	15	1000	15	-1	10	-50	-100	-2	10	42
YMBA024S1	15	1700	3	10	15	1100	35	-1	-5	58	-82	-2	15	67
YMBA025S1	28	3300	-2	-5	22	800	25	-1	10	-50	-75	-2	-5	47
YMBA026S1	18	1850	-2	-5	15	600	20	-1	-5	-50	-75	-2	-5	22
YMBA027S1	20	2500	-2	-5	22	500	20	-1	-5	-50	-90	-2	10	55
YMBA028S1	15	1800	-2	-5	15	400	15	-1	-5	-50	-70	-2	10	35
YMBA029S1	20	2700	-2	10	22	700	20	-1	-5	56	-90	-2	15	55
YMBA030S1	22	3300	2	10	22	700	30	-1	-5	-50	-100	-2	15	52
YMBA031S1	18	2700	2	20	30	700	20	-1	-5	-50	-100	-2	10	60
YMBA032S1	20	2850	-2	10	20	800	20	-1	-5	54	-82	-2	5	47
YMBA033S1	11	3550	-2	40	15	600	25	-1	-5	-50	-82	-2	5	32
YMBA034S1	21	2600	3	30	17	500	25	-1	-5	60	-82	-2	10	50
YMBA035S1	17	3800	-2	25	22	1000	20	-1	10	-50	-82	-2	5	47
YMBA036S1	20	3300	-2	30	15	800	40	-1	-5	-50	-100	-2	5	45
YMBA037S1	19	3250	-2	10	17	1000	25	-1	-5	-50	-100	-2	5	57
YMBA038S1	18	2850	-2	15	47	1500	15	-1	-5	-50	-100	-2	15	100
YMBA039S1	19	2650	2	5	20	1200	20	-1	-5	-50	-100	-2	-5	52
YMBA040S1	15	1500	-2	10	12	300	25	-1	-5	-50	-100	-2	10	30
YMBA041S1	15	950	4	5	17	1000	25	-1	-5	-50	-82	-2	10	47
YMBA042S1	20	2950	-2	5	12	300	25	-1	-5	80	-100	-2	10	37
MMBB001S1	17	2550	-2	5	27	1800	25	-1	-5	67	-100	-2	15	70
MMBB002S1	16	1900	2	5	22	1600	25	-1	-5	60	-90	-2	10	62

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
YMBB003S1	04-33.5466-111.6427-4-59-000	0.6	0.1	.	722	0.5	2900	7	149	14	24000
YMBB004S1	04-33.5515-111.6062-4-59-000	0.9	0.1	1	272	0.5	3600	7	169	18	19000
YMBB005S1	04-33.5420-111.5779-4-59-000	2.7	0.1	.	167	1.0	1100	-5	137	14	22000
YMBB006S1	04-33.5250-111.5755-4-59-000	3.0	0.1	1	157	1.0	1000	10	127	16	22000
YMBB007S1	04-33.5245-111.6150-4-59-000	2.7	0.2	1	200	1.5	2200	7	145	17	21000
YMBB008S1	04-33.6192-111.7192-4-59-000	0.7	0.7	1	170	1.0	51600	7	95	14	17000
YMBB009S1	04-33.5883-111.7341-4-59-000	2.3	0.1	2	250	1.5	1600	5	133	16	24000
YMBB010S1	04-33.6222-111.6813-4-59-000	0.6	0.4	2	250	1.0	4000	-5	129	12	18000
YMBB011S1	04-33.5303-111.7309-4-59-000	1.8	0.4	2	272	1.5	1600	7	177	19	18000
YMBB012S1	04-33.5516-111.7199-4-59-000	1.5	0.2	4	260	1.0	18900	5	125	16	18000
YMBB013S1	04-33.5874-111.6785-4-59-000	1.4	0.1	2	157	1.0	3800	5	150	14	20000
YMBB014S1	04-33.5629-111.6795-4-59-000	1.8	0.3	2	155	1.0	3800	7	156	27	20000
YMBB015S1	04-33.5813-111.6380-4-59-000	0.8	0.2	1	177	1.0	6200	5	107	15	20000
YMBB016S1	04-33.5975-111.6605-4-59-000	0.4	0.2	.	260	1.0	12200	-5	107	12	21000
YMBB017S1	04-33.6337-111.6508-4-59-000	0.6	0.1	1	272	1.0	2000	-5	185	13	23000
YMBB018S1	04-33.6685-111.6693-4-59-000	1.1	0.4	1	207	0.5	18600	7	125	17	18000
YMBB019S1	04-33.7001-111.6710-4-59-000	1.4	0.2	1	217	1.0	2400	7	140	14	21000
YMBB020S1	04-33.7420-111.6901-4-59-000	1.0	0.6	1	235	2.5	1800	10	149	11	21000
YMBB021S1	04-33.7419-111.7348-4-59-000	0.8	0.2	0	197	1.0	1900	10	171	15	22000
YMBB022S1	04-33.6905-111.7174-4-59-000	1.4	0.2	4	187	1.0	1500	10	219	15	19000
YMBB023S1	04-33.6630-111.7145-4-59-000	1.0	0.2	2	202	1.5	1400	7	155	14	20000
YMBB024S1	04-33.5853-111.6048-4-59-000	1.1	0.2	1	200	1.5	21400	10	85	21	18000
YMBB025S1	04-33.6638-111.5619-4-59-000	1.1	0.6	3	225	1.5	2700	15	226	33	18000
YMBB026S1	04-33.6604-111.5917-4-59-000	1.4	0.3	1	230	1.5	2400	12	199	18	21000
YMBB027S1	04-33.6307-111.5876-4-59-000	0.5	0.6	1	212	1.5	8800	14	105	26	18000
YMBB028S1	04-33.7322-111.5123-4-59-000	2.0	0.2	2	237	2.5	1500	15	169	20	19000
YMBB029S1	04-33.6945-111.5419-4-59-000	5.2	0.4	1	260	2.5	4400	15	104	32	23000
YMBB030S1	04-33.6120-111.5531-4-59-000	0.7	0.3	1	237	1.0	4900	10	91	18	17000
YMBB031S1	04-33.5979-111.5497-4-59-000	1.7	0.3	1	272	1.5	9600	10	110	30	19000
YMBB032S1	04-33.5791-111.5149-4-59-000	1.1	0.1	3	190	2.0	4000	10	143	18	19000
YMBB033S1	04-33.5621-111.5392-4-59-000	0.9	0.3	2	217	1.5	3200	20	161	58	19000
YMBB034S1	04-33.6371-111.5144-4-59-000	1.5	0.2	1	260	2.0	3000	10	164	18	19000
YMBB035S1	04-33.6640-111.5135-4-59-000	1.7	0.3	2	205	2.5	2900	10	170	17	16000
YMBB036S1	04-33.6938-111.5179-4-59-000	0.9	0.4	2	185	1.5	2700	25	200	37	14000
YMBB037S1	04-33.7466-111.5975-4-59-000	3.5	0.1	1	217	2.5	32400	17	170	20	16000
YMBB038S1	04-33.7370-111.5751-4-59-000	1.9	0.2	2	245	3.0	1600	7	93	6	27000
YMBB039S1	04-33.7168-111.5832-4-59-000	0.6	0.2	1	135	1.5	2900	25	455	57	13000
YMBB040S1	04-33.7103-111.6153-4-59-000	0.8	0.4	2	200	2.0	1300	15	237	14	20000
YMBB001S1	04-33.5356-111.2686-4-59-000	5.2	0.2	7	218	3.0	600	10	195	25	26000
YMBB002S1	04-33.5379-111.2962-4-59-000	3.1	0.4	6	353	2.0	2500	10	135	21	13000
YMBB003S1	04-33.5255-111.3189-4-59-000	5.3	0.4	8	73	2.5	1100	5	150	16	17000
YMBB004S1	04-33.5408-111.3270-4-59-000	1.1	0.4	7	225	1.5	500	7	150	17	9000
YMBB005S1	04-33.5520-111.3503-4-59-000	1.8	0.2	9	188	1.5	500	-5	150	22	13000
YMBB006S1	04-33.5839-111.3540-4-59-000	1.7	0.3	13	145	1.5	1100	-5	210	22	13000
YMBB007S1	04-33.5332-111.3727-4-59-000	1.7	0.1	5	183	2.0	27000	10	125	18	5000
YMBB008S1	04-33.5258-111.3924-4-59-000	1.9	0.2	7	290	1.5	1500	7	130	19	14000
YMBB009S1	04-33.5455-111.4480-4-59-000	1.8	0.1	14	175	2.0	1200	7	150	19	12000
YMBB010S1	04-33.5247-111.4529-4-59-000	3.1	0.1	6	243	2.0	1700	7	135	22	11000
YMBB011S1	04-33.5072-111.4643-4-59-000	1.4	0.5	9	255	2.0	1600	15	165	33	16000
YMBB012S1	04-33.6661-111.4732-4-59-000	4.9	0.4	1	163	2.5	500	12	145	14	16000
YMBB013S1	04-33.6333-111.4685-4-59-000	7.8	0.3	5	203	3.0	1500	15	165	20	14000
YMBB014S1	04-33.6233-111.4484-4-59-000	7.9	0.4	1	233	3.0	3100	10	180	14	15000
YMBB015S1	04-33.6164-111.4147-4-59-000	2.4	0.3	1	155	2.0	200	7	175	18	15000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMBB003S1	18	3700	-2	15	17	750	25	-1	-5	81	-100	-2	-5	62
MMBB004S1	17	3750	2	15	30	800	15	-1	5	59	-100	-2	30	60
MMBB005S1	19	2800	-2	10	17	400	45	-1	-5	63	-82	-2	10	47
MMBB006S1	22	2000	-2	15	17	400	25	-1	-5	53	-100	-2	10	50
MMBB007S1	17	2050	-2	15	15	1000	20	-1	-5	66	180	-2	5	57
MMBB008S1	19	4600	2	5	15	200	20	-1	5	116	100	-2	5	40
MMBB009S1	24	2900	-2	10	17	600	30	-1	15	53	-100	-2	-5	57
MMBB010S1	11	2400	-2	10	12	600	20	-1	-5	70	-100	-2	-5	40
MMBB011S1	17	2650	-2	10	25	400	25	2	-5	-50	-100	-2	-5	57
MMBB012S1	22	6350	-2	15	20	1200	25	-1	-5	61	-100	-2	10	65
MMBB013S1	14	2800	-2	15	22	1200	20	-1	-5	74	-100	-2	15	47
MMBB014S1	22	2400	-2	20	20	1200	20	-1	-5	63	-100	-2	5	70
MMBB015S1	16	2200	-2	15	22	1000	25	-1	-5	74	-100	-2	15	50
MMBB016S1	20	3500	-2	20	12	1000	15	-1	-5	107	-100	-2	-5	37
MMBB017S1	15	2300	-2	15	25	700	25	3	-5	71	-100	-2	5	42
MMBB018S1	23	3200	-2	15	30	800	15	-1	-5	72	-100	-2	-5	55
MMBB019S1	17	2400	-2	10	15	1000	25	-1	-5	58	-70	-2	10	55
MMBB020S1	17	1750	2	15	15	1000	15	-1	-5	-50	-100	-2	5	47
MMBB021S1	16	1700	3	15	15	1000	25	2	10	-50	-100	-2	5	57
MMBB022S1	15	1750	2	30	20	700	25	-1	-5	-50	.	-2	-5	50
MMBB023S1	16	2100	4	5	20	500	30	-1	10	52	-100	-2	25	47
MMBB024S1	20	4150	2	5	27	600	40	-1	-5	100	-90	-2	10	50
MMBB025S1	14	3110	2	10	37	1150	30	-1	-5	96	-82	-2	10	77
MMBB026S1	13	2400	3	15	22	750	15	2	-5	59	-82	-2	-5	47
MMBB027S1	11	2700	6	20	24	900	20	2	5	88	.	-2	-5	64
MMBB028S1	22	2000	-2	15	20	900	25	2	-5	50	-100	-2	10	57
MMBB029S1	22	3050	2	20	22	1800	30	2	-5	-50	-100	-2	35	190
MMBB030S1	12	2800	2	20	20	1000	20	-1	-5	61	64	-2	5	47
MMBB031S1	20	3450	2	20	25	1200	15	-1	5	88	-100	-2	5	70
MMBB032S1	19	3000	-2	15	17	450	20	-1	-5	104	-90	-2	-5	55
MMBB033S1	15	2800	-2	5	30	1150	25	-1	-5	83	-100	-2	5	80
MMBB034S1	15	2550	-2	10	22	950	25	-1	5	78	-100	-2	5	57
MMBB035S1	22	2800	-2	10	20	9000	30	2	-5	-50	-90	-2	10	52
MMBB036S1	13	6500	-2	10	37	1100	15	-1	5	114	-100	-2	10	72
MMBB037S1	22	5750	-2	5	27	2300	20	-1	-5	194	100	-2	10	72
MMBB038S1	18	1600	-2	5	12	400	35	-1	-5	-50	-82	-2	10	37
MMBB039S1	10	4950	-2	15	62	1700	25	-1	-5	84	-100	-2	-5	60
MMBB040S1	13	1800	-2	15	22	400	25	-1	-5	52	-82	-2	-5	45
MMBC001S1	19	1050	2	10	22	900	25	2	10	-50	51	2	10	52
MMBC002S1	19	3200	2	10	17	1200	10	-1	10	-50	-59	-2	5	59
MMBC003S1	19	1400	2	10	10	400	15	1	5	-50	-51	-2	5	39
MMBC004S1	17	2850	-2	10	10	200	15	-1	-5	-50	-51	-2	5	36
MMBC005S1	16	1150	-2	10	12	400	20	-1	5	-50	-44	-2	15	41
MMBC006S1	14	1200	2	10	12	900	25	1	20	-50	-59	-2	5	47
MMBC007S1	17	2450	-2	-5	15	500	20	-1	-5	62	-47	-2	25	42
MMBC008S1	18	2800	-2	5	12	500	20	-1	-5	-50	-47	-2	15	47
MMBC009S1	20	3230	-2	-5	17	300	25	-1	10	-50	47	-2	20	45
MMBC010S1	18	2050	3	5	12	300	15	-1	-5	-50	-44	-2	20	47
MMBC011S1	19	3150	-2	5	15	700	25	-1	-5	55	-55	-2	30	53
MMBC012S1	15	2700	-2	5	12	500	15	2	5	-50	-55	-2	10	41
MMBC013S1	19	3100	-2	10	10	600	25	-1	-5	-50	-55	-2	20	54
MMBC014S1	15	3250	2	10	7	1200	20	-1	-5	-50	-64	-2	15	58
MMBC015S1	13	2700	-2	10	7	400	15	-1	10	-50	-51	-2	15	39

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMBC016S1	04-33.6031-111.4231-4-59-000	1.3	0.5	1	163	2.0	1000	15	170	22	13000
MMBC017S1	04-33.5952-111.4774-4-59-000	1.4	0.2	12	260	2.0	10200	10	195	22	10000
MMBC018S1	04-33.6232-111.3120-4-59-000	1.2	0.1	1	285	2.0	1200	12	85	15	15000
MMBC019S1	04-33.6117-111.2903-4-59-000	1.3	0.3	.	245	1.5	1200	12	135	22	14000
MMBC020S1	04-33.6067-111.3179-4-59-000	1.5	0.3	6	318	2.0	400	5	120	21	14000
MMBC021S1	04-33.6278-111.3442-4-59-000	2.3	0.5	14	250	2.5	2600	12	105	18	17000
MMBC022S1	04-33.7198-111.2601-4-59-000	0.1	0.3	2	310	4.0	4100	17	135	18	15000
MMBC023S1	04-33.7280-111.2897-4-59-000	8.0	0.4	1	183	4.0	9700	27	135	38	12000
MMBC024S1	04-33.7138-111.3060-4-59-000	7.2	0.4	2	258	4.0	400	10	90	23	14000
MMBC025S1	04-33.7137-111.2754-4-59-000	4.6	0.5	2	218	4.5	2200	15	150	37	11000
MMBC026S1	04-33.7463-111.3690-4-59-000	7.0	0.1	1	203	3.5	700	10	170	15	19000
MMBC027S1	04-33.7274-111.3546-4-59-000	5.8	0.4	1	260	2.5	400	12	115	16	19000
MMBC028S1	04-33.7386-111.3369-4-59-000	4.2	0.4	2	205	3.5	5500	22	165	37	12000
MMBC029S1	04-33.7495-111.4957-4-59-000	2.2	0.3	12	268	2.5	1000	12	145	12	18000
MMBC030S1	04-33.6917-111.4368-4-59-000	4.8	0.2	1	190	3.0	1900	20	190	21	16000
MMBC031S1	04-33.7132-111.3918-4-59-000	5.2	0.4	.	178	3.5	6500	17	145	30	12000
MMBC032S1	04-33.7257-111.4032-4-59-000	6.4	0.5	2	190	3.0	3700	17	140	34	12000
MMBC033S1	04-33.7283-111.4355-4-59-000	2.8	0.4	.	195	3.5	3700	17	155	20	13000
MMBC034S1	04-33.6833-111.4558-4-59-000	5.0	0.3	5	175	3.5	1100	12	130	19	19000
MMBC035S1	04-33.7094-111.3685-4-59-000	5.8	0.4	.	195	3.5	6700	22	140	37	13000
MMBC036S1	04-33.7128-111.3349-4-59-000	3.0	0.4	5	203	3.5	3500	20	180	26	13000
MMBC037S1	04-33.6829-111.3282-4-59-000	1.6	0.4	3	198	2.0	500	17	90	19	19000
MMBC038S1	04-33.6711-111.3322-4-59-000	1.4	0.2	3	125	1.5	400	10	65	9	17000
MMBC039S1	04-33.6989-111.3256-4-59-000	3.8	0.4	9	205	3.5	400	15	135	20	13000
MMBC040S1	04-33.7153-111.4554-4-59-000	4.4	0.6	1	210	3.5	3500	12	180	24	13000
MMBD001S1	04-33.5837-111.0172-4-59-000	1.1	0.2	2	237	2.5	3600	12	170	24	19000
MMBD002S1	04-33.5911-111.0617-4-59-000	2.3	0.2	2	260	2.0	4500	22	185	37	23000
MMBD003S1	04-33.6492-111.0476-4-59-000	2.7	0.1	2	247	2.0	1300	15	199	24	11000
MMBD004S1	04-33.6466-111.1116-4-59-000	1.4	0.3	3	260	1.0	9200	12	120	21	13000
MMBD005S1	04-33.6660-111.0906-4-59-000	0.8	0.3	4	217	1.0	5100	15	166	20	14000
MMBD006S1	04-33.6671-111.1286-4-59-000	0.9	0.2	2	245	1.0	1400	10	200	23	19000
MMBD007S1	04-33.6245-111.0597-4-59-000	1.5	0.5	3	260	1.5	6400	12	155	22	16000
MMBD008S1	04-33.6246-111.0034-4-59-000	0.7	0.3	4	240	1.0	600	12	154	20	20000
MMBD009S1	04-33.6445-111.0052-4-59-000	1.7	0.1	1	260	1.5	3600	17	188	19	17000
MMBD010S1	04-33.7027-111.0275-4-59-000	0.3	0.4	5	225	0.5	11900	10	159	22	12000
MMBD011S1	04-33.6752-111.0358-4-59-000	0.8	0.2	4	207	1.0	1900	12	231	21	15000
MMBD012S1	04-33.7365-111.0254-4-59-000	0.2	0.1	2	165	0.5	3100	7	138	18	21000
MMBD013S1	04-33.6789-111.0592-4-59-000	0.1	0.1	3	175	0.5	300	10	195	7	19000
MMBD014S1	04-33.7099-111.0646-4-59-000	2.6	0.8	10	347	0.5	56000	17	93	31	15000
MMBD015S1	04-33.7386-111.0718-4-59-000	0.6	1.3	2	95	0.5	33200	20	183	25	21000
MMBD016S1	04-33.7308-111.0894-4-59-000	1.0	0.2	11	155	0.5	4800	15	135	23	20000
MMBD017S1	04-33.7069-111.0924-4-59-000	0.7	0.4	2	237	0.5	1900	17	202	33	13000
MMBD018S1	04-33.6131-111.0884-4-59-000	1.6	0.2	2	207	1.5	2500	15	210	28	18000
MMBD019S1	04-33.6676-111.1657-4-59-000	0.5	0.4	9	372	1.0	10900	25	152	31	23000
MMBD020S1	04-33.6372-111.1966-4-59-000	3.8	0.2	2	297	2.0	1900	10	246	69	19000
MMBD021S1	04-33.6068-111.1973-4-59-000	1.4	0.4	1	322	1.5	5100	22	140	46	16000
MMBD022S1	04-33.5832-111.2180-4-59-000	7.6	0.4	1	207	3.5	9400	22	137	42	28000
MMBD023S1	04-33.5635-111.2392-4-59-000	2.2	0.4	5	222	3.5	4900	10	97	23	25000
MMBD024S1	04-33.6978-111.1895-4-59-000	0.5	0.2	2	322	1.0	1100	12	145	22	21000
MMBD025S1	04-33.6861-111.2088-4-59-000	0.5	0.3	2	235	2.0	9300	12	145	19	18000
MMBD026S1	04-33.6603-111.2213-4-59-000	1.3	0.4	1	87	0.5	8500	35	214	77	10000
MMBD027S1	04-33.7045-111.2338-4-59-000	1.3	0.2	2	172	1.5	1600	10	109	25	21000
MMBD028S1	04-33.7426-111.2266-4-59-000	2.3	0.3	5	210	2.5	1800	10	147	18	26000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMBC016S1	16	1500	-2	10	12	5700	10	-1	-5	-50	-51	-2	15	49
MMBC017S1	12	2250	-2	10	17	900	10	-1	-5	87	-55	-2	20	39
MMBC018S1	15	3250	-2	10	-5	600	15	-1	10	-50	-47	-2	15	32
MMBC019S1	17	3400	-2	10	10	600	10	-1	5	-50	-51	-2	10	40
MMBC020S1	18	3200	-2	5	12	300	20	-1	15	-50	-55	-2	20	50
MMBC021S1	17	2900	-2	5	7	1500	20	2	-5	-50	-59	-2	15	102
MMBC022S1	25	3850	-2	10	10	1500	15	2	10	-50	-59	-2	35	106
MMBC023S1	27	2300	-2	10	15	3600	30	-1	25	-50	64	15	20	140
MMBC024S1	40	2850	-2	5	10	600	25	-1	-5	-50	-51	2	5	63
MMBC025S1	20	3550	2	10	10	1400	20	-1	5	-50	-59	40	20	112
MMBC026S1	31	2550	-2	10	10	800	40	-1	-5	-50	-51	2	35	54
MMBC027S1	26	3050	-2	10	7	400	20	3	-5	-50	-51	2	30	53
MMBC028S1	38	4300	289	.	15	3200	40	-1	-5	-50	64	.	5	140
MMBC029S1	24	2700	-2	10	5	900	20	1	5	-50	-51	-2	10	52
MMBC030S1	23	1400	3	10	12	1700	20	2	-5	-50	-59	-2	5	96
MMBC031S1	29	3300	2	5	12	3100	30	1	-5	-50	-59	-2	10	85
MMBC032S1	41	4000	-2	5	12	3000	25	2	10	-50	-55	-2	10	100
MMBC033S1	25	3450	-2	10	12	1800	25	-1	-5	-50	-59	-2	10	95
MMBC034S1	18	3050	-2	10	10	1100	35	-1	-5	-50	100	15	15	69
MMBC035S1	23	4150	-2	5	12	3300	35	1	-5	-50	-64	2	5	137
MMBC036S1	29	2000	3	10	10	2800	25	-1	15	-50	-64	10	20	88
MMBC037S1	39	2300	3	5	12	1000	20	-1	10	-50	-51	-2	5	74
MMBC038S1	33	1500	-2	5	10	-20	10	1	-5	-50	47	-2	5	32
MMBC039S1	23	2750	-2	5	10	300	20	-1	-5	-50	-59	-2	10	55
MMBC040S1	26	3150	-2	5	12	2700	30	-1	15	-50	-55	10	20	200
MMBD001S1	43	4500	-2	15	22	300	25	-1	-5	70	-100	-2	5	52
MMBD002S1	19	1850	-2	10	32	1100	25	-1	-5	55	-90	-2	5	77
MMBD003S1	25	2950	-2	10	32	350	40	-1	-5	-50	-90	2	5	45
MMBD004S1	18	2350	-2	-5	27	450	10	-1	5	-50	-100	-2	5	45
MMBD005S1	12	2700	-2	10	27	450	25	-1	-5	-50	-100	-2	-5	45
MMBD006S1	14	2650	-2	30	20	400	45	-1	-5	-50	100	-2	5	50
MMBD007S1	13	2550	-2	20	25	450	25	-1	-5	-50	-100	-2	15	42
MMBD008S1	15	2000	-2	15	15	400	35	-1	-5	-50	-90	-2	5	35
MMBD009S1	12	2900	-2	10	30	1350	30	-1	-5	-50	-82	-2	5	45
MMBD010S1	12	3600	-2	15	30	900	30	-1	-5	-50	-82	-2	-5	47
MMBD011S1	11	2950	-2	5	32	700	30	-1	5	-50	.	-2	-5	45
MMBD012S1	15	2950	-2	10	17	400	20	-1	5	-50	-100	-2	5	35
MMBD013S1	17	3150	-2	5	7	900	35	-1	-5	-50	-100	-2	-5	17
MMBD014S1	45	3750	-2	-5	37	800	35	-1	5	146	100	-2	10	40
MMBD015S1	15	4450	-2	10	35	1750	35	-1	-5	122	-100	-2	-5	80
MMBD016S1	28	4050	-2	10	32	350	30	-1	-5	76	90	-2	5	45
MMBD017S1	11	2400	-2	5	32	450	30	-1	5	-50	-100	-2	-5	50
MMBD018S1	12	2600	-2	10	30	1300	30	-1	10	-50	-100	-2	10	57
MMBD019S1	11	1750	2	10	32	2600	25	-1	10	-50	-100	-2	5	95
MMBD020S1	12	3450	-2	25	17	500	45	-1	-5	-50	-100	15	-5	162
MMBD021S1	14	3550	-2	10	27	1600	45	-1	-5	54	90	-2	-5	107
MMBD022S1	20	3000	3	75	22	4000	60	-1	-5	-50	-100	4	80	100
MMBD023S1	29	1500	-2	10	15	1500	20	-1	10	-50	-82	2	50	80
MMBD024S1	16	1050	-2	10	17	350	10	-1	10	-50	-90	-2	10	45
MMBD025S1	17	4450	-2	10	22	350	20	-1	10	-50	90	2	10	45
MMBD026S1	54	13000	-2	10	110	2450	20	-1	5	56	-100	-2	-5	87
MMBD027S1	15	3400	-2	10	17	750	15	-1	-5	-50	-100	-2	5	52
MMBD028S1	18	2850	-2	15	20	1200	15	-1	5	-50	-100	-2	5	55

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).											
SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMBD029S1	04-33.7366-111.1275-4-59-000	0.3	0.2	2	197	1.0	2400	12	253	23	17000
MMBD030S1	04-33.7079-111.1437-4-59-000	0.4	0.4	2	220	1.5	1900	10	157	18	19000
MMBD031S1	04-33.5571-111.0716-4-59-000	17.4	0.3	7	167	4.0	1000	10	150	14	21000
MMBD032S1	04-33.5266-111.0840-4-59-000	1.0	0.3	4	135	1.5	5300	25	245	28	15000
MMBD033S1	04-33.5413-111.0784-4-59-000	1.0	0.2	2	272	1.5	9000	15	201	22	18000
MMBD034S1	04-33.5690-111.0461-4-59-000	2.2	0.2	6	245	1.5	3400	10	197	35	18000
MMBE001S1	04-33.5179-110.8607-4-59-000	12.0	0.2	4	222	2.0	3800	17	192	168	18000
MMBE002S1	04-33.5397-110.8375-4-59-000	0.9	0.9	6	237	1.5	27000	15	139	60	14000
MMBE003S1	04-33.5435-110.7785-4-59-000	1.8	0.3	10	422	3.5	1400	17	111	55	40000
MMBE004S1	04-33.5443-110.8061-4-59-000	4.9	0.1	11	242	5.0	5900	22	197	71	20000
MMBE005S1	04-33.5594-110.8844-4-59-000	5.3	0.4	12	220	4.0	10800	22	163	77	23000
MMBE006S1	04-33.5791-110.8171-4-59-000	3.3	0.1	6	162	4.0	3100	15	135	50	23000
MMBE007S1	04-33.5907-110.8444-4-59-000	2.9	0.1	10	230	3.5	3800	12	150	29	26000
MMBE008S1	04-33.5930-110.8776-4-59-000	1.4	0.4	5	127	1.5	46200	10	130	44	18000
MMBE009S1	04-33.6113-110.8461-4-59-000	1.5	0.4	4	322	3.5	4700	12	135	43	18000
MMBE010S1	04-33.5892-110.7822-4-59-000	0.6	0.1	2	347	2.5	3900	15	186	34	16000
MMBE011S1	04-33.6094-110.7972-4-59-000	8.5	0.2	2	397	3.5	4900	15	161	32	23000
MMBE012S1	04-33.6971-110.9799-4-59-000	0.4	0.6	1	372	1.0	3400	17	214	21	9000
MMBE013S1	04-33.7208-110.9818-4-59-000	1.6	0.2	1	372	1.0	3200	35	231	33	8000
MMBE014S1	04-33.7301-110.9546-4-59-000	2.1	0.3	1	422	1.0	1900	20	159	24	22000
MMBE015S1	04-33.6977-110.9554-4-59-000	19.5	0.2	.	260	1.0	7500	37	227	31	10000
MMBE016S1	04-33.6739-110.8994-4-59-000	1.7	0.7	11	447	3.0	3200	15	178	29	15000
MMBE017S1	04-33.6846-110.8803-4-59-000	1.7	0.2	4	572	2.0	32900	15	114	21	18000
MMBE018S1	04-33.6854-110.8423-4-59-000	0.8	0.1	7	322	1.0	30200	20	196	27	14000
MMBE019S1	04-33.7045-110.8220-4-59-000	18.0	0.3	11	297	5.0	8000	17	139	16	19000
MMBE020S1	04-33.7208-110.8188-4-59-000	1.6	0.1	3	597	1.0	23300	32	324	24	10000
MMBE021S1	04-33.5172-110.8851-4-59-000	0.1	0.5	20	397	2.0	6200	50	187	137	13000
MMBE022S1	04-33.5244-110.9149-4-59-000	14.2	0.3	4	297	4.5	4100	17	140	23	22000
MMBE023S1	04-33.5450-110.9284-4-59-000	52.3	0.4	10	372	5.5	1400	17	110	82	22000
MMBE024S1	04-33.5726-110.9512-4-59-000	4.6	0.2	10	272	4.0	400	10	176	19	21000
MMBE025S1	04-33.5999-110.9963-4-59-000	0.7	0.1	4	572	1.5	10000	20	167	30	10000
MMBE026S1	04-33.6174-110.9289-4-59-000	0.6	0.3	6	372	2.0	17900	12	203	28	14000
MMBE027S1	04-33.6194-110.9644-4-59-000	1.5	0.4	7	647	0.5	58700	15	176	16	16000
MMBE028S1	04-33.6438-110.9503-4-59-000	0.7	0.1	8	400	1.5	3700	17	194	34	12000
MMBE029S1	04-33.6757-110.9734-4-59-000	0.4	0.3	5	372	2.0	8900	17	224	20	14000
MMCA001S1	04-33.4549-111.7704-4-59-000	0.9	0.1	3	372	1.5	9300	17	151	22	13000
MMCA002S1	04-33.4473-111.8135-4-59-000	0.7	0.1	8	397	1.0	21200	12	148	19	13000
MMCA003S1	04-33.3630-111.9816-4-59-000	2.1	0.3	9	447	2.0	13800	22	190	36	14000
MMCA004S1	04-33.3259-111.9882-4-59-000	0.6	0.3	2	447	1.0	7500	12	127	18	10000
MMCA005S1	04-33.3077-111.9902-4-59-000	0.8	0.3	1	165	1.0	3000	12	124	22	13000
MMCA006S1	04-33.4805-111.8130-4-59-000	0.7	0.2	6	245	1.0	2300	10	154	14	8000
MMCA007S1	04-33.4053-111.9712-4-59-000	2.8	0.1	9	372	2.0	13800	22	185	41	13000
MMCA008S1	04-33.4854-111.9508-4-62-000	.	.	.	372	1.0	.	.	.	.	11000
MMCA009S1	04-33.4515-111.9633-4-59-000	0.9	0.2	4	285	1.0	10300	12	151	15	14000
MMCA010S1	04-33.4455-111.9363-4-59-000	1.0	0.4	6	422	2.0	7600	15	146	18	14000
MMCA011S1	04-33.4275-111.9373-4-59-000	0.8	0.2	6	372	1.5	9600	15	157	28	16000
MMCA012S1	04-33.4744-111.8359-4-59-000	0.7	0.4	6	347	1.0	24600	15	148	15	14000
MMCA013S1	04-33.4580-111.7896-4-59-000	.	.	.	.	.	.	.	.	.	.
MMCA014S1	04-33.2504-111.9429-4-59-000	.	.	.	.	.	.	.	.	.	.
MMCA015S1	04-33.2760-111.9698-4-59-000	0.6	0.3	2	397	1.5	2200	12	117	14	11000
MMCB001S1	04-33.4183-111.5153-4-59-000	0.9	0.1	4	422	1.5	1100	12	146	16	18000
MMCB002S1	04-33.4498-111.5200-4-59-000	2.7	0.1	5	472	2.0	1700	12	171	22	23000
MMCB003S1	04-33.4755-111.5160-4-59-000	0.7	0.2	4	332	2.0	4500	20	251	71	15000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMBD029S1	14	3900	-2	10	35	1000	25	-1	-5	-50	100	-2	10	47
MMBD030S1	15	3250	-2	10	22	600	20	-1	-5	-50	-100	-2	-5	37
MMBD031S1	21	2500	-2	20	20	500	20	-1	-5	-50	90	-2	-5	52
MMBD032S1	34	5000	2	15	57	1500	25	-1	-5	-50	-100	-2	5	70
MMBD033S1	14	1350	-2	10	32	1000	10	-1	5	-50	100	-2	5	42
MMBD034S1	18	3650	2	15	20	1150	15	-1	-5	-50	-90	-2	5	57
MMBE001S1	23	3650	2	15	32	1000	45	-1	-5	-50	-100	-2	5	167
MMBE002S1	23	2900	-2	15	30	750	20	-1	-5	53	-100	-2	-5	62
MMBE003S1	18	2950	-2	25	20	850	10	-1	5	-50	-82	-2	15	52
MMBE004S1	29	4150	3	40	45	2200	25	-1	-5	-50	-100	-2	45	82
MMBE005S1	39	4350	-2	45	25	1950	40	-1	5	-50	-100	4	20	155
MMBE006S1	32	3000	2	30	25	2200	15	-1	5	-50	-100	-2	20	92
MMBE007S1	20	2800	-2	40	15	2000	20	-1	-5	-50	-100	3	20	75
MMBE008S1	18	2150	-2	10	20	1850	125	-1	-5	137	-100	-2	5	172
MMBE009S1	18	1100	-2	10	17	2600	30	-1	5	-50	-100	20	45	70
MMBE010S1	16	1400	3	30	30	2700	15	-1	5	-50	-100	-2	25	67
MMBE011S1	19	900	-2	15	17	3200	20	-1	-5	-50	-100	-2	20	87
MMBE012S1	36	900	-2	5	40	900	-10	-1	-5	-50	-100	-2	5	47
MMBE013S1	8	2400	-2	5	80	1800	15	-1	-5	-50	100	-2	-5	70
MMBE014S1	5	1300	-2	10	35	1200	10	-1	-5	-50	-100	-2	5	70
MMBE015S1	7	5000	-2	10	85	3500	25	-1	5	50	-100	-2	-5	85
MMBE016S1	6	1100	-2	10	32	1000	15	-1	5	-50	-100	-2	-5	45
MMBE017S1	6	1700	-2	5	25	1000	20	-1	-5	-50	-100	-2	5	42
MMBE018S1	10	4300	-2	5	52	1500	20	-1	5	140	-100	-2	-5	50
MMBE019S1	22	700	-2	40	17	2400	10	-1	5	-50	-100	10	50	70
MMBE020S1	17	2900	-2	10	77	2400	15	-1	-5	60	-100	-2	-5	50
MMBE021S1	15	2300	-2	5	60	1900	30	-1	-5	-50	-100	-2	10	102
MMBE022S1	28	1100	-2	10	15	2400	25	-1	5	-50	100	-2	80	62
MMBE023S1	17	500	-2	40	22	1900	20	-1	-5	-50	-100	37	40	95
MMBE024S1	20	300	-2	15	12	400	30	-1	-5	-50	90	15	45	40
MMBE025S1	14	1600	-2	10	25	1100	51	-1	-5	-50	-90	-2	10	47
MMBE026S1	51	1600	-2	15	22	1100	20	-1	-5	-50	-100	-2	5	40
MMBE027S1	10	1500	-2	10	37	1100	15	-1	-5	66	-100	-2	5	32
MMBE028S1	15	1400	-2	10	32	1000	20	-1	5	-50	-90	-2	5	52
MMBE029S1	8	1800	-2	10	32	800	25	-1	-5	-50	-100	-2	10	45
MMCA001S1	7	1400	-2	20	25	700	20	-1	-5	-50	-100	-2	10	52
MMCA002S1	5	1600	-2	25	25	1100	20	-1	-5	-50	-90	-2	-5	50
MMCA003S1	7	1100	-2	10	35	1500	30	-1	-5	-50	100	-2	25	60
MMCA004S1	11	1100	-2	15	20	1000	10	-1	5	-50	-100	-2	15	45
MMCA005S1	7	700	-2	15	22	1100	10	-1	5	-50	-100	.	15	52
MMCA006S1	6	2800	-2	15	30	1200	10	-1	-5	80	-100	.	25	35
MMCA007S1	9	1500	-2	35	37	1900	10	-1	-5	-50	-100	.	15	60
MMCA008S1	-5	2400	.	.	.	1600	20	-1	-5	-50	.	.	.	.
MMCA009S1	-5	1200	-2	10	22	600	25	-1	-5	-50	-100	-2	5	50
MMCA010S1	5	800	-2	25	22	700	30	-1	-5	-50	-100	-2	5	65
MMCA011S1	5	1800	-2	40	30	1000	50	-1	-5	-50	-100	-2	-5	82
MMCA012S1	-5	1600	-2	10	25	1300	15	-1	-5	86	-100	-2	-5	40
MMCA013S1	.	.	.	.	.	.	.	-1	.	.	.	.	.	.
MMCA014S1	.	.	.	.	.	.	.	-1	.	.	.	.	.	.
MMCA015S1	5	800	-2	10	10	800	30	-1	15	-50	-100	-2	5	45
MMCB001S1	6	1000	-2	10	17	800	20	-1	15	-50	-100	-2	10	42
MMCB002S1	-5	1100	-2	25	25	1000	10	-1	-5	-50	-100	-2	20	55
MMCB003S1	5	1300	-2	15	52	1900	30	-1	-5	-50	100	-2	-5	65

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CD	CR	CU	K
YMCB004S1	04-33.4471-111.5623-4-59-000	1.8	0.4	4	297	2.0	1300	12	152	17	10000
YMCJ005S1	04-33.4790-111.5726-4-61-500	1.0	0.1	4	190	2.0	800	7	95	25	19000
YMCB006S1	04-33.4481-111.6045-4-59-000	1.9	0.2	1	272	1.5	1300	7		22	15000
YMCB007S1	04-33.4084-111.6016-4-59-000	2.4	0.6	1	250	2.0	1100	7	76	22	18000
YMCB008S1	04-33.4095-111.5624-4-59-000	0.9	0.6	1	347	1.5	5000	12	53	19	17000
YMCB009S1	04-33.3784-111.5630-4-59-000	0.9	0.3	1	192	1.5	1500	10	66	19	25000
YMCB010S1	04-33.3402-111.5630-4-59-000	0.6	0.1	1	322	2.0	1700	7	52	16	14000
YMCB011S1	04-33.3109-111.5629-4-59-000	1.1	0.4	1	297	2.0	1200	15	69	21	21000
YMCB012S1	04-33.2710-111.5622-4-59-000	1.0	0.3	1	322	2.0	1200	7	50	19	18000
YMCB013S1	04-33.2638-111.5278-4-59-000	0.8	0.2	1	322	2.0	1400	10	87	20	24000
YMCB014S1	04-33.2626-111.6070-4-59-000	0.6	0.1	1	372	1.5	3700	12	88	25	18000
YMCB015S1	04-33.3061-111.6057-4-59-000	0.9	0.1		245	2.0	1400	7	49	18	22000
YMCB016S1	04-33.2920-111.6347-4-59-000	0.7	0.3	2	297	2.0	5400	15	179	24	19000
YMCB017S1	04-33.4077-111.6317-4-59-000	2.6	0.4	2	260	2.0	1700	10	128	15	18000
YMCB018S1	04-33.3749-111.5285-4-59-000	1.5	0.3	2	322	2.0	1400	10	144	18	20000
YMCB019S1	04-33.3410-111.5182-4-59-000	1.0	0.4	3	297	2.0	800	10	166	20	18000
YMCB020S1	04-33.2957-111.5279-4-59-000	0.8	0.4	2	297	1.5	5300	12	145	19	18000
YMCB021S1	04-33.3353-111.6440-4-59-000	0.6	0.2	2	297	1.5	2000	10	128	17	17000
YMCB022S1	04-33.3787-111.6447-4-59-000	0.7	0.6	2	260	2.0	1900	10	192	19	18000
YMCB023S1	04-33.3749-111.6007-4-59-000	1.6	0.1	1	260	2.0	900	7	77	14	22000
YMCB024S1	04-33.3426-111.6033-4-59-000	0.6	0.6	1	260	2.0	1500	7	86	21	22000
YMCB025S1	04-33.2713-111.6587-4-59-000	0.8	0.2		297	2.0	2500	10	119	17	19000
YMCB026S1	04-33.2659-111.6853-4-59-000	0.6	0.3	1	272	1.5	4400	12	182	41	14000
YMCB027S1	04-33.2700-111.7373-4-59-000	1.6	0.3	1	297	2.0	3800	10	160	44	17000
YMCB028S1	04-33.3054-111.7223-4-59-000				297	2.0					15000
YMCB029S1	04-33.3046-111.6882-4-59-000	1.0	0.4	2	272	1.5	4600	15	137	33	16000
YMCB030S1	04-33.3498-111.6806-4-59-000	3.2	0.4	2	260	2.0	3600	12	126	23	21000
YMCB031S1	04-33.3222-111.7405-4-59-000	0.6	0.2	2	347	2.0	1800	10	150	17	18000
YMCB032S1	04-33.4088-111.6841-4-59-000	1.0	0.5	2	202	1.5	2400	12	142	44	22000
YMCB033S1	04-33.3798-111.6865-4-59-000	1.2	0.1	2	272	2.0	1300	10	125	13	16000
YMCB034S1	04-33.3644-111.7166-4-59-000	1.5	0.1	3	245	2.0	7500	7	139	17	18000
YMCB035S1	04-33.4102-111.7104-4-59-000	1.0	0.4	2	272	1.5	1200	15	136	22	19000
YMCB036S1	04-33.4487-111.7347-4-59-000	1.0	0.4	2	260	2.0	1000	10	145	17	14000
YMCB037S1	04-33.4438-111.6362-4-59-000	0.7	0.5	6	167	2.0	11000	15	211	19	17000
YMCB038S1	04-33.4783-111.6487-4-59-000	6.2	0.1	2	230	2.0	900	7	194	14	18000
YMCB039S1	04-33.4736-111.6133-4-59-000	3.8	0.2	7	260	2.0	3500	7	178	15	19000
YMCB040S1	04-33.4805-111.6841-4-59-000	5.4	0.7	2	212	1.5	6300	10	182	15	13000
YMCB041S1	04-33.4453-111.6841-4-59-000	2.0	0.7	2	260	1.5	26400	10	181	20	21000
YMCB042S1	04-33.4819-111.7185-4-59-000	1.2	0.5	7	260	2.0	3600	12	186	19	18000
YMC0001S1	04-33.3730-111.4848-4-59-000	0.9	0.6	4	272	2.0	900	10	143	21	29000
YMC0002S1	04-33.3437-111.4708-4-59-000	0.7	0.3	6	260	2.0	2000	10	162	18	17000
YMC0003S1	04-33.4129-111.4102-4-59-000	1.0	0.1	4	248	2.0	1300	10	117	28	23000
YMC0004S1	04-33.4075-111.4435-4-59-000	0.5	0.1	3	373	1.5	18100	10	110	15	16000
YMC0005S1	04-33.3358-111.4403-4-59-000	0.8	0.2	2	200	1.5	1500	12	193	21	19000
YMC0006S1	04-33.3069-111.4763-4-59-000	1.0	0.4	2	273	1.5	1500	7	137	19	21000
YMC0007S1	04-33.3109-111.4459-4-59-000	2.6	0.6	2	248	1.5	1200	7	159	21	17000
YMC0008S1	04-33.3362-111.3938-4-59-000	1.6	0.5	5	260	1.5	1500	10	146	28	13000
YMC0009S1	04-33.2998-111.3943-4-59-000	0.8	0.1	1	245	1.5	600	7	137	38	21000
YMC0010S1	04-33.2748-111.3925-4-59-000	0.5	0.3	1	240	1.5	2100	10	145	30	20000
YMC0011S1	04-33.2685-111.4404-4-59-000	0.8	0.4	2	153	1.5	700	7	141	21	12000
YMC0012S1	04-33.2717-111.4931-4-59-000	0.9	0.1	2	198	1.5	1000	10	144	18	22000
YMC0013S1	04-33.2671-111.3510-4-59-000	0.6	0.3	3	230	2.0	5600	15	132	22	17000
YMC0014S1	04-33.2580-111.3070-4-59-000	0.6	0.2	7	243	1.5	1300	10	143	37	13000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMCB004S1	11	2100	-2	15	20	900	50	-1	-5	-50	.	-2	15	45
MMCB005S1	8	1000	-2	5	12	600	20	-1	10	-50	.	-2	10	50
MMCB006S1	8	1900	.	.	20	1000	10	.	-5	-50	.	.	.	57
MMCB007S1	10	1150	-2	5	15	1100	15	-1	15	-50	-100	-2	25	50
MMCB008S1	7	1400	-2	5	27	1200	15	-1	-5	-50	200	-2	10	25
MMCB009S1	12	1400	-2	10	25	1100	-10	-1	-5	53	-100	-2	15	57
MMCB010S1	9	2050	-2	10	20	1000	10	-1	10	-50	-100	-2	5	52
MMCB011S1	10	2350	2	10	27	800	10	-1	-5	-50	-100	-2	-5	57
MMCB012S1	8	8150	-2	5	22	700	-10	-1	5	-50	-100	-2	15	52
MMCB013S1	12	850	-2	10	20	900	-10	-1	-5	-50	-100	-2	-5	55
MMCB014S1	-5	2200	-2	10	22	1100	20	-1	-5	-50	-100	-2	-5	62
MMCB015S1	7	2300	-2	5	15	1000	20	-1	5	-50	-100	-2	5	55
MMCB016S1	6	2700	3	10	25	1200	15	-1	-5	-50	-100	-2	5	60
MMCB017S1	7	1800	2	10	15	1000	20	-1	5	-50	-100	-2	25	42
MMCB018S1	6	2100	-2	20	20	1000	15	-1	-5	-50	-100	-2	10	45
MMCB019S1	7	2300	2	10	20	800	25	-1	5	-50	-100	-2	45	47
MMCB020S1	6	2150	3	10	22	800	20	-1	30	-50	100	-2	15	55
MMCB021S1	8	2550	3	15	22	1000	10	-1	-5	-50	-75	-2	5	57
MMCB022S1	6	2150	-2	15	22	500	20	-1	-5	-50	-100	-2	25	57
MMCB023S1	10	3150	2	10	15	1200	10	-1	5	-50	-82	-2	15	37
MMCB024S1	8	1800	-2	5	25	700	10	-1	20	-50	-90	-2	30	55
MMCB025S1	9	2800	-2	10	25	1200	20	-1	15	-50	-100	-2	5	57
MMCB026S1	6	1150	-2	18	35	1200	20	-1	5	-50	.	-2	18	77
MMCB027S1	8	2150	-2	20	25	1300	-10	-1	5	-50	.	-2	-5	92
MMCB028S1	11	3000	.	.	.	1000	-10	.	-5	-50	.	.	.	.
MMCB029S1	10	2750	-2	45	27	1200	20	-1	5	-50	100	-2	5	82
MMCB030S1	10	1000	3	10	25	1000	-10	-1	5	-50	-70	-2	10	62
MMCB031S1	13	3000	-2	15	17	1100	10	-1	-5	-50	-100	-2	10	50
MMCB032S1	7	2100	-2	15	27	700	10	-1	-5	-50	-90	-2	5	72
MMCB033S1	9	1900	3	10	12	700	-10	-1	5	-50	-100	-2	5	40
MMCB034S1	13	2800	-2	20	22	500	10	-1	10	-50	-100	-2	-5	50
MMCB035S1	10	1450	-2	10	27	800	15	-1	10	-50	90	-2	5	60
MMCB036S1	7	2450	2	20	20	1400	20	-1	-5	-50	-82	-2	-5	47
MMCB037S1	8	1950	2	20	22	800	15	-1	10	-50	-100	-2	-5	352
MMCB038S1	9	2050	2	15	12	1300	10	-1	-5	-50	-100	-2	10	37
MMCB039S1	7	2150	3	10	12	1100	15	-1	-5	-50	100	-2	25	50
MMCB040S1	9	2750	4	10	17	1300	15	-1	-5	79	-100	-2	5	45
MMCB041S1	6	2100	2	15	20	800	15	-1	-5	-50	-100	-2	-5	50
MMCB042S1	6	1950	-2	15	17	700	-10	-1	-5	-50	-100	-2	5	45
MMCC001S1	11	600	2	10	12	600	20	-1	-5	-50	-82	-2	-5	50
MMCC002S1	8	1500	2	10	17	500	-10	-1	-5	-50	-82	-2	-5	47
MMCC003S1	23	1900	2	10	17	900	25	-1	10	-50	-75	-2	15	107
MMCC004S1	16	2300	2	10	15	1200	10	-1	25	67	75	-2	-5	57
MMCC005S1	21	2600	2	10	15	700	30	-1	-5	-50	-64	-2	15	47
MMCC006S1	17	1550	2	5	22	700	10	-1	5	-50	-70	-2	10	55
MMCC007S1	19	1250	-2	10	20	700	10	-1	-5	-50	-70	-2	-5	50
MMCC008S1	19	1700	2	10	20	600	15	2	5	-50	-70	-2	-5	67
MMCC009S1	15	1350	3	5	12	1100	25	-1	5	-50	-70	-2	10	67
MMCC010S1	15	1300	2	10	17	700	45	-1	20	-50	-70	-2	20	50
MMCC011S1	19	3150	2	15	15	1000	20	-1	5	-50	-82	-2	40	45
MMCC012S1	14	1200	3	10	17	800	30	-1	15	-50	190	-2	10	47
MMCC013S1	18	750	-2	10	20	1000	20	-1	-5	-50	-55	-2	20	45
MMCC014S1	17	2700	-2	10	17	600	15	-1	5	-50	-59	-2	10	45

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMCC015S1	04-33.2632-111.2703-4-59-000	0.8	0.2	5	150	1.5	900	12	122	87	19000
MMCC016S1	04-33.3005-111.2763-4-59-000	1.0	0.5	5	183	1.0	5100	12	144	59	14000
MMCC017S1	04-33.2966-111.3146-4-59-000	1.1	0.4	4	298	1.5	600	7	178	37	20000
MMCC018S1	04-33.2978-111.3501-4-59-000	1.3	0.2	4	235	1.5	600	10	184	32	20000
MMCC019S1	04-33.3277-111.3254-4-59-000	0.6	0.5	4	225	1.5	600	10	144	24	19000
MMCC020S1	04-33.3516-111.3431-4-59-000	0.7	0.2	4	220	1.5	1200	7	133	21	19000
MMCC021S1	04-33.4488-111.4847-4-59-000	0.6	0.2	4	228	1.0	4900	10	140	16	17000
MMCC022S1	04-33.4793-111.4739-4-59-000	0.7	0.1	3	218	1.0	2400	12	117	21	19000
MMCC023S1	04-33.4782-111.4417-4-59-000	0.7	0.2	3	260	1.5	800	12	146	14	24000
MMCC024S1	04-33.4154-111.4850-4-59-000	0.5	0.1	2	168	1.5	3100	10	142	18	25000
MMCC025S1	04-33.3785-111.4356-4-59-000	0.7	0.4	3	185	1.5	800	10	157	16	17000
MMCC026S1	04-33.3644-111.3828-4-59-000	1.0	0.2	3	205	1.5	800	12	199	23	19000
MMCC027S1	04-33.3780-111.3639-4-59-000	0.9	0.2	1	215	1.0	1100	10	162	22	17000
MMCC028S1	04-33.3960-111.3485-4-59-000	1.4	0.3	2	215	1.0	2300	12	194	59	26000
MMCC029S1	04-33.3934-111.3203-4-59-000	0.8	0.3	2	238	2.0	800	12	115	18	21000
MMCC030S1	04-33.3333-111.2804-4-59-000	0.7	0.2	2	160	1.5	1100	10	164	36	26000
MMCC031S1	04-33.3675-111.2712-4-59-000	1.2	0.6	.	245	1.0	10600	15	229	45	21000
MMCC032S1	04-33.4586-111.4505-4-59-000	0.7	0.3	1	260	1.0	2500	10	151	25	15000
MMCC033S1	04-33.4534-111.4044-4-59-000	0.8	0.3	0	252	1.0	700	7	129	16	17000
MMCC034S1	04-33.4585-111.4161-4-59-000	0.7	0.1	1	143	1.0	3100	10	109	13	21000
MMCC035S1	04-33.4921-111.2847-4-59-000	1.2	0.1	0	220	2.0	1200	15	135	20	22000
MMCC036S1	04-33.4993-111.2977-4-59-000	0.9	0.1	2	110	2.0	1400	10	121	14	27000
MMCD001S1	04-33.2824-111.1473-4-59-000	0.4	0.2	11	448	-0.5	2700	20	187	400	9000
MMCD002S1	04-33.2711-111.1832-4-59-000	0.8	1.1	8	200	1.0	50000	15	127	70	19000
MMCD003S1	04-33.2743-111.2213-4-59-000	1.1	0.4	9	208	1.5	800	12	173	81	22000
MMCD004S1	04-33.3036-111.2325-4-59-000	2.2	0.5	9	220	1.5	1100	17	178	315	17000
MMCD005S1	04-33.2987-111.1962-4-59-000	0.7	0.2	9	128	1.0	3300	15	276	87	14000
MMCD006S1	04-33.3213-111.1654-4-59-000	1.0	0.1	2	148	1.5	2200	12	123	21	15000
MMCD007S1	04-33.3098-111.1408-4-59-000	0.7	0.2	2	170	2.0	2200	22	285	120	19000
MMCD008S1	04-33.3386-111.1346-4-59-000	0.6	0.4	2	105	1.5	3600	27	316	54	19000
MMCD009S1	04-33.3390-111.2264-4-59-000	0.8	1.4	2	373	1.5	79500	12	101	57	13000
MMCD010S1	04-33.3586-111.2092-4-59-000	0.4	0.2	2	183	1.5	3600	27	239	69	24000
MMCD011S1	04-33.3781-111.1921-4-59-000	2.0	0.5	2	95	3.0	700	12	182	53	19000
MMCD012S1	04-33.4194-111.0331-4-59-000	0.3	0.5	2	118	1.5	39000	17	129	30	19000
MMCD013S1	04-33.4257-111.0540-4-59-000	0.4	0.5	2	75	1.5	6100	35	296	88	13000
MMCD014S1	04-33.4366-111.0688-4-59-000	0.3	0.6	2	200	1.5	6300	32	270	79	9000
MMCD015S1	04-33.4282-111.0865-4-59-000	1.5	0.9	2	150	1.5	3500	35	281	50	13000
MMCD016S1	04-33.4285-111.0073-4-59-000	0.6	0.2	2	273	2.5	2200	7	77	43	17000
MMCD017S1	04-33.4472-111.0102-4-59-000	0.9	0.2	2	100	2.0	1000	12	166	85	30000
MMCD018S1	04-33.4674-111.0267-4-59-000	0.5	0.6	2	200	2.5	3800	17	178	66	23000
MMCD019S1	04-33.4680-111.0450-4-59-000	0.4	0.2	7	128	1.5	16500	20	225	73	15000
MMCD020S1	04-33.2619-111.0388-4-59-000	0.8	0.2	1	170	2.5	400	7	105	19	23000
MMCD021S1	04-33.3147-111.0354-4-59-000	0.8	0.3	3	135	2.0	400	7	104	153	24000
MMCD022S1	04-33.3401-111.0154-4-59-000	0.6	0.2	1	218	2.0	800	7	92	31	20000
MMCD023S1	04-33.3625-111.0031-4-59-000	0.5	0.4	.	120	2.5	500	7	93	44	28000
MMCD024S1	04-33.3397-111.0627-4-59-000	1.2	0.3	2	138	2.5	600	12	172	49	21000
MMCD025S1	04-33.3066-111.1161-4-59-000	0.6	4.1	8	125	2.0	2000	17	232	2818	18000
MMCD026S1	04-33.3286-111.0948-4-59-000	0.4	0.8	2	240	1.0	5400	20	156	56	12000
MMCD027S1	04-33.3020-111.0593-4-59-000	0.5	0.4	7	88	2.0	10800	12	187	228	21000
MMCD028S1	04-33.2717-111.1131-4-59-000	0.9	0.5	10	175	2.0	300	10	130	340	26000
MMCD029S1	04-33.2797-111.0455-4-59-000	0.6	0.5	7	143	2.0	400	7	117	121	23000
MMCD030S1	04-33.3985-111.1961-4-59-000	7.1	1.6	2	163	6.0	900	12	173	57	35000
MMCD031S1	04-33.4136-111.1897-4-59-000	6.4	0.5	0	113	6.5	1000	15	155	50	27000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMCC015S1	14	1150	-2	10	20	500	25	-1	-5	-50	-55	-2	15	65
MMCC016S1	19	1450	-2	15	17	600	35	-1	5	-50	-82	-2	10	60
MMCC017S1	14	1100	-2	15	15	1300	25	-1	20	-50	-75	-2	15	50
MMCC018S1	14	1200	-2	10	12	700	15	-1	-5	-50	-75	-2	25	45
MMCC019S1	15	950	-2	15	7	400	25	-1	-5	-50	70	-2	25	40
MMCC020S1	16	850	-2	15	12	500	10	-1	15	-50	-100	-2	10	37
MMCC021S1	14	1750	-2	10	17	500	20	-1	5	-50	-75	-2	35	55
MMCC022S1	22	3200	-2	10	20	1000	30	-1	5	-50	-59	-2	25	55
MMCC023S1	16	1500	-2	10	17	1200	20	-1	15	-50	-82	-2	5	55
MMCC024S1	17	2050	-2	5	15	500	20	-1	5	-50	-70	-2	25	50
MMCC025S1	17	1800	-2	5	17	700	-10	-1	20	-50	-64	-2	10	42
MMCC026S1	15	1300	-2	5	20	400	25	-1	-5	-50	-82	-2	25	47
MMCC027S1	20	950	-2	10	20	500	15	-1	20	-50	-70	-2	15	62
MMCC028S1	17	1450	-2	5	27	600	25	-1	10	-50	-75	-2	30	92
MMCC029S1	22	2900	-2	10	15	900	40	-1	55	-50	-70	-2	20	37
MMCC030S1	19	1800	-2	10	17	600	20	-1	-5	-50	-59	-2	10	52
MMCC031S1	17	1150	-2	10	30	800	15	-1	5	-50	-100	-2	10	200
MMCC032S1	15	2400	2	10	25	1200	45	-1	-5	-50	75	-2	10	90
MMCC033S1	37	1550	-2	10	12	1100	35	-1	10	-50	-75	-2	10	42
MMCC034S1	22	1750	-2	10	10	700	30	-1	-5	-50	-100	-2	30	32
MMCC035S1	13	1050	2	10	12	800	15	-1	10	-50	-75	-2	30	55
MMCC036S1	19	2250	2	10	10	900	35	-1	-5	-50	82	-2	25	77
MMCD001S1	5	2500	-2	5	30	1500	40	-1	-5	55	-82	-2	25	145
MMCD002S1	11	3700	-2	5	17	1900	140	-1	-5	190	-75	-2	45	165
MMCD003S1	18	2250	-2	10	22	600	60	-1	5	-50	-82	-2	-5	72
MMCD004S1	21	1250	-2	10	20	1100	45	-1	-5	-50	-90	-2	20	205
MMCD005S1	14	2600	-2	15	25	1000	25	-1	5	-50	-100	-2	50	57
MMCD006S1	17	3100	4	15	15	400	25	-1	5	-50	-75	-2	5	30
MMCD007S1	7	3850	-2	15	27	1400	40	-1	5	59	-100	-2	25	50
MMCD008S1	25	8500	-2	5	57	1200	15	-1	-5	59	-100	-2	15	50
MMCD009S1	15	13000	-2	5	25	1500	30	-1	-5	73	-100	-2	5	60
MMCD010S1	13	6500	-2	5	67	1400	25	-1	5	53	-75	-2	15	62
MMCD011S1	21	3850	-2	10	22	1000	45	-1	-5	66	-100	-2	20	72
MMCD012S1	30	3750	-2	-5	12	1100	15	-1	10	73	-100	-2	-5	50
MMCD013S1	36	12500	3	5	35	2500	-10	-1	-5	49	-100	-2	35	80
MMCD014S1	13	10000	-2	5	90	1700	10	-1	-5	53	-100	-2	20	62
MMCD015S1	30	5750	-2	5	72	1400	15	-1	-5	59	-100	-2	5	67
MMCD016S1	17	2450	-2	10	10	1000	25	-1	-5	106	-100	-2	-5	22
MMCD017S1	16	4200	-2	10	15	600	20	-1	-5	119	-100	-2	25	40
MMCD018S1	20	5500	-2	5	25	1100	30	-1	5	93	-82	-2	15	57
MMCD019S1	20	12500	-2	5	77	1300	30	-1	-5	146	-90	-2	10	57
MMCD020S1	21	2600	-2	5	10	700	20	-1	-5	99	-82	-2	20	25
MMCD021S1	17	2800	-2	5	12	400	110	-1	5	99	-100	-2	5	60
MMCD022S1	21	1800	-2	5	7	500	30	-1	-5	79	-75	-2	10	27
MMCD023S1	19	2150	-2	10	10	900	30	-1	10	99	-100	-2	5	32
MMCD024S1	13	3200	-2	75	12	700	35	-1	5	66	-90	-2	-5	47
MMCD025S1	10	4800	-2	5	22	1100	130	-1	10	59	-82	-2	10	400
MMCD026S1	-5	4550	-2	5	12	1200	25	-1	-5	66	-100	-2	10	600
MMCD027S1	10	5000	2	10	25	1000	55	-1	-5	73	-82	-2	5	190
MMCD028S1	10	2750	-2	10	12	800	65	-1	-5	-50	-90	-2	5	70
MMCD029S1	13	2700	2	10	10	500	30	-1	10	93	-90	-2	20	52
MMCD030S1	17	3550	-2	10	17	1300	200	-1	15	-50	-70	-2	15	325
MMCD031S1	18	2250	3	10	15	1200	140	-1	10	-50	-100	3	35	335

APPENDIX 1 TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMCD032S	04-33.4084-111.2052-4-59-000	8.4	0.1	1	108	5.5	800	10	180	34	30000
MMCE001S	04-33.3636-110.9384-4-59-000	0.8	0.2	2	118	4.0	500	7	78	104	17000
MMCE002S	04-33.3427-110.9352-4-59-000	0.8	0.1	1	115	3.0	600	15	249	75	24000
MMCE003S	04-33.3175-110.9228-4-59-000	3.6	0.8	2	73	3.5	500	47	209	453	21000
MMCE004S	04-33.3451-110.9890-4-59-000	0.8	0.5	2	165	3.5	1700	10	103	88	21000
MMCE005S	04-33.3647-110.9598-4-59-000	0.8	0.2	2	108	4.0	500	10	185	176	25000
MMCE006S	04-33.3802-110.8960-4-59-000	4.4	0.3	3	245	4.0	1200	7	165	993	25000
MMCE007S	04-33.4805-110.8784-4-59-000	0.5	0.9	2	250	2.0	19600	42	287	54	12000
MMCE008S	04-33.4732-110.9072-4-59-000	0.5	0.3	7	73	2.5	17000	30	229	175	13000
MMCE009S	04-33.4731-110.9409-4-59-000	1.5	0.4	7	110	5.0	3600	10	187	140	30000
MMCE010S	04-33.4628-110.9272-4-59-000	1.4	0.1	3	93	3.0	700	12	160	336	30000
MMCE011S	04-33.4363-110.8969-4-59-000	3.5	0.4	2	105	4.5	400	10	231	493	30000
MMCE012S	04-33.4101-110.9277-4-59-000	1.5	0.3	3	78	3.0	300	7	193	219	28000
MMCE013S	04-33.4076-110.9060-4-59-000	1.5	0.2	1	220	3.5	900	5	121	568	21000
MMCE014S	04-33.2782-110.8885-4-59-000	0.8	0.9	1	120	3.5	1300	12	180	113	31000
MMCE015S	04-33.2696-110.9071-4-59-000	0.8	0.1	2	323	3.0	600	12	185	45	24000
MMCE016S	04-33.2528-110.9494-4-59-000	0.5	0.7	3	170	1.5	31500	15	151	52	14000
MMCE017S	04-33.3891-110.9399-4-59-000	0.9	0.2	9	348	3.0	3700	35	318	91	7000
MMCE018S	04-33.3991-110.9653-4-59-000	0.7	0.8	10	373	1.5	3300	30	184	125	12000
MMCE019S	04-33.4182-110.8083-4-59-000	1.2	1.6	12	273	2.5	1100	17	386	2947	13000
MMCE020S	04-33.4153-110.7795-4-59-000	0.4	1.6	12	323	1.5	55000	15	162	1927	12000
MMCE021S	04-33.4415-110.7581-4-59-000	0.6	0.5	12	213	2.0	300	15	196	272	14000
MMCE022S	04-33.4763-110.7538-4-59-000	0.6	0.8	12	245	1.5	200	15	160	147	28000
MMCE023S	04-33.3334-110.7614-4-59-000	1.1	0.7	10	398	2.5	700	15	320	77	23000
MMCE024S	04-33.3076-110.7780-4-59-000	0.3	1.0	6	373	1.5	3800	20	237	56	11000
MMCE025S	04-33.3858-110.7571-4-59-000	0.6	0.6	4	273	2.0	1000	15	324	512	10000
MMCE026S	04-33.3861-110.7916-4-59-000	0.7	0.5	5	323	2.0	800	17	349	205	10000
MMCE027S	04-33.3776-110.8163-4-59-000	0.6	0.6	1	273	1.5	3300	20	310	68	10000
MMCE028S	04-33.3887-110.8600-4-59-000	0.4	0.6	3	220	2.0	2300	17	369	432	9000
MMCE029S	04-33.4393-110.8518-4-59-000	1.3	0.2	0	237	2.0	1700	10	255	642	18000
MMCE030S	04-33.4431-110.8165-4-59-000	0.4	0.3	4	260	1.5	6500	20	339	447	13000
MMCE031S	04-33.4781-110.8529-4-59-000	0.5	0.2	9	298	2.0	5600	15	240	337	10000
MMCE032S	04-33.4694-110.8019-4-59-000	0.2	0.3	3	245	1.0	5200	25	328	152	7000
MMCE033S	04-33.4411-110.7817-4-59-000	0.8	1.9	10	133	35.5	1600	30	262	417	8000
MMCE034S	04-33.4010-110.8360-4-59-000	0.4	0.6	5	260	2.5	7800	15	221	827	9000
MMCE035S	04-33.3513-110.8043-4-59-000	0.7	0.3	9	323	2.0	1300	17	379	126	14000
MMCE036S	04-33.3323-110.8411-4-59-000	1.1	0.5	5	228	2.0	600	15	238	45	11000
MMCE037S	04-33.3016-110.8580-4-59-000	0.3	0.6	7	423	1.5	2700	30	283	95	11000
MMCE038S	04-33.2709-110.8611-4-59-000	1.4	0.4	5	273	2.5	500	15	209	60	21000
MMCE039S	04-33.3085-110.7943-4-59-000	0.8	0.3	7	285	2.0	700	17	281	51	16000
MMCE040S	04-33.2633-110.8070-4-59-000	0.2	0.2	4	523	2.0	6200	25	231	56	10000
MMCE041S	04-33.2774-110.7527-4-59-000	0.7	0.2	5	323	1.5	200	10	213	31	16000
MMDA001S	04-33.2343-111.7767-4-59-000	1.7	0.5	5	348	2.0	3200	15	180	31	17000
MMDA002S	04-33.2328-111.8137-4-59-000	0.4	0.4	3	373	2.0	1500	12	213	19	12000
MMDA003S	04-33.2319-111.8701-4-59-000	0.8	0.5	2	260	2.0	3200	15	209	22	14000
MMDA004S	04-33.1549-111.7749-4-59-000	0.2	0.5	6	233	2.0	34800	10	167	41	20000
MMDA005S	04-33.1329-111.7708-4-59-000	1.7	0.4	3	373	2.0	15400	15	190	54	11000
MMDA006S	04-33.1374-111.8147-4-59-000	1.3	0.4		348	1.5	14300	10	189	30	12000
MMDA007S	04-33.1588-111.8600-4-59-000	0.7	0.7	3	448	1.5	5800	12	196	25	15000
MMDA008S	04-33.1312-111.8527-4-59-000	0.6	0.2	5	423	2.0	16100	15	166	47	12000
MMDA009S	04-33.2039-111.7602-4-59-000	0.4	0.2	3	373	2.0	900	7	151	17	17000
MMDA010S	04-33.2001-111.8333-4-59-000	0.5	0.3	2	373	1.5	3400	7	178	19	20000
MMDA011S	04-33.1864-111.8128-4-59-000	0.4	0.2	2	373	1.5	1800	10	166	21	18000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMCD032S1	24	3650	3	15	15	1100	55	-1	-5	-50	-100	2	40	87
MMCE001S1	18	1650	-2	10	7	1200	10	-1	10	73	-82	-2	10	40
MMCE002S1	17	4900	-2	10	32	900	20	-1	15	-50	-100	-2	5	62
MMCE003S1	19	4650	-2	5	37	900	20	-1	-5	-50	-100	-2	30	175
MMCE004S1	27	2450	-2	10	10	1200	25	-1	-5	99	-64	.	15	55
MMCE005S1	18	4300	-2	10	20	700	50	-1	15	99	-82	-2	10	47
MMCE006S1	102	2200	11	15	17	1100	360	-1	15	99	-70	-2	35	175
MMCE007S1	28	8000	-2	10	67	5000	50	-1	20	-50	-100	-2	10	70
MMCE008S1	27	12500	-2	5	20	4100	35	-1	-5	-50	-100	-2	15	82
MMCE009S1	31	3900	2	10	15	2200	35	-1	-5	-50	-65	2	60	80
MMCE010S1	21	4650	5	5	17	1000	45	-1	5	-50	-59	-2	25	65
MMCE011S1	10	4250	8	10	27	900	40	-1	-5	-50	-82	4	15	82
MMCE012S1	18	3750	8	10	17	600	20	-1	-5	99	-82	-2	25	37
MMCE013S1	75	3500	24	15	12	800	30	-1	15	86	-90	.	25	65
MMCE014S1	37	4850	-2	5	20	600	50	-1	15	59	-90	.	5	185
MMCE015S1	17	800	3	10	17	800	15	-1	-5	-50	-100	10	10	80
MMCE016S1	18	10400	2	5	30	1000	10	-1	15	99	-100	-2	-5	65
MMCE017S1	6	1150	-2	10	102	2000	10	-1	15	-50	-100	-2	25	45
MMCE018S1	20	4000	9	10	60	3000	30	-1	10	-50	-100	-2	20	230
MMCE019S1	13	1300	18	15	37	2000	100	-1	5	-50	-90	.	25	370
MMCE020S1	7	9500	-2	5	27	1100	1125	-1	10	-50	-100	.	15	2650
MMCE021S1	13	1400	5	15	25	800	35	-1	5	-50	-90	-2	5	80
MMCE022S1	12	1150	-2	10	15	800	20	-1	5	-50	-70	-2	20	135
MMCE023S1	38	650	-2	10	32	1200	35	-1	5	53	-100	.	45	62
MMCE024S1	15	3450	-2	10	27	2500	10	-1	5	-50	-100	.	20	92
MMCE025S1	12	1400	2	10	25	1800	55	-1	10	-50	90	4	20	130
MMCE026S1	7	850	-2	5	27	900	15	-1	-5	-50	-82	2	10	62
MMCE027S1	9	1750	-2	5	30	2000	15	-1	20	-50	-82	-2	10	57
MMCE028S1	7	1350	2	5	25	2100	15	-1	10	-50	-82	-2	15	62
MMCE029S1	14	1150	3	10	22	1400	15	-1	20	-50	-100	-2	15	77
MMCE030S1	6	3350	-2	5	37	2300	45	-1	5	-50	-100	-2	15	240
MMCE031S1	16	1400	-2	10	20	1200	30	-1	5	-50	-100	-2	10	80
MMCE032S1	6	4450	-2	5	62	2600	30	-1	-5	-50	-100	-2	-5	87
MMCE033S1	17	5000	-2	5	92	1200	17545	-1	-5	-50	-100	-2	20	18545
MMCE034S1	12	3000	-2	10	27	1000	35	-1	-5	-50	-100	.	20	190
MMCE035S1	11	2850	-2	10	35	2000	25	-1	10	-50	-100	2	15	85
MMCE036S1	20	2850	-2	5	45	1200	15	-1	10	-50	82	-2	25	72
MMCE037S1	18	1850	2	10	55	1400	50	-1	-5	-50	-90	-2	20	105
MMCE038S1	9	2300	-2	5	25	900	25	-1	15	-50	-70	5	35	155
MMCE039S1	12	2400	-2	5	30	800	-10	-1	-5	-50	-90	3	25	72
MMCE040S1	17	2400	4	5	20	3400	20	-1	10	-50	-100	-2	10	165
MMCE041S1	10	1250	-2	5	17	600	-10	-1	-5	-50	-90	.	20	67
MMDA001S1	16	2550	-2	5	27	1200	10	-1	5	-50	-90	-2	5	77
MMDA002S1	12	2100	-2	5	20	500	10	-1	-5	-50	-82	-2	10	50
MMDA003S1	12	2650	-2	5	22	650	15	-1	-5	-50	-100	-2	15	60
MMDA004S1	21	5800	-2	-5	20	1300	15	-1	10	106	90	-2	10	50
MMDA005S1	17	2300	-2	5	37	1600	30	-1	-5	50	-82	-2	10	70
MMDA006S1	12	2950	3	5	22	1400	20	-1	-5	59	-90	-2	10	50
MMDA007S1	13	2350	3	-5	25	1300	15	-1	5	-50	160	-2	25	50
MMDA008S1	19	2550	-2	5	30	1400	20	-1	15	53	-82	-2	60	72
MMDA009S1	6	1400	2	-5	20	700	20	-1	-5	-50	160	-2	20	40
MMDA010S1	11	1650	-2	-5	15	600	30	-1	15	-50	-70	-2	-5	42
MMDA011S1	6	1400	-2	10	12	400	20	-1	25	-50	75	-2	15	45

APPENDIX 1 TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMDA012S1	04-33.1709-111.7941-4-59-000	0.6	0.4	2	373	1.5	4100	12	167	24	16000
MMDA013S1	04-33.2202-111.9126-4-59-000	0.4	0.3	1	348	1.5	3400	12	174	14	21000
MMDA014S1	04-33.2188-111.9424-4-59-000	0.5	0.2	2	105	2.0	4700	7	173	16	25000
MMDA015S1	04-33.2344-111.9818-4-59-000	0.3	0.3	3	92	2.5	4800	7	168	14	24000
MMDA016S1	04-33.2007-111.9774-4-59-000	0.4	0.4	3	142	2.5	13000	15	175	24	23000
MMDA017S1	04-33.1704-111.9774-4-59-000	0.3	0.4	3	212	2.5	17100	12	181	54	22000
MMDA018S1	04-33.1906-111.9342-4-59-000	0.3	0.3	2	157	2.5	5100	7	203	18	22000
MMDA019S1	04-33.1906-111.8965-4-59-000	0.5	0.4	1	125	2.5	10400	12	168	18	24000
MMDA020S1	04-33.1725-111.9260-4-59-000	0.4	0.3	4	187	2.5	18600	12	167	76	19000
MMDA021S1	04-33.1715-111.8874-4-59-000	0.5	0.3	3	170	2.0	8700	10	222	17	21000
MMDA022S1	04-33.0665-111.8484-4-59-000	1.6	0.1	5	177	3.0	1900	12	195	24	23000
MMDA023S1	04-33.0764-111.8985-4-59-000	0.4	0.1	5	185	2.5	1100	10	190	23	24000
MMDA024S1	04-33.0469-111.9257-4-59-000	0.3	0.8	5	170	2.0	1200	12	149	22	24000
MMDA025S1	04-33.0154-111.9268-4-59-000	0.5	0.1	4	150	2.0	1000	12	150	18	52000
MMDA026S1	04-33.0885-111.9615-4-59-000	1.2	1.1	5	237	3.0	33500	15	154	72	21000
MMDA027S1	04-33.0881-111.9271-4-59-000	0.9	0.3	3	132	2.5	1000	10	125	17	24000
MMDA028S1	04-33.1189-111.9823-4-59-000	1.0	0.8	3	120	2.5	13600	10	148	20	22000
MMDA029S1	04-33.1203-111.9364-4-59-000	0.9	0.7	2	87	2.5	26700	15	168	28	21000
MMDA030S1	04-33.1187-111.8991-4-59-000	0.2	0.2	2	97	2.0	29800	12	177	18	20000
MMDA031S1	04-33.0533-111.7892-4-59-000	0.1	0.5	1	322	2.0	4700	10	161	25	21000
MMDA032S1	04-33.0668-111.8154-4-59-000	1.7	0.3	1	130	2.5	8000	10	158	24	19000
MMDA033S1	04-33.0880-111.7686-4-59-000	6.5	0.5	2	260	2.5	22700	15	136	64	19000
MMDA034S1	04-33.0965-111.7998-4-59-000	1.3	0.6	2	187	3.0	11800	12	142	25	21000
MMDB001S1	04-33.2170-111.6348-4-59-000	0.8	0.6	1	172	2.5	2600	17	166	32	24000
MMDB002S1	04-33.2493-111.6858-4-59-000	1.0	0.8	.	195	2.5	3900	15	311	40	20000
MMDB003S1	04-33.2345-111.7449-4-59-000	0.5	0.6	2	167	2.5	7700	20	197	31	24000
MMDB004S1	04-33.2090-111.7272-4-59-000	0.7	0.2	0	177	2.5	1000	12	175	19	24000
MMDB005S1	04-33.2041-111.6815-4-59-000	0.5	0.4	4	192	2.5	1800	15	194	23	22000
MMDB006S1	04-33.2023-111.6336-4-59-000	0.4	0.4	4	160	2.5	700	12	145	27	21000
MMDB007S1	04-33.1714-111.6330-4-59-000	1.0	0.3	3	127	2.5	900	10	181	32	22000
MMDB008S1	04-33.1744-111.6705-4-59-000	0.3	0.4	4	170	2.5	1300	12	207	30	21000
MMDB009S1	04-33.0755-111.7195-4-59-000	1.0	0.5	3	247	2.5	14900	17	245	28	20000
MMDB010S1	04-33.0743-111.6920-4-59-000	6.3	0.2	3	187	2.0	11900	15	226	22	22000
MMDB011S1	04-33.0847-111.6527-4-59-000	3.9	0.2	2	120	2.5	6800	15	215	41	21000
MMDB012S1	04-33.0753-111.6113-4-59-000	0.7	0.6	3	272	2.0	56000	17	167	35	17000
MMDB013S1	04-33.1089-111.6705-4-59-000	1.0	0.2	5	100	2.5	2300	12	214	32	21000
MMDB014S1	04-33.1278-111.6458-4-59-000	0.9	0.3	5	112	3.5	1200	17	223	38	22000
MMDB015S1	04-33.1302-111.7282-4-59-000	0.5	0.3	5	105	2.5	6900	12	222	25	20000
MMDB016S1	04-33.1457-111.7168-4-59-000	1.2	0.6	3	192	3.0	2200	15	240	32	19000
MMDB017S1	04-33.0554-111.6817-4-59-000	0.7	0.2	2	147	2.5	900	10	174	14	22000
MMDB018S1	04-33.0499-111.7294-4-62-000	1.0	0.3	2	142	2.0	3500	15	176	51	19000
MMDB019S1	04-33.0186-111.7420-4-59-000	0.7	0.4	2	125	2.5	1700	12	187	17	23000
MMDB020S1	04-33.0232-111.6707-4-59-000	2.5	0.5	2	242	2.0	3100	10	133	26	11000
MMDB021S1	04-33.0508-111.6417-4-59-000	0.9	0.4	.	97	2.0	29300	10	186	39	20000
MMDB022S1	04-33.0369-111.6176-4-59-000	0.3	0.9	1	272	2.0	9500	7	130	16	16000
MMDB023S1	04-33.0320-111.5591-4-59-000	0.9	0.5	.	347	2.0	20400	15	153	61	15000
MMDB024S1	04-33.0589-111.5586-4-59-000	0.9	0.3	1	95	2.0	25300	10	162	48	20000
MMDB025S1	04-33.0544-111.5264-4-59-000	1.6	0.4	1	225	2.0	3100	12	166	41	20000
MMDB026S1	04-33.0020-111.5239-4-59-000	0.5	0.4	1	272	2.0	8200	10	121	37	19000
MMDB027S1	04-33.0256-111.5948-4-59-000	0.5	0.2	.	372	2.0	4900	15	132	19	19000
MMDB028S1	04-33.0758-111.5461-4-59-000	1.2	0.6	.	472	2.0	34800	10	147	66	15000
MMDB029S1	04-33.0884-111.5286-4-59-000	0.6	0.5	0	322	2.0	5600	12	179	100	15000
MMDB030S1	04-33.1174-111.5243-4-59-000	0.5	0.6	0	182	2.0	13200	15	143	27	19000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMDA012S1	7	1300	-2	5	15	700	15	-1	5	-50	-64	-2	10	52
MMDA013S1	11	2550	2	5	15	1200	20	-1	5	-50	-75	-2	20	40
MMDA014S1	16	4700	-2	15	17	1500	35	-1	-5	120	55	-2	-5	47
MMDA015S1	13	4500	-2	15	15	1600	35	-1	-5	120	70	-2	10	45
MMDA016S1	19	7500	-2	15	30	2000	25	-1	10	146	-64	-2	-5	62
MMDA017S1	15	6000	2	15	30	1500	25	-1	-5	120	-75	-2	-5	57
MMDA018S1	9	3900	-2	15	22	1500	20	-1	-5	106	-70	-2	-5	52
MMDA019S1	12	4700	-2	15	20	1400	35	-1	-5	120	-64	-2	-5	45
MMDA020S1	24	5000	-2	25	27	1400	35	-1	-5	153	-75	-2	-5	67
MMDA021S1	12	3400	-2	75	22	1400	30	-1	10	126	-82	-2	5	42
MMDA022S1	22	2900	-2	10	20	1500	30	-1	10	66	-70	-2	-5	57
MMDA023S1	14	2700	-2	10	20	700	35	-1	-5	80	-75	-2	-5	52
MMDA024S1	14	3500	-2	15	20	1300	25	-1	-5	86	-55	-2	-5	52
MMDA025S1	14	3000	-2	15	17	1000	25	-1	10	86	-75	-2	-5	47
MMDA026S1	34	7500	-2	20	25	1300	45	-1	10	120	-82	-2	-5	90
MMDA027S1	12	3650	-2	10	15	1000	30	-1	10	100	-55	-2	-5	45
MMDA028S1	13	4150	-2	10	20	1400	25	-1	5	133	-55	-2	-5	47
MMDA029S1	28	7100	-2	10	32	1500	30	-1	5	166	-64	-2	35	52
MMDA030S1	20	5600	-2	25	20	1300	35	-1	10	213	-75	-2	5	45
MMDA031S1	13	4250	-2	25	20	1400	25	-1	5	73	-59	-2	20	50
MMDA032S1	12	3250	-2	25	12	1000	25	-1	-5	73	-64	-2	-5	45
MMDA033S1	19	5250	-2	10	22	1400	30	-1	15	106	-82	-2	-5	70
MMDA034S1	13	3250	-2	15	17	1400	10	-1	-5	100	-82	-2	-5	57
MMDB001S1	18	4200	-2	15	22	1100	15	-1	25	106	-75	-2	-5	80
MMDB002S1	12	3300	-2	15	25	1000	25	-1	-5	80	-100	-2	15	97
MMDB003S1	19	4350	-2	10	22	1000	25	-1	-5	93	-70	-2	-5	70
MMDB004S1	12	3050	-2	15	17	1000	10	-1	25	80	-64	-2	-5	47
MMDB005S1	12	2500	-2	10	17	1200	10	-1	10	100	-59	-2	5	55
MMDB006S1	16	2850	-2	25	17	1000	10	-1	-5	106	-59	-2	-5	50
MMDB007S1	10	3100	-2	15	17	1400	15	-1	-5	93	-90	-2	5	47
MMDB008S1	18	2850	-2	15	22	1400	10	-1	-5	80	-75	-2	-5	57
MMDB009S1	12	3500	-2	10	30	1500	10	-1	-5	106	-82	-2	-5	57
MMDB010S1	13	3500	-2	10	22	1600	15	-1	20	93	-75	-2	15	47
MMDB011S1	15	2650	-2	10	22	1400	15	-1	15	100	-75	-2	5	55
MMDB012S1	15	3000	-2	10	20	1200	15	-1	-5	173	100	-2	-5	42
MMDB013S1	14	3100	-2	15	17	1200	15	-1	-5	113	-82	-2	5	52
MMDB014S1	15	2800	-2	10	20	1100	20	-1	-5	86	-75	-2	5	65
MMDB015S1	8	2000	-2	10	22	1300	15	-1	15	120	-70	-2	15	50
MMDB016S1	12	2450	-2	25	17	1500	20	-1	25	66	-82	-2	5	60
MMDB017S1	11	2600	-2	15	15	1200	15	-1	10	100	-55	-2	10	45
MMDB018S1	13	3050	-2	15	17	1900	35	-1	10	120	-64	-2	-5	65
MMDB019S1	11	3200	-2	10	12	1100	40	-1	5	86	-59	-2	-5	47
MMDB020S1	13	1950	-2	15	12	700	10	-1	10	-50	70	-2	-5	47
MMDB021S1	22	4400	-2	15	27	1400	25	-1	10	126	-70	-2	10	62
MMDB022S1	12	2750	-2	15	15	1100	10	-1	5	73	-70	-2	-5	35
MMDB023S1	15	2900	-2	15	30	1300	15	-1	-5	73	70	-2	-5	57
MMDB024S1	15	4500	-2	15	27	800	25	-1	5	86	82	-2	5	47
MMDB025S1	16	3000	-2	15	22	800	20	-1	5	53	-70	-2	-5	47
MMDB026S1	14	2750	-2	15	15	1100	250	2	15	-50	-64	-2	5	50
MMDB027S1	14	1900	-2	15	20	800	10	-1	-5	-50	-70	-2	10	42
MMDB028S1	15	2700	-2	15	10	1500	15	-1	-5	73	-82	-2	-5	47
MMDB029S1	16	2250	-2	15	20	1300	10	-1	-5	-50	-75	-2	20	52
MMDB030S1	17	3800	2	15	17	600	15	-1	5	53	-75	-2	-5	50

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMDB031S1	04-33.1234-111.5565-4-59-000	0.5	0.8	2	272	1.5	2700	10	108	29	18000
MMDB032S1	04-33.1236-111.5929-4-59-000	1.4	0.2	3	225	3.5	1800	10	145	37	18000
MMDB033S1	04-33.1465-111.5139-4-59-000	0.4	0.4	0	187	2.0	1000	7	133	21	19000
MMDB034S1	04-33.1614-111.5637-4-59-000	0.8	0.3	.	247	2.5	2500	7	114	15	19000
MMDB035S1	04-33.1636-111.6159-4-59-000	0.1	0.9	.	272	2.0	3000	15	156	52	18000
MMDB036S1	04-33.1980-111.6103-4-59-000	0.3	0.3	0	272	2.0	1600	7	141	23	20000
MMDB037S1	04-33.2045-111.5334-4-59-000	0.4	0.4	.	297	2.0	3500	15	169	27	20000
MMDB039S1	04-33.2302-111.5272-4-59-000	0.6	0.5	1	372	2.0	3800	12	270	36	17000
MMDB040S1	04-33.1980-111.5635-4-59-000	2.2	0.3	.	260	2.0	1300	12	167	29	20000
MMDB041S1	04-33.0262-111.6395-4-59-000	0.6	0.2	.	297	2.0	900	10	135	10	23000
MMDC001S1	04-33.1437-111.4954-4-59-000	0.6	0.1	.	322	2.5	800	7	154	15	21000
MMDC002S1	04-33.1647-111.4953-4-59-000	0.7	0.1	.	212	2.0	1200	15	151	24	22000
MMDC003S1	04-33.1900-111.4785-4-59-000	0.2	0.2	.	272	2.0	900	12	154	22	19000
MMDC004S1	04-33.1606-111.4377-4-59-000	0.6	0.3	.	237	2.0	800	10	163	15	18000
MMDC005S1	04-33.1324-111.4010-4-59-000	0.7	0.2	.	297	2.5	1200	15	153	33	29000
MMDC006S1	04-33.2302-111.4738-4-59-000	0.1	0.3	.	297	2.0	4200	17	140	32	18000
MMDC007S1	04-33.2288-111.4299-4-59-000	0.7	0.1	0	372	2.0	900	10	159	18	22000
MMDC008S1	04-33.2267-111.4057-4-59-000	0.6	0.2	1	242	2.0	800	12	199	17	19000
MMDC009S1	04-33.0032-111.4713-4-59-000	0.4	0.5	.	285	2.0	27500	7	159	21	15000
MMDC010S1	04-33.0159-111.4245-4-59-000	0.1	0.2	1	347	2.0	8100	15	169	29	17000
MMDC011S1	04-33.0533-111.3940-4-59-000	0.1	0.2	1	372	2.5	16600	12	195	28	18000
MMDC012S1	04-33.0500-111.4351-4-59-000	0.6	0.3	1	372	2.5	14400	7	140	25	14000
MMDC013S1	04-33.0466-111.4764-4-59-000	0.6	0.2	1	297	2.0	14800	12	156	18	21000
MMDC014S1	04-33.0185-111.3925-4-59-000	0.7	0.1	.	197	2.0	38100	12	132	17	20000
MMDC015S1	04-33.1001-111.4034-4-59-000	0.5	0.1	1	272	2.0	3100	12	159	24	17000
MMDC015S1	04-33.1001-111.4034-4-59-000	0.5	0.1	1	272	2.0	3100	12	159	24	17000
MMDC016S1	04-33.0784-111.4218-4-59-000	0.6	0.1	1	285	2.5	2700	15	195	35	15000
MMDC017S1	04-33.0988-111.4765-4-59-000	0.2	0.4	1	247	2.5	13500	15	196	26	18000
MMDC018S1	04-33.1252-111.4367-4-59-000	0.3	0.2	.	272	2.0	5900	10	167	22	19000
MMDC019S1	04-33.1183-111.3605-4-59-000	0.2	0.3	.	207	1.5	10000	5	157	22	20000
MMDC020S1	04-33.1612-111.3552-4-59-000	0.6	0.2	1	245	1.5	600	5	172	15	19000
MMDC021S1	04-33.1484-111.3834-4-59-000	0.3	0.5	.	250	2.0	800	12	139	23	26000
MMDC022S1	04-33.1798-111.3502-4-59-000	0.6	0.2	1	167	2.0	800	7	151	19	21000
MMDC023S1	04-33.1895-111.3850-4-59-000	0.4	0.1	.	372	2.0	1200	10	129	20	17000
MMDC024S1	04-33.1910-111.4365-4-59-000	0.6	0.2	.	250	2.0	1200	-5	157	20	12000
MMDC025S1	04-33.2165-111.3602-4-59-000	0.5	0.1	.	212	1.5	700	7	167	17	15000
MMDC026S1	04-33.2319-111.2991-4-59-000	0.3	0.2	1	232	2.0	600	5	168	20	13000
MMDC027S1	04-33.2443-111.2840-4-59-000	0.5	0.1	1	157	2.0	900	10	182	20	18000
MMDC028S1	04-33.1883-111.3246-4-59-000	0.5	0.2	.	260	2.0	700	12	167	21	21000
MMDC029S1	04-33.1916-111.2696-4-59-000	0.6	0.3	1	185	1.5	500	5	181	14	17000
MMDC030S1	04-33.1781-111.2845-4-59-000	0.1	0.1	1	260	1.5	700	7	155	15	17000
MMDC031S1	04-33.1543-111.2987-4-59-000	0.1	0.2	1	260	1.5	900	7	152	18	17000
MMDC031S1	04-33.1543-111.2987-4-59-000	0.1	0.2	1	260	1.5	900	7	152	18	17000
MMDC032S1	04-33.1280-111.3060-4-59-000	0.2	0.4	1	212	1.5	13200	10	139	22	18000
MMDC033S1	04-33.0966-111.3003-4-59-000	0.4	0.4	2	260	1.5	8900	5	154	21	19000
MMDC034S1	04-33.1043-111.2715-4-59-000	0.5	0.2	2	272	1.5	2900	5	155	27	20000
MMDC035S1	04-33.1247-111.2583-4-59-000	0.9	0.2	3	222	2.0	900	7	160	28	17000
MMDC036S1	04-33.0329-111.3517-4-59-000	0.1	0.3	2	237	1.5	8900	7	134	20	22000
MMDC037S1	04-33.0115-111.3082-4-59-000	0.3	0.3	2	212	2.0	900	-5	118	13	20000
MMDC038S1	04-33.0040-111.2828-4-59-000	0.2	0.2	2	247	2.0	11500	-5	145	25	15000
MMDC039S1	04-33.0608-111.3189-4-59-000	0.5	0.2	2	260	2.0	2500	5	161	21	14000
MMDC040S1	04-33.0527-111.2675-4-59-000	0.5	0.3	2	187	2.0	6200	-5	145	23	13000
MMDC041S1	04-33.0552-111.3624-4-59-000	0.7	0.3	2	242	1.5	14500	7	166	24	17000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMDB031S1	18	2550	-2	15	17	900	15	-1	-5	-50	-59	-2	10	52
MMDB032S1	23	2300	2	10	17	1100	15	-1	-5	-50	64	-2	10	65
MMDB033S1	17	1900	-2	10	15	500	10	-1	10	-50	-70	-2	15	32
MMDB034S1	18	2100	2	10	15	1000	20	-1	-5	-50	-55	-2	-5	40
MMDB035S1	26	2850	-2	15	25	1500	20	-1	-5	-50	75	-2	-5	82
MMDB036S1	16	2000	-2	10	20	1000	15	-1	-5	-50	-59	-2	-5	47
MMDB037S1	19	2800	-2	75	30	1100	15	2	-5	-50	-75	-2	20	62
MMDB039S1	12	1750	-2	10	27	1400	25	-1	10	-50	-90	-2	20	90
MMDB040S1	19	1900	-2	40	20	900	15	-1	-5	-50	-75	-2	45	52
MMDB041S1	13	1350	2	25	10	700	10	-1	5	-50	-51	-2	20	32
MMDC001S1	20	1550	-2	15	12	700	20	-1	-5	-50	-59	-2	5	37
MMDC002S1	20	2450	-2	25	30	600	15	-1	-5	-50	90	-2	-5	55
MMDC003S1	21	2500	-2	15	22	800	15	-1	-5	-50	.	-2	-5	55
MMDC004S1	19	1850	2	15	17	700	20	-1	-5	-50	-64	-2	-5	40
MMDC005S1	27	3150	-2	25	22	1000	30	-1	5	-50	-59	-2	-5	110
MMDC006S1	20	3000	2	15	27	1400	10	-1	-5	-50	64	-2	5	72
MMDC007S1	19	1900	-2	10	27	600	10	-1	-5	-50	-82	-2	-5	47
MMDC008S1	20	1900	-2	10	20	400	15	-1	15	-50	-70	-2	-5	42
MMDC009S1	14	3150	-2	10	17	800	15	-1	10	60	90	.	15	40
MMDC010S1	15	2350	-2	15	20	900	15	-1	10	-50	-70	2	20	50
MMDC011S1	13	2100	-2	10	12	1100	10	-1	-5	66	-70	-2	30	45
MMDC012S1	14	2750	2	10	22	1100	-10	-1	-5	-50	-82	-2	5	50
MMDC013S1	13	2650	3	15	15	1200	10	-1	5	73	-70	-2	5	42
MMDC014S1	12	3200	-2	20	20	1000	15	-1	-5	120	-64	-2	5	35
MMDC015S1	15	2700	-2	15	20	700	15	-1	5	-50	60	-2	-5	42
MMDC015S1	15	2700	-2	15	20	700	15	-1	5	-50	-70	-2	-5	42
MMDC016S1	15	2350	2	15	17	700	10	-1	-5	-50	-90	-2	40	50
MMDC017S1	13	2500	2	20	20	600	75	-1	-5	60	-100	-2	25	40
MMDC018S1	16	2450	-2	15	15	700	20	-1	-5	-50	64	-2	5	60
MMDC019S1	11	2250	-2	40	12	700	15	-1	10	80	-82	2	-5	45
MMDC020S1	13	1300	-2	50	12	400	35	-1	10	-50	-70	2	-5	65
MMDC021S1	22	2600	-2	50	22	1000	35	-1	5	66	64	2	5	100
MMDC022S1	17	1500	-2	50	22	600	25	-1	-5	53	-70	-2	-5	62
MMDC023S1	22	2100	2	40	22	700	20	-1	-5	-50	75	-2	10	57
MMDC024S1	15	2250	2	40	17	800	15	-1	10	53	-64	-2	-5	42
MMDC025S1	12	1750	3	35	12	600	15	-1	10	53	-64	-2	5	37
MMDC026S1	16	1600	2	35	17	400	25	-1	-5	53	-70	-2	15	47
MMDC027S1	14	2150	-2	50	22	700	20	-1	-5	60	-75	-2	10	50
MMDC028S1	17	3300	-2	40	22	700	45	-1	-5	50	70	-2	5	95
MMDC029S1	16	1450	-2	50	10	600	25	-1	-5	53	-70	3	10	52
MMDC030S1	17	1500	2	50	17	500	20	-1	15	53	-59	-2	15	45
MMDC031S1	13	3000	3	40	20	600	20	-1	5	-50	60	2	5	52
MMDC031S1	13	3000	3	40	20	600	20	-1	5	-50	-55	2	5	52
MMDC032S1	10	1650	2	40	15	700	20	-1	-5	60	-64	-2	10	50
MMDC033S1	8	1750	-2	40	17	1200	10	-1	-5	106	-82	2	-5	37
MMDC034S1	12	2400	2	40	12	1100	25	-1	15	73	-82	-2	-5	67
MMDC035S1	15	1350	2	40	12	1100	20	-1	15	53	-70	-2	5	52
MMDC036S1	12	2150	3	40	10	1300	10	-1	5	80	-64	-2	5	37
MMDC037S1	14	2900	-2	40	10	1100	20	-1	5	66	-64	-2	-5	35
MMDC038S1	12	2500	-2	25	15	700	20	-1	-5	66	-70	-2	-5	42
MMDC039S1	10	3250	-2	25	15	1200	20	-1	-5	60	-75	-2	5	42
MMDC040S1	13	2550	-2	20	15	1000	20	-1	-5	66	-64	-2	5	35
MMDC041S1	14	2750	-2	25	17	1400	51	-1	-5	120	-64	2	-5	37

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).											
SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMDC042S1	04-33.0798-111.3727-4-59-000	1.7	0.2	2	185	1.5	12300	5	172	17	19000
MMDC001S1	04-33.1955-111.2418-4-59-000	0.5	0.2	2	162	1.5	600	5	212	18	22000
MMDD002S1	04-33.2253-111.2238-4-59-000	0.7	0.3	2	187	2.0	2200	7	149	21	18000
MMDD003S1	04-33.2018-111.1963-4-59-000	0.4	0.1	3	272	2.5	700	12	159	34	20000
MMDD004S1	04-33.2145-111.1970-4-59-000	0.5	0.3	4	285	2.5	1000	7	167	40	19000
MMDD005S1	04-33.2071-111.1536-4-59-000	0.6	0.1	5	260	2.0	700	10	151	25	21000
MMDD006S1	04-33.2193-111.1480-4-59-000	0.4	0.2	3	150	1.5	2400	27	175	99	16000
MMDD007S1	04-33.1620-111.2021-4-59-000	0.1	0.2	2	175	2.0	700	7	164	23	19000
MMDD008S1	04-33.1653-111.1613-4-59-000	0.3	0.4	2	241	2.0	5900	7	142	25	19000
MMDD009S1	04-33.1317-111.2012-4-59-000	0.6	0.3	2	175	2.0	1000	5	144	28	18000
MMDD010S1	04-33.1089-111.2135-4-59-000	0.8	0.4	2	245	3.0	3900	12	175	81	23000
MMDD011S1	04-33.1031-111.2478-4-59-000	0.3	0.2	2	157	2.0	2200	10	191	52	19000
MMDD012S1	04-33.0958-111.1909-4-59-000	0.5	0.2	2	147	2.0	4200	12	288	76	18000
MMDD013S1	04-33.0445-111.2275-4-59-000	0.7	0.1	2	245	2.5	15300	10	150	131	17000
MMDD014S1	04-33.0236-111.2155-4-59-000	0.6	0.2	3	137	2.0	800	5	163	78	19000
MMDD015S1	04-33.0378-111.1999-4-59-000	0.3	0.1	70	167	3.0	700	10	155	164	20000
MMDD016S1	04-33.0196-111.1860-4-59-000	0.7	0.4	0	175	2.0	700	7	142	86	22000
MMDD017S1	04-33.0168-111.1586-4-59-000	1.1	0.1	1	167	1.0	700	10	78	47	15000
MMDD018S1	04-33.0632-111.1584-4-59-000	1.6	0.2	3	125	1.5	700	10	179	80	18000
MMDD019S1	04-33.0958-111.1389-4-59-000	1.5	0.2	2	82	1.0	3000	12	178	98	14000
MMDD020S1	04-33.1083-111.1486-4-59-000	0.5	0.3	2	162	2.0	3600	7	194	75	19000
MMDD021S1	04-33.0328-111.1172-4-59-000	1.7	0.3	2	105	0.5	2100	7	193	103	16000
MMDD022S1	04-33.0443-111.1048-4-59-000	1.6	0.4	2	100	1.0	11900	10	138	86	16000
MMDD023S1	04-33.0509-111.0683-4-59-000	1.1	0.4	1	127	1.5	5200	15	150	47	18000
MMDD024S1	04-33.0730-111.0888-4-59-000	2.9	0.3	4	145	1.5	600	7	145	101	22000
MMDD025S1	04-33.0859-111.0770-4-59-000	2.4	0.1	.	112	1.5	700	7	.	116	13000
MMDD026S1	04-33.1122-111.0865-4-59-000	0.8	0.2	6	140	3.5	1300	15	180	1335	21000
MMDD027S1	04-33.0087-111.0626-4-59-000	1.5	0.4	2	102	4.5	700	10	154	100	28000
MMDD028S1	04-33.2343-111.0950-4-59-000	1.1	1.4	3	130	2.5	31400	15	147	76	22000
MMDD029S1	04-33.2369-111.0536-4-59-000	0.2	0.4	6	100	1.0	14500	12	142	84	11000
MMDD030S1	04-33.1926-111.0468-4-59-000	0.7	1.1	4	47	1.5	57400	15	121	43	15000
MMDD031S1	04-33.1805-111.0181-4-59-000	0.4	0.4	3	237	1.5	1400	5	94	89	19000
MMDD032S1	04-33.1605-111.0079-4-59-000	0.2	0.5	4	70	2.0	500	15	177	233	25000
MMDD033S1	04-33.1600-111.0524-4-59-000	0.5	1.1	4	260	2.0	1700	20	157	207	23000
MMDD034S1	04-33.1346-111.0664-4-59-000	1.0	0.9	4	92	2.0	900	12	145	218	16000
MMDD035S1	04-33.1254-111.0303-4-59-000	0.5	0.4	3	90	3.5	600	20	196	111	29000
MMDD036S1	04-33.0289-111.0332-4-59-000	6.1	0.5	2	150	6.0	1600	10	165	68	23000
MMDD037S1	04-33.0569-111.0344-4-59-000	5.3	0.4	2	112	5.5	1000	12	129	125	25000
MMDD038S1	04-33.0815-111.0132-4-59-000	2.1	0.2	3	125	2.5	900	15	145	127	22000
MMDD039S1	04-33.2412-111.0218-4-59-000	0.6	0.3	6	80	2.5	38100	7	142	51	25000
MMDD040S1	04-33.2123-111.1126-4-59-000	0.4	0.3	1	155	4.0	2700	5	85	15	25000
MMDD041S1	04-33.1454-111.1054-4-59-000	0.2	0.2	4	122	2.5	800	7	168	67	22000
MMDD042S1	04-33.1461-111.2444-4-59-000	0.5	0.9	1	117	3.5	17600	10	136	104	34000
MMDE001S1	04-33.1319-110.9807-4-59-000	0.7	0.4	2	157	2.0	28300	20	173	255	22000
MMDE002S1	04-33.1686-110.9732-4-59-000	0.5	3.0	4	285	2.5	105700	27	67	112	20000
MMDE003S1	04-33.1982-110.9923-4-59-000	0.6	0.6	2	72	2.5	16300	10	76	47	19000
MMDE004S1	04-33.0900-110.9836-4-59-000	5.1	1.4	3	112	3.5	19600	17	98	107	28000
MMDE005S1	04-33.0956-110.9192-4-59-000	1.5	0.5	3	85	3.0	4400	12	141	231	27000
MMDE006S1	04-33.1115-110.9054-4-59-000	0.5	0.6	4	447	2.5	94500	15	109	123	21000
MMDE007S1	04-33.1018-110.9475-4-59-000	0.4	0.3	8	102	3.0	1500	15	245	437	23000
MMDE008S1	04-33.0618-110.8984-4-59-000	0.8	1.1	5	170	2.5	58700	12	131	542	16000
MMDE009S1	04-33.0758-110.8790-4-59-000	0.5	0.2	8	152	3.0	49000	17	104	119	18000
MMDE010S1	04-33.0951-110.8703-4-59-000	0.8	1.2	8	347	4.0	76200	12	95	121	23000

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMDC042S1	12	2450	-2	40	12	1100	15	-1	-5	80	-70	2	5	32
MMDD001S1	18	1800	-2	25	10	700	20	-1	10	50	-75	3	-5	42
MMDD002S1	16	3700	-2	25	12	600	20	-1	-5	53	-82	-2	10	40
MMDD003S1	20	1200	-2	35	22	700	20	-1	-5	-50	-82	2	-5	67
MMDD004S1	19	3800	-2	15	17	800	295	-1	10	53	-70	-2	-5	625
MMDD005S1	20	1550	-2	25	12	500	15	-1	10	-50	-70	-2	-5	45
MMDD006S1	13	2900	3	25	20	700	25	-1	-5	50	-75	-2	-5	67
MMDD007S1	17	1700	-2	15	17	400	55	-1	-5	60	-64	.	15	290
MMDD008S1	20	2050	-2	20	10	600	170	-1	-5	60	-82	-2	5	245
MMDD009S1	17	2250	-2	20	10	900	20	-1	15	73	-75	2	15	50
MMDD010S1	26	2850	-2	15	15	2600	35	-1	-5	60	-50	2	-5	102
MMDD011S1	14	2800	-2	20	17	1000	20	-1	20	86	-64	4	-5	47
MMDD012S1	9	2450	-2	20	20	1300	20	-1	15	106	-75	-2	5	50
MMDD013S1	13	2700	-2	15	15	1600	25	-1	15	60	-82	3	5	90
MMDD014S1	16	1800	-2	15	15	600	25	-1	-5	86	-82	-2	5	42
MMDD015S1	14	3150	-2	15	12	500	30	-1	5	-50	-64	.	5	52
MMDD016S1	15	1900	4	10	10	1500	25	-1	5	53	-64	-2	-5	40
MMDD017S1	8	6000	-2	15	12	700	30	-1	10	86	-64	-2	-5	52
MMDD018S1	12	8000	-2	10	15	1000	175	-1	20	113	-59	-2	10	50
MMDD019S1	16	7500	2	20	20	1100	90	-1	-5	146	-75	2	-5	57
MMDD020S1	19	8100	-2	20	17	1200	35	-1	15	113	-82	-2	-5	65
MMDD021S1	13	10000	-2	10	15	1400	35	-1	-5	146	-82	2	5	55
MMDD022S1	14	9000	-2	15	17	1100	30	-1	-5	266	-70	-2	-5	55
MMDD023S1	16	6000	-2	10	12	1500	50	-1	10	113	-75	-2	-5	67
MMDD024S1	11	7500	-2	10	15	800	40	-1	-5	80	-59	-2	-5	55
MMDD025S1	9	5150	.	.	17	1000	55	.	-5	372	-64	.	.	60
MMDD026S1	26	4550	3	25	27	1400	40	-1	-5	86	-75	.	-5	97
MMDD027S1	25	6500	-2	25	12	900	70	2	5	50	-75	2	10	70
MMDD028S1	20	5650	-2	20	25	900	25	-1	-5	120	-75	-2	-5	67
MMDD029S1	7	6250	-2	15	30	900	35	-1	5	93	-70	2	-5	97
MMDD030S1	15	7750	-2	15	20	700	40	-1	-5	146	-75	-2	-5	77
MMDD031S1	12	6500	-2	15	17	600	15	-1	10	120	-75	-2	-5	105
MMDD032S1	19	5750	4	20	30	600	35	-1	-5	73	-70	3	-5	60
MMDD033S1	13	4650	2	15	20	1900	20	-1	-5	80	-82	-2	-5	165
MMDD034S1	12	12000	-2	25	20	600	30	-1	-5	66	-75	-2	-5	70
MMDD035S1	26	3200	2	15	27	900	40	-1	-5	80	-70	-2	-5	77
MMDD036S1	21	2500	-2	50	15	2100	45	-1	20	-50	-75	-2	60	95
MMDD037S1	23	6750	3	25	12	1500	40	-1	5	50	-82	-2	45	102
MMDD038S1	23	6500	-2	25	20	700	35	-1	-5	73	-82	-2	-5	155
MMDD039S1	20	5500	-2	15	20	900	30	-1	5	93	75	-2	-5	60
MMDD040S1	16	3750	-2	15	12	500	40	-1	-5	86	-59	-2	-5	30
MMDD041S1	17	5750	-2	25	20	500	70	-1	-5	73	-70	-2	-5	82
MMDD042S1	9	4050	-2	15	12	1200	30	-1	10	53	-70	-2	5	55
MMDE001S1	24	8300	-2	15	17	1400	30	-1	10	59	-90	-2	-5	77
MMDE002S1	21	5400	-2	15	10	600	30	-1	-5	60	-100	-2	-5	55
MMDE003S1	13	9000	-2	15	12	600	35	-1	-5	133	-64	-2	-5	40
MMDE004S1	18	4800	-2	10	12	1200	30	-1	5	80	-64	-2	-5	175
MMDE005S1	25	6250	-2	25	15	500	40	-1	10	86	-75	-2	15	97
MMDE006S1	15	4850	-2	10	20	1000	20	-1	-5	86	-90	-2	5	127
MMDE007S1	23	5250	2	25	27	1000	30	-1	-5	86	-82	-2	5	95
MMDE008S1	17	5500	-2	15	27	800	10	-1	-5	93	-90	-2	-5	97
MMDE009S1	14	5000	-2	10	25	700	25	-1	-5	93	-100	-2	-5	50
MMDE010S1	15	4950	-2	10	27	1000	25	-1	-5	73	-100	-2	10	85

APPENDIX I TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA

SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	DOE I.D.	UX	AG	AS	BA	BE	CA	CO	CR	CU	K
MMDE011S1	04-33.0177-110.8446-4-59-000	0.5	1.1	4	80	2.5	37600	15	151	250	22000
MMDE012S1	04-33.0469-110.8428-4-59-000	0.8	2.5	10	397	3.0	67000	22	113	302	22000
MMDE013S1	04-33.0126-110.8195-4-59-000	0.1	2.9	8	77	1.5	14400	17	190	1877	22000
MMDE014S1	04-33.0572-110.8036-4-59-000	0.3	1.1	3	145	2.0	2200	42	196	687	24000
MMDE015S1	04-33.0054-110.7635-4-59-000	0.4	2.2	6	522	1.0	79000	12	150	2732	9000
MMDE016S1	04-33.1152-110.7696-4-59-000	0.6	1.3	1	222	1.5	28200	7	153	567	18000
MMDE017S1	04-33.1278-110.9567-4-59-000	0.7	0.5	3	117	2.0	2200	12	176	224	23000
MMDE018S1	04-33.0167-110.7582-4-59-000	0.4	1.0	1	242	1.0	7200	27	175	214	10000
MMDE019S1	04-33.0723-110.7857-4-59-000	0.8	1.6	6	147	2.0	19200	10	133	136	19000
MMDE020S1	04-33.1598-110.8044-4-59-000	0.6	1.5	1	622	0.5	65000	22	119	49	6000
MMDE021S1	04-33.1396-110.8032-4-59-000	1.3	0.6	3	272	2.0	1000	7	141	41	35000
MMDE022S1	04-33.1578-110.7863-4-59-000	2.8	1.1	3	572	0.5	57200	5	101	37	16000
MMDE023S1	04-33.1384-110.8554-4-59-000	10.7	1.2	12	150	1.5	40700	12	114	95	21000
MMDE024S1	04-33.1593-110.8549-4-59-000	0.1	0.2	2	122	1.5	29900	20	185	51	17000
MMDE025S1	04-33.1957-110.8452-4-59-000	0.3	0.7	.	175	1.5	4600	17	194	53	14000
MMDE026S1	04-33.2304-110.8549-4-59-000	0.4	1.0	.	107	2.0	13300	30	180	39	24000
MMDE027S1	04-33.1330-110.7956-4-59-000	0.4	0.3	3	125	1.5	2500	20	174	64	17000
MMDE028S1	04-33.2301-110.7934-4-59-000	1.3	0.5	1	247	2.0	8300	20	141	54	19000
MMDE029S1	04-33.2302-110.7695-4-59-000	1.9	0.5	2	212	2.0	2700	12	160	61	20000
MMDE030S1	04-33.1827-110.8829-4-59-000	0.7	1.0	1	147	1.5	21200	12	200	45	17000
MMDE031S1	04-33.1595-110.8931-4-59-000	0.6	1.4	6	212	1.0	46200	10	90	27	18000
MMDE032S1	04-33.1780-110.9351-4-59-000	3.9	1.5	7	45	1.0	4500	5	116	228	19000
MMDE033S1	04-33.1942-110.9256-4-59-000	0.2	0.3	3	205	1.0	23300	27	171	65	15000
MMDE034S1	04-33.2351-110.9038-4-59-000	1.0	0.6	3	200	1.5	1300	20	237	52	18000
MMDE035S1	04-33.2365-110.9387-4-59-000	0.6	0.4	0	100	2.5	17800	25	193	44	17000
MMDE036S1	04-33.0749-110.9855-4-59-000	2.8	0.3	2	167	2.0	500	7	171	113	28000

APPENDIX 1. TABULATION OF SUPPLEMENTARY ANALYTICAL DATA ---SEDIMENTS---

MESA SHEET

CONCENTRATIONS REPORTED IN WEIGHT PARTS PER MILLION (PPM).

SRL I.D.	LI	MG	MO	NB	NI	P	PB	SE	SN	SR	TH	W	Y	ZN
MMDE011S1	12	4750	-2	25	22	500	25	-1	10	93	-90	-2	10	65
MMDE012S1	16	5700	4	20	27	400	25	-1	-5	80	-90	-2	-5	192
MMDE013S1	15	2700	4	25	35	500	20	-1	-5	73	-82	-2	-5	218
MMDE014S1	16	3350	2	20	57	1500	20	-1	-5	73	-100	-2	5	185
MMDE015S1	16	7250	17	25	40	300	80	-1	-5	113	-100	-2	-5	165
MMDE016S1	17	6000	-2	15	22	1100	60	-1	5	106	-90	-2	-5	97
MMDE017S1	19	6000	-2	15	27	900	40	-1	-5	133	-75	-2	5	75
MMDE018S1	7	6000	-2	25	35	700	20	-1	-5	120	-82	-2	15	87
MMDE019S1	18	13750	2	20	27	500	200	-1	-5	73	-82	-2	5	455
MMDE020S1	13	7000	-2	20	30	700	15	-1	-5	93	-100	-2	-5	15
MMDE021S1	20	1450	-2	15	20	300	15	-1	5	-50	-82	-2	-5	17
MMDE022S1	9	6000	-2	10	17	600	25	-1	-5	-50	-90	-2	-5	54
MMDE023S1	19	9250	-2	15	27	700	90	-1	-5	73	-90	-2	-5	557
MMDE024S1	22	7250	-2	15	27	1800	30	-1	-5	93	-100	-2	-5	65
MMDE025S1	17	6000	-2	15	35	1650	20	-1	5	66	-100	-2	-5	72
MMDE026S1	26	8750	-2	15	30	3750	20	-1	5	66	-100	-2	5	77
MMDE027S1	14	3050	-2	15	35	650	30	-1	-5	60	-90	-2	15	62
MMDE028S1	46	4850	-2	15	22	3650	30	-1	-5	53	-90	-2	5	145
MMDE029S1	24	3900	-2	20	20	13000	35	-1	-5	53	-82	-2	10	97
MMDE030S1	16	9000	-2	15	27	1900	20	-1	-5	73	-100	-2	5	67
MMDE031S1	17	17250	2	15	17	500	20	-1	-5	66	-82	-2	5	40
MMDE032S1	18	5000	18	25	15	400	559	-1	5	53	-64	-2	5	1782
MMDE033S1	14	9750	2	20	40	700	50	-1	5	73	-100	-2	-5	57
MMDE034S1	14	3950	-2	20	27	1700	40	-1	10	53	-100	-2	5	70
MMDE035S1	20	8250	2	15	50	700	20	-1	5	100	-90	-2	10	72
MMDE036S1	19	2100	6	15	17	700	50	-1	-5	60	-75	12	5	60

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II. Ground Water Analyses from the Mesa Quadrangle

Data are tabulated for concentrations of 31 supplementary elements in ground water. The 31 elements are Ag, Al, As, B, Ba, Be, Ca, Ce, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Sc, Se, Si, Sr, Th, Ti, V, Y, Zn, and Zr.

APPENDIX 11 TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
 ELEMENTAL CONCENTRATIONS IN PPB. ALK IN MEQ/L. COND IN UM/CM.

SRL	I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
YMA8501R	04-33.8469-111.6968-4-53-000		7.4	700	7.10	-5	-2	1051	1.6	110	10	-1	67	-30	-2	-4	4
YMA8502R	04-33.8881-111.7040-4-53-000		8.2	550	5.60	-5	-2	26	1.1	44	4	-1	60	-30	-2	-4	5
YMA8503R	04-33.8090-111.6480-4-52-000		7.8	600	4.60	-5	-2	21	8.7	154	5	-1	14	-30	-2	-4	6
YMA8504R	04-33.8932-111.5219-4-53-000		7.5	364	2.90	20	3	27	2.9	37	10	-1	35	-30	-2	10	4
YMA8505R	04-33.9796-111.7138-4-52-000		8.7	600	4.10	-5	-2	87	6.7	188	25	-1	66	-30	-2	-4	9
YMA8506R	04-33.8815-111.5364-4-53-000		7.6	392	3.20	-5	-2	214	3.2	41	19	-1	34	-30	-2	4	6
YMA8507R	04-33.7731-111.6658-4-53-000		7.6	390	3.90	-5	-2	929	2.3	43	39	-1	68	-30	-2	-4	3
YMA8508R	04-33.8687-111.5481-4-53-000		7.5	840	8.60	-5	-2	196	318.0	349	221	-1	19	-30	-2	-4	8
YMA8509R	04-33.9230-111.7275-4-53-000		7.0	280	1.90	-5	-2	39	4.5	30	12	2	30	-30	-2	-4	3
YMA8510R	04-33.7547-111.5035-4-52-000		7.4	270	1.50	11	3	73	3.2	25	14	-1	34	-30	-2	5	17
YMA8511R	04-33.8429-111.6396-4-53-000		7.8	900	5.90	-5	-2	33	1.1	226	48	-1	93	-30	-2	-4	3
YMA8512R	04-33.7545-111.5482-4-53-000		7.5	600	3.60	-5	-2	80	0.6	89	64	-1	69	-30	-2	-4	9
YMA8513R	04-33.8483-111.5740-4-53-000		8.5	525	3.70	-5	-2	20	8.7	611	6	-1	40	-30	-2	-4	9
YMAC501R	04-33.9141-111.4020-4-53-000		5.5	60	0.70	-5	-2	212	1.1	22	13	-1	15	-30	-2	-4	10
YMAC502R	04-33.9160-111.3602-4-53-000		6.6	62	0.46	-5	-2	164	0.8	15	24	-1	11	-30	-2	-4	17
YMAC503R	04-33.9405-111.4515-4-53-000		7.5	510	4.30	9	-2	159	8.5	38	84	-1	75	30	-2	6	11
YMAC504R	04-33.9315-111.3112-4-52-000		7.3	540	3.40	6	2	31	4.1	56	350	-1	68	-30	-2	-4	28
YMAC505R	04-33.9174-111.4240-4-53-000		7.5	100	0.80	-5	-2	75	1.8	20	18	-1	21	-30	-2	-4	3
YMAC506R	04-33.9543-111.3234-4-52-000		7.5	402	3.70	11	-2	15	1.2	62	108	-1	69	-30	-2	-4	20
YMAC507R	04-33.9180-111.4797-4-52-000		7.4	455	2.70	7	-2	55	2.6	39	151	-1	63	-30	-2	4	5
YMAC508R	04-33.9700-111.3235-4-52-000		7.5	480	5.10	-5	-2	42	8.2	49	92	-1	75	-30	-2	-4	16
YMAC509R	04-33.8639-111.4673-4-52-000		7.2	580	3.40	-5	-2	82	2.5	40	49	-1	55	-30	-2	4	260
YMAC510R	04-33.9903-111.3277-4-53-000		7.9	650	6.70	-5	-2	43	16.1	153	203	-1	72	-30	-2	-4	3
YMAC511R	04-33.8781-111.4395-4-53-000		8.1	340	3.10	-5	-2	75	16.2	28	28	-1	54	-30	-2	-4	52
YMAC512R	04-33.9718-111.3908-4-53-000		7.6	201	2.00	-5	-2	65	4.5	24	25	-1	39	-30	-2	-4	3
YMAC513R	04-33.8835-111.4043-4-53-000		7.3	270	2.80	-5	-2	431	2.3	31	36	-1	40	-30	-2	-4	38
YMAC514R	04-33.8869-111.3630-4-53-000		7.4	239	2.30	-5	-2	77	-0.5	34	38	-1	35	-30	-2	-4	4
YMAC515R	04-33.9383-111.4675-4-52-000		7.8	510	3.60	9	-2	94	0.9	49	41	-1	58	-30	-2	4	19
YMAC516R	04-33.7601-111.4954-4-53-000		7.2	357	1.90	-5	-2	36	0.7	43	30	-1	36	-30	-2	-4	3
YMAC517R	04-33.9603-111.4867-4-53-000		8.0	352	1.80	-5	-2	42	-0.5	38	13	-1	71	-30	-2	-4	7
YMAC518R	04-33.7976-111.4872-4-53-000		9.1	581	4.70	9	2	33	8.0	128	6	-1	9	-30	3	5	10
YMAC519R	04-33.9731-111.4402-4-53-000		8.1	218	2.80	-5	-2	324	4.0	29	96	-1	40	-30	-2	-4	29
YMAC520R	04-33.8067-111.4458-4-53-000		7.7	215	0.90	9	2	38	0.6	26	18	-1	21	-30	-2	4	12
YMAC521R	04-33.8722-111.3125-4-52-000		7.5	320	1.30	9	2	51	3.5	69	58	-1	56	-30	-2	4	-2
YMAC522R	04-33.8557-111.4497-4-53-000		8.0	241	4.00	6	2	28	3.0	30	49	-1	57	-30	-2	4	4
YMAC523R	04-33.8419-111.3021-4-52-000		7.9	990	2.40	-5	-2	31	1.2	311	152	-1	134	-30	-2	-4	3
YMAC524R	04-33.8498-111.4049-4-53-000		9.4	177	1.50	-5	-2	114	-0.5	22	10	-1	16	-30	-2	-4	5
YMAC525R	04-33.8264-111.2934-4-52-000		7.9	990	2.70	-5	-2	54	0.6	285	135	-1	139	-30	-2	-4	314
YMAC526R	04-33.7896-111.2621-4-52-000		7.9	300	1.80	-5	-2	172	1.2	52	16	-1	50	-30	-2	-4	15
YMA0501R	04-33.7792-111.1417-4-53-000		7.0	600	4.50	8	2	67	-0.5	76	23	-1	52	-30	-2	-4	23
YMA0502R	04-33.8090-111.2023-4-52-000		7.1	320	3.20	-5	-2	111	-0.5	89	50	-1	40	-30	-2	-4	26
YMA0503R	04-33.7973-111.1652-4-53-000		7.4	800	5.00	-5	-2	137	2.1	120	46	-1	54	-30	-2	-4	26
YMA0504R	04-33.8472-111.2460-4-53-000		7.3	750	4.30	-5	-2	117	3.9	98	87	-1	66	-30	-2	-4	26
YMA0505R	04-33.8867-111.2010-4-53-000		7.7	480	4.30	-5	-2	27	2.6	48	101	-1	66	-30	-2	-4	5
YMA0506R	04-33.8739-111.2232-4-53-000		7.0	500	4.00	-5	-2	132	2.2	66	53	-1	63	-30	-2	-4	13
YMA0507R	04-33.9104-111.2212-4-53-000		7.5	650	4.60	-5	-2	87	2.3	52	102	1	68	-30	-2	-4	5
YMA0508R	04-33.9202-111.1934-4-53-000		6.7	500	4.80	-5	-2	784	1.0	53	98	-1	59	-30	-2	-4	14
YMA0509R	04-33.9410-111.1679-4-53-000		7.0	270	2.80	-5	-2	51	-0.5	31	33	-1	39	-30	-2	-4	3
YMA0510R	04-33.9094-111.1166-4-53-000		7.1	130	0.60	-5	-2	149	-0.5	22	43	-1	15	-30	-2	-4	6
YMBA501R	04-33.6071-111.8461-4-52-000		7.6	500	3.70	-5	-2	16	5.5	112	67	-1	51	-30	-2	-4	3
YMBA502R	04-33.5822-111.8470-4-52-000		8.0	390	3.30	-5	-2	30	6.6	104	35	-1	25	-30	-2	35	10
YMBA503R	04-33.5782-111.8134-4-52-000		7.7	480	3.70	-5	-2	14	5.9	116	62	-1	46	-30	-2	-4	24
YMBA504R	04-33.5240-111.8222-4-52-000		7.6	1600	2.60	6	2	44	2.0	184	34	-1	98	-30	2	6	7
YMBA505R	04-33.6021-111.7515-4-52-000		8.1	380	2.70	-5	-2	20	5.6	129	15	-1	28	-30	-2	17	3

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI F SC SE SR TI V Y ZN AND ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
MMAB501R	841	2.0	168	28.7	45	7	88.6	-4	-4	82	1.0	0.3	38.2	414	32	9	2	-4	-2
MMAB502R	-10	0.6	28	44.2	5	-4	30.8	-4	7	-40	-1.0	0.2	32.8	515	2	14	-1	-4	-2
MMAB503R	-10	7.0	90	12.9	-2	-4	95.9	-4	6	-40	-1.0	0.2	11.9	301	-2	24	-1	-4	-2
MMAB504R	-10	1.4	25	15.3	4	5	21.6	7	5	-40	-1.0	0.3	26.6	414	3	39	1	-4	4
MMAB505R	31	3.2	28	33.6	5	5	35.9	-4	6	58	-1.0	0.3	12.5	757	4	9	1	392	-2
MMAB506R	128	1.4	27	17.9	22	-4	33.2	-4	-4	-40	-1.0	-0.2	26.5	538	4	44	-1	-4	-2
MMAB507R	898	3.4	13	16.9	24	-4	14.0	-4	-4	288	-1.0	0.2	20.3	414	21	14	-1	-4	-2
MMAB508R	1166	4.9	259	4.1	773	-4	197.8	-4	8	213	-1.0	0.3	28.3	1003	7	10	-1	-4	-2
MMAB509R	-10	1.9	25	5.9	3	-4	33.8	-4	-4	-40	-1.0	0.2	32.1	115	2	-4	2	11	-2
MMAB510R	47	0.9	9	13.0	4	7	16.7	6	-4	41	-1.0	0.2	13.4	253	3	8	1	275	3
MMAB511R	-10	3.1	59	28.5	3	58	110.4	-4	-4	266	-1.0	0.5	25.2	657	4	-4	-1	-4	-2
MMAB512R	-10	1.3	43	20.3	8	-4	68.3	-4	7	173	-1.0	0.2	15.8	358	3	-4	-1	-4	-2
MMAB513R	-10	10.1	124	5.2	-2	13	138.7	6	-4	-40	-1.0	0.2	31.0	156	2	7	-1	243	-2
MMAC501R	166	1.3	5	11.8	5	-4	11.1	-4	5	-40	-1.0	0.2	9.8	78	5	-4	-1	-4	-2
MMAC502R	267	4.0	-2	1.6	43	-4	2.0	-4	6	252	-1.0	0.5	3.4	51	6	-4	1	-4	-2
MMAC503R	201	1.3	78	25.1	30	4	40.4	-4	9	183	1.0	0.2	31.2	850	7	52	1	34	-2
MMAC504R	-10	5.5	26	24.2	9	4	41.5	6	6	50	-1.0	-0.2	12.0	1541	2	6	1	596	2
MMAC505R	-10	0.4	12	8.3	4	-4	8.3	6	-4	50	-1.0	0.3	12.3	158	2	7	-1	-4	-2
MMAC506R	-10	1.8	23	14.3	20	-4	25.0	-4	-4	-40	-1.0	0.2	10.8	374	3	6	1	1011	2
MMAC507R	-10	1.9	31	15.9	8	-4	25.0	-4	7	56	-1.0	-0.2	20.1	1599	4	4	-1	115	2
MMAC508R	-10	1.7	25	26.7	6	-4	20.3	-4	4	-40	-1.0	0.2	20.5	982	2	10	-1	235	-2
MMAC509R	24	2.0	15	29.0	5	-4	22.4	-4	-4	87	-1.0	0.6	29.5	641	2	14	-1	73	-2
MMAC510R	-10	4.8	85	21.7	3	4	92.7	-4	-4	-40	-1.0	0.9	13.7	1311	3	-4	-1	-4	-2
MMAC511R	42	1.7	21	16.0	7	-4	22.1	-4	5	79	-1.0	0.2	21.4	316	5	4	-1	21	-2
MMAC512R	-10	1.0	5	6.4	-2	-4	13.3	-4	6	-40	-1.0	0.3	15.0	137	-2	8	-1	10	-2
MMAC513R	388	2.0	24	12.0	138	5	20.5	10	-4	178	-1.0	0.2	25.7	187	10	6	1	70	-2
MMAC514R	-10	0.6	-2	15.8	4	6	13.3	-4	-4	157	-1.0	0.3	9.0	153	3	-4	-1	-4	-2
MMAC515R	100	1.4	10	17.9	18	-4	12.8	-4	5	-40	-1.0	0.4	9.4	345	4	-4	1	2386	-2
MMAC516R	-10	1.5	48	9.2	3	-4	29.8	-4	-4	88	-1.0	0.2	17.7	229	-2	-4	-1	24	-2
MMAC517R	-10	0.9	10	35.9	6	-4	16.7	-4	5	-40	-1.0	-0.2	11.2	220	3	-4	-1	484	-2
MMAC518R	77	3.3	139	1.8	6	25	144.7	-4	-4	-40	-1.0	0.2	13.9	209	2	11	1	28	3
MMAC519R	614	1.5	11	6.8	52	-4	15.0	6	-4	110	-1.0	-0.2	17.2	175	6	5	-1	81	-2
MMAC520R	-10	1.1	10	5.0	4	-4	10.9	-4	-4	-40	-1.0	-0.2	13.7	121	2	-4	1	-4	-2
MMAC521R	72	1.0	18	16.2	743	-4	11.7	-4	9	-40	-1.0	-0.2	12.8	725	4	-4	-1	254	-2
MMAC522R	12	1.7	8	16.8	14	-4	25.6	5	6	-40	-1.0	-0.2	22.4	442	3	6	1	-4	-2
MMAC523R	12	2.3	34	27.2	24	5	48.1	-4	-4	-40	-1.0	-0.2	8.8	1260	5	-4	-1	115	-2
MMAC524R	32	2.5	11	6.6	4	-4	17.7	-4	-4	-40	-1.0	-0.2	17.9	100	3	-4	-1	10	-2
MMAC525R	34	2.0	39	31.3	21	-4	55.7	-4	8	-40	1.0	-0.2	9.7	1506	5	-4	-1	10E3	-2
MMAC526R	122	0.7	18	9.4	11	-4	21.5	-4	4	53	-1.0	-0.2	11.4	471	5	5	-1	481	-2
MMAD501R	30	8.0	18	55.7	26	-4	33.1	6	-4	-40	-1.0	0.5	17.6	430	4	10	-1	23	-2
MMAD502R	414	3.0	7	27.3	16	-4	18.1	-4	-4	-40	-1.0	-0.2	12.7	242	5	-4	-1	1000	-2
MMAD503R	675	14.0	32	73.2	23	6	39.4	-4	7	41	-1.0	0.2	18.6	445	4	-4	-1	50	-2
MMAD504R	391	2.9	54	34.0	15	-4	67.9	-4	5	-40	-1.0	-0.2	21.7	323	5	-4	-1	120	-2
MMAD505R	38	3.5	14	31.5	131	-4	27.0	-4	7	-40	-1.0	-0.2	19.9	280	2	-4	-1	12	-2
MMAD506R	350	4.4	25	34.7	15	-4	29.6	-4	6	-40	-1.0	-0.2	19.5	393	4	9	1	51	-2
MMAD507R	28	1.8	46	42.2	10	11	70.4	-4	-4	-40	1.0	-0.2	17.6	321	6	6	1	-4	3
MMAD508R	739	2.4	30	39.2	16	-4	56.4	-4	7	86	-1.0	-0.2	20.0	273	24	-4	-1	7	-2
MMAD509R	141	3.4	3	25.5	28	-4	12.6	-4	5	136	-1.0	-0.2	19.4	226	4	-4	-1	-4	-2
MMAD510R	124	2.1	-2	6.7	9	-4	4.5	-4	-4	59	-1.0	-0.2	10.8	74	10	-4	-1	-4	-2
MMBA501R	-10	2.5	33	13.2	3	-4	56.8	-4	-4	-40	-1.0	0.3	18.8	473	-2	6	-1	203	-2
MMBA502R	-10	3.6	79	13.4	-2	12	55.5	4	-4	-40	-1.0	-0.2	15.4	722	-2	16	-1	116	-2
MMBA503R	-10	2.6	30	9.9	-2	-4	63.1	-4	6	-40	-1.0	-0.2	20.3	391	-2	7	-1	-4	-2
MMBA504R	22	6.7	124	41.2	19	4	163.2	-4	8	-40	-1.0	-0.2	15.7	1304	4	6	-1	275	-2
MMBA505R	-10	4.0	47	14.3	4	-4	47.1	-4	-4	-40	-1.0	-0.2	20.7	772	-2	18	-1	-4	-2

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
 ELEMENTAL CONCENTRATIONS IN PPB. ALK IN MEQ/L. COND IN UM/CM.

SRL	I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
YMBA503R	04-33.6026-111.8840-4-52-000		8.2	370	2.80	19	4	30	6.4	109	.50	-1	25	38	-2	40	3
YMBA507R	04-33.7480-111.9903-4-52-000		7.7	430	3.70	18	4	185	10.1	70	9	-1	33	43	-2	12	3
YMBA508R	04-33.5795-111.9727-4-52-000		8.1	400	3.70	-5	-2	28	5.0	82	35	-1	23	-30	-2	14	4
YMBA509R	04-33.6287-111.9232-4-52-000		7.9	320	3.40	-5	-2	18	4.5	91	44	-1	17	-30	-2	112	3
YMBA510R	04-33.6550-111.9255-4-52-000		7.9	440	4.30	-5	-2	42	8.8	93	68	-1	13	-30	-2	37	-2
YMBA511R	04-33.7270-111.9300-4-52-000		7.4	550	4.00	8	3	29	4.2	72	25	-1	43	-30	-2	5	36
YMBA512R	04-33.7300-111.8782-4-52-000		7.7	2300	1.50	5	-2	19	-0.5	191	22	-1	283	-30	-2	-4	11
YMBA513R	04-33.6977-111.8943-4-52-000		7.5	1050	2.20	-5	-2	-10	14.6	114	19	-1	60	-30	-2	-4	2
YMBA514R	04-33.6920-111.9245-4-52-000		7.7	600	4.00	-5	-2	15	3.5	88	21	-1	53	-30	-2	4	2
YMBA515R	04-33.6516-111.9682-4-52-000		7.9	400	4.00	-5	-2	17	3.5	70	15	-1	15	-30	-2	71	2
YMBA516R	04-33.5092-111.8804-4-52-000		8.2	1000	2.10	22	4	-10	4.6	123	18	-1	34	44	2	18	23
YMBA517R	04-33.5492-111.8812-4-52-000		8.7	600	3.20	-5	-2	42	10.5	130	5	-1	5	-30	-2	29	-2
YMBA518R	04-33.5962-111.9521-4-52-000		8.7	320	2.60	-5	-2	36	6.1	100	5	-1	4	-30	-2	158	-2
YMBA519R	04-33.5426-111.8914-4-52-000		8.0	350	3.10	-5	-2	101	4.7	66	10	-1	25	-30	-2	28	3
YMBA520R	04-33.5537-111.9258-4-52-000		8.3	460	3.30	-5	-2	23	10.0	132	13	-1	15	-30	-2	72	-2
YMBA521R	04-33.7322-111.8456-4-52-000		7.2	280	1.30	-5	-2	25	1.0	49	30	-1	37	-30	3	-4	5
YMBA522R	04-33.7349-111.7879-4-52-000		7.8	520	6.10	13	3	-10	0.9	135	106	-1	90	-30	3	-4	7
YMBA523R	04-33.6717-111.8216-4-53-000		7.8	700	5.20	-5	-2	30	6.3	176	58	-1	98	-30	-2	-4	4
YMBB501R	04-33.5130-111.6880-4-52-000		7.4	1950	8.30	7	-2	20	8.0	497	100	-1	112	-30	-2	-4	81
YMBB502R	04-33.5523-111.6064-4-52-000		7.5	625	2.30	-5	-2	11	2.7	114	14	-1	30	-30	-2	-4	4
YMBB503R	04-33.6006-111.7145-4-52-000		7.6	460	3.50	-5	-2	20	5.1	117	41	-1	35	-30	-2	-4	5
YMBB504R	04-33.6037-111.6915-4-52-000		8.2	330	2.60	-5	-2	22	10.9	166	12	-1	25	-30	-2	12	38
YMBB506R	04-33.7284-111.6651-4-52-000		8.1	500	1.80	-5	-2	167	6.0	220	2	-1	22	-30	-2	21	-2
YMBB507R	04-33.7466-111.5975-4-53-000		7.3	850	4.60	11	3	118	1.0	140	55	-1	68	-30	-2	5	14
YMBB508R	04-33.7370-111.5760-4-53-000		7.7	370	2.60	16	2	1014	2.7	88	55	-1	37	31	4	9	26
YMBB509R	04-33.7108-111.6145-4-53-000		8.1	400	2.50	-5	-2	110	1.6	43	8	-1	63	-30	-2	-4	12
YMBD501R	04-33.6034-111.0059-4-52-000		8.8	630	5.10	-5	-2	47	111.2	621	2	-1	3	-30	-2	-4	3
YMBD502R	04-33.5877-111.0631-4-52-000		7.9	510	4.00	6	-2	36	4.2	64	19	-1	62	-30	-2	-4	7
YMBD503R	04-33.6508-111.0471-4-53-000		7.6	487	3.60	-5	-2	61	2.1	59	40	-1	61	-30	-2	-4	4
YMBD504R	04-33.6461-111.1110-4-52-000		7.2	760	5.80	-5	-2	26	-0.5	75	3	-1	6	-30	-2	-4	10
YMBD505R	04-33.6715-111.1332-4-52-000		7.7	414	2.70	-5	-2	53	0.6	29	22	-1	64	-30	-2	-4	13
YMBD506R	04-33.6236-111.0021-4-52-000		7.4	1880	3.90	-5	-2	289	35.9	464	69	-1	35	-30	-2	-4	10
YMBD507R	04-33.6103-111.0905-4-52-000		7.6	550	4.80	-5	-2	33	1.3	83	7	-1	53	-30	-2	-4	3
YMBD508R	04-33.5950-111.2208-4-52-000		7.6	690	4.20	57	-2	44	1.8	106	13	-1	73	-30	-2	-4	13
YMBD509R	04-33.6597-111.2202-4-52-000		7.9	333	3.20	39	-2	53	-0.5	19	57	-1	49	-30	-2	-4	3
YMBD510R	04-33.7479-111.0394-4-52-000		8.0	417	3.50	55	-2	51	2.8	35	36	-1	63	30	6	-4	5
YMBD511R	04-33.7400-111.0730-4-53-000		8.0	440	2.90	63	3	64	4.1	56	38	-1	63	37	4	6	5
YMBD512R	04-33.7327-111.1092-4-52-000		7.8	480	3.40	50	2	52	5.7	51	72	-1	53	-30	6	-4	15
YMBD513R	04-33.7295-111.1312-4-53-000		8.1	515	2.60	49	5	31	1.5	58	35	-1	37	44	7	15	25
YMBD514R	04-33.5482-111.0662-4-53-000		7.7	450	4.20	55	-2	94	1.3	43	22	1	59	-30	4	-4	10
YMBD515R	04-33.5276-111.0826-4-53-000		7.7	420	4.80	60	2	-10	3.7	31	19	-1	62	34	6	5	2
YMBE501R	04-33.5182-110.8624-4-53-000		7.3	390	3.10	7	-2	15	2.8	38	8	-1	58	-30	2	-4	8
YMBE502R	04-33.5440-110.7902-4-53-000		7.9	610	2.60	-5	-2	35	3.2	62	299	-1	81	-30	-2	-4	11
YMBE503R	04-33.5513-110.8328-4-52-000		8.0	700	4.50	-5	-2	71	3.2	79	158	-1	82	-30	-2	-4	21
YMBE504R	04-33.5595-110.8844-4-52-000		5.9	1790	0.30	11	-2	805	1.1	79	60	2	347	-30	18	-4	576
YMBE505R	04-33.5893-110.8505-4-52-000		7.9	402	2.60	-5	-2	42	4.4	48	11	-1	71	-30	-2	-4	34
YMBE506R	04-33.5930-110.8776-4-53-000		7.5	400	2.60	-5	-2	58	5.8	45	23	-1	60	-30	-2	-4	28
YMBE507R	04-33.5913-110.7858-4-53-000		7.7	450	2.40	-5	-2	31	0.6	58	68	-1	79	-30	-2	-4	15
YMBE508R	04-33.6095-110.7972-4-53-000		7.1	750	3.10	-5	-2	31	2.0	136	50	-1	89	-30	-2	-4	10
YMBE509R	04-33.7126-110.9511-4-53-000		7.7	750	5.30	11	2	22	3.5	73	20	-1	64	-30	-2	4	2
YMBE510R	04-33.6566-110.9245-4-52-000		7.4	497	4.10	8	-2	21	6.9	72	5	-1	79	-30	-2	4	6
YMBE511R	04-33.6894-110.8716-4-52-000		8.4	610	5.30	5	-2	19	2.9	100	204	-1	53	-30	-2	-4	6
YMBE512R	04-33.6940-110.8123-4-52-000		8.0	351	2.50	-5	-2	34	0.9	25	32	-1	37	-30	-2	-4	16
YMBE513R	04-33.6099-110.9979-4-52-000		7.6	580	2.70	-5	-2	22	1.1	31	29	-1	71	-30	-2	-4	7

APPENDIX 11 TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI P SC SE SR TI V Y ZN ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL	I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
MMBA506R	-10	3.7	50	16.9	2	-4	54.3	-4	10	-40	-1.0	-0.2	15.8	943	-2	21	1	97	2	
MMBA507R	345	2.2	24	20.5	12	4	29.5	-4	5	-40	-1.0	-0.2	21.0	535	8	30	1	200	4	
MMBA508R	-10	2.0	24	18.7	2	7	35.1	-4	7	-40	-1.0	-0.2	14.6	591	-2	25	-1	79	-2	
MMBA509R	-10	2.3	25	12.7	-2	4	47.3	-4	7	-40	-1.0	-0.2	12.9	484	-2	21	-1	4	-2	
MMBA510R	-10	3.2	47	12.9	2	4	56.7	-4	-4	-40	-1.0	0.3	9.5	496	3	18	-1	112	-2	
MMBA511R	44	2.4	25	14.5	7	-4	48.2	-4	-4	-40	-1.0	0.2	16.7	391	3	11	1	-4	-2	
MMBA512R	-10	9.9	193	57.4	8	-4	183.2	-4	-4	-40	1.0	0.3	5.8	7713	8	-4	-1	708	-2	
MMBA513R	-10	4.5	152	16.3	2	-4	101.3	-4	-4	-40	-1.0	-0.2	14.6	918	3	-4	-1	-4	-2	
MMBA514R	-10	2.5	31	16.6	2	-4	45.7	-4	-4	-40	-1.0	0.4	19.2	419	3	8	-1	-4	-2	
MMBA515R	-10	3.0	33	25.6	2	-4	32.4	-4	-4	-40	-1.0	0.3	10.2	491	2	25	-1	-4	-2	
MMBA516R	154	4.3	125	23.4	-2	4	137.0	8	-4	-40	-1.0	0.2	9.7	435	3	18	1	-4	4	
MMBA517R	-10	1.4	41	2.4	-2	-4	110.9	5	-4	-40	-1.0	-0.2	7.6	91	3	42	-1	-4	-2	
MMBA518R	-10	1.1	8	2.5	3	-4	62.4	-4	-4	-40	-1.0	0.3	6.6	147	-2	35	-1	130	-2	
MMBA519R	26	2.7	22	19.1	3	-4	28.5	-4	-4	-40	-1.0	-0.2	14.5	404	5	23	-1	-4	-2	
MMBA520R	-10	2.3	24	13.7	-2	-4	63.2	-4	-4	-40	-1.0	0.4	9.9	513	-2	47	-1	-4	-2	
MMBA521R	-10	1.6	23	9.6	11	-4	21.0	-4	-4	44	-1.0	0.2	9.1	225	2	-4	-1	727	-2	
MMBA522R	-10	2.9	33	11.3	3	-4	49.0	-4	5	-40	1.0	0.2	14.5	332	4	5	1	2765	2	
MMBA523R	-10	4.0	48	24.9	11	9	59.4	-4	-4	-40	-1.0	0.5	15.7	559	3	-4	-1	-4	-2	
MMBB501R	-10	2.7	68	42.5	7	-4	286.7	-4	6	66	1.0	0.5	24.7	1081	4	12	1	25	-2	
MMBB502R	589	3.4	70	8.3	13	-4	122.5	-4	9	82	-1.0	-0.2	10.0	237	3	-4	-1	124	-2	
MMBB503R	-10	3.5	36	15.8	20	-4	32.7	-4	8	-40	-1.0	-0.2	24.5	562	2	16	-1	33	-2	
MMBB504R	-10	3.9	41	16.2	2	4	30.6	-4	15	-40	-1.0	-0.2	18.1	603	2	22	-1	21	-2	
MMBB506R	-10	2.0	92	22.9	-2	4	65.7	6	4	-40	-1.0	-0.2	17.0	155	-2	14	-1	-4	-2	
MMBB507R	71	1.9	61	34.7	7	-4	115.6	4	6	60	-1.0	-0.2	32.4	668	6	14	1	11	3	
MMBB508R	936	3.8	38	13.2	260	9	45.2	5	10	319	-1.0	0.2	18.2	226	14	11	3	-4	3	
MMBB509R	65	2.2	19	19.7	12	4	13.2	-4	7	-40	-1.0	-0.2	24.0	521	4	13	-1	-4	-2	
MMBD501R	53	1.4	98	0.9	-2	-4	157.6	5	8	-40	-1.0	-0.2	21.2	45	2	80	-1	20	-2	
MMBD502R	-10	1.9	42	18.1	3	-4	30.3	6	-4	-40	-1.0	-0.2	18.5	227	3	13	-1	94	-2	
MMBD503R	-10	2.4	38	15.9	12	-4	27.4	-4	4	55	-1.0	-0.2	20.6	272	3	6	-1	-4	-2	
MMBD504R	606	2.8	4	4.7	17	-4	188.8	-4	6	-40	-1.0	-0.2	12.7	21	-2	-4	-1	16	-2	
MMBD505R	-10	1.6	11	18.5	12	-4	17.5	-4	5	-40	-1.0	-0.2	11.4	285	2	8	-1	466	-2	
MMBD506R	129	9.8	664	9.2	11	9	260.7	-4	-4	-40	-1.0	-0.2	15.6	456	7	6	-1	24	-2	
MMBD507R	-10	2.5	55	35.8	7	-4	42.5	-4	6	-40	-1.0	-0.2	15.8	191	3	4	-1	-4	-2	
MMBD508R	-10	2.6	76	30.4	3	22	95.4	-4	4	72	-1.0	0.3	15.0	1007	3	11	1	157	-2	
MMBD509R	-10	3.0	3	20.3	2	-4	22.5	-4	-4	71	-1.0	0.3	11.7	183	2	14	-1	-4	-2	
MMBD510R	-10	2.3	9	21.5	5	-4	20.7	15	7	-40	-1.0	0.3	15.8	179	3	15	1	90	2	
MMBD511R	-10	2.8	16	21.0	4	-4	26.9	12	4	42	1.0	0.3	15.6	235	4	11	2	9	3	
MMBD512R	-10	2.5	29	28.6	2	7	30.7	7	-4	52	-1.0	0.5	16.7	385	4	38	1	163	2	
MMBD513R	-10	3.1	23	36.4	5	7	42.2	16	12	46	1.0	0.3	10.8	234	5	28	2	8	3	
MMBD514R	-10	1.3	110	15.8	4	6	42.5	5	12	59	-1.0	-0.2	28.0	214	4	9	1	-4	2	
MMBD515R	-10	1.4	43	16.9	3	7	25.0	12	-4	-40	1.0	0.3	17.6	135	4	9	1	-4	-2	
MMBE501R	-10	2.9	32	25.8	3	-4	23.0	8	-4	-40	-1.0	0.3	14.2	532	2	15	1	23	-2	
MMBE502R	48	1.9	20	46.7	4	-4	42.7	-4	-4	-40	-1.0	0.5	17.8	361	2	8	-1	781	-2	
MMBE503R	66	3.4	70	46.8	12	-4	46.0	-4	-4	-40	-1.0	0.5	23.5	654	2	7	-1	443	-2	
MMBE504R	325	5.5	71	82.0	4392	-4	45.7	-4	96	254	1.0	0.3	19.1	1459	9	-4	11	980	-2	
MMBE505R	61	2.6	54	17.6	230	-4	29.4	-4	9	-40	-1.0	0.2	17.0	395	3	-4	-1	284	-2	
MMBE506R	19	2.4	44	10.0	19	-4	26.2	5	5	-40	-1.0	0.4	21.4	230	3	8	-1	97	-2	
MMBE507R	-10	1.9	25	30.0	5	-4	29.4	4	6	55	-1.0	0.3	15.2	234	2	-4	-1	300	-2	
MMBE508R	-10	1.1	102	34.8	4	-4	61.7	-4	10	-40	-1.0	0.3	24.3	307	3	4	-1	19	-2	
MMBE509R	-10	4.6	15	49.0	5	-4	34.8	4	9	-40	1.0	0.3	20.3	233	3	23	1	208	2	
MMBE510R	-10	2.7	33	19.8	3	-4	8.4	8	5	-40	-1.0	0.3	23.6	463	2	11	1	560	-2	
MMBE511R	-10	6.1	57	24.0	3	-4	64.6	-4	-4	-40	-1.0	0.3	15.5	831	3	8	-1	224	-2	
MMBE512R	-10	1.3	6	14.9	3	-4	9.5	-4	-4	-40	-1.0	0.3	7.8	141	2	-4	-1	66	-2	
MMBE513R	-10	2.2	16	21.3	3	4	19.8	-4	-4	-40	-1.0	0.5	12.0	323	3	-4	-1	24	-2	

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
 ELEMENTAL CONCENTRATIONS IN PPB. ALK IN MEQ/L. COND IN UM/CM.

SRL	I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
YMBE51R	04-33.5688-110.9513-4-52-000		9.5	580	5.30	-5	-2	22	6.0	188	2	-1	4	-30	-2	-4	2
YMBF51R	04-33.5246-110.9083-4-53-000		8.8	800	3.90	-5	-2	53	2.4	130	55	-1	74	-30	-2	-4	7
YMBE516R	04-33.6333-110.9376-4-52-000		7.4	2320	4.00	-5	-2	26	3.4	255	87	-1	109	-30	-2	-4	16
YMBE517R	04-33.7251-110.9822-4-53-000		7.7	710	4.20	7	-2	27	2.7	49	17	-1	64	-30	-2	-4	3
YMBE518R	04-33.7262-110.9547-4-53-000		7.6	680	4.40	-5	-2	17	-0.5	42	19	-1	57	-30	-2	-4	4
YMCAS01R	04-33.4450-111.7616-4-52-000		7.7	1300	3.00	13	3	23	2.4	172	43	-1	68	33	4	7	6
YMCAS02R	04-33.4772-111.7681-4-52-000		7.8	700	4.40	6	2	45	4.9	208	31	-1	31	-30	2	5	3
YMCAS03R	04-33.3784-111.8020-4-52-000		8.0	1200	1.90	-5	-2	16	5.4	143	27	-1	39	-30	-2	14	2
YMCAS04R	04-33.3638-111.7613-4-52-000		7.2	1800	3.70	-5	-2	39	0.9	1414	115	-1	133	-30	-2	4	8
YMCAS05R	04-33.2914-111.8629-4-52-000		7.5	2300	2.20	-5	-2	43	2.3	473	91	-1	108	-30	-2	8	6
YMCAS06R	04-33.3064-111.7522-4-52-000		7.1	2000	1.20	9	2	15	1.0	133	67	-1	103	-30	-2	13	5
YMCAS07R	04-33.2780-111.7725-4-52-000		7.9	1300	1.80	-5	-2	24	-0.5	135	77	-1	113	-30	-2	-4	2
YMCAS08R	04-33.2663-111.8231-4-52-000		7.8	1400	1.70	-5	-2	36	0.9	115	77	-1	97	-30	-2	4	7
YMCAS09R	04-33.2620-111.8635-4-52-000		7.5	3100	1.40	-5	-2	17	-0.5	295	112	-1	231	-30	-2	-4	12
YMCAS10R	04-33.3234-111.9106-4-52-000		7.4	2300	8.20	10	2	20	-0.5	1108	90	-1	82	-30	3	-4	11
YMCAS11R	04-33.3097-111.8925-4-52-000		7.9	1700	2.00	-5	-2	11	1.8	197	81	-1	72	-30	-2	-4	4
YMCAS12R	04-33.3350-111.9314-4-52-000		7.3	2300	5.20	9	-2	23	2.0	1429	47	-1	116	-30	-2	-4	7
YMCAS13R	04-33.3113-111.9793-4-52-000		7.6	1700	1.90	-5	-2	15	1.4	157	135	-1	82	-30	-2	-4	3
YMCAS14R	04-33.3448-111.9624-4-52-000		7.2	3000	3.60	-5	-2	30	1.4	876	77	-1	163	-30	3	-4	7
YMCAS15R	04-33.3619-111.9458-4-52-000		7.2	3100	2.60	10	-2	26	1.2	434	104	-1	189	-30	2	4	8
YMCAS16R	04-33.3055-111.8270-4-52-000		7.5	2800	1.70	-5	-2	43	2.3	499	144	-1	160	-30	-2	5	7
YMCAS17R	04-33.3409-111.7835-4-52-000		7.6	1800	1.60	9	2	-10	3.7	363	32	-1	69	-30	-2	12	-2
YMCAS18R	04-33.3341-111.8239-4-52-000		7.4	2200	2.90	-5	-2	10	1.6	562	155	-1	121	-30	-2	4	5
YMCAS19R	04-33.3489-111.8934-4-52-000		7.3	2300	6.80	-5	-2	14	2.3	802	78	-1	115	-30	-2	-4	9
YMCAS20R	04-33.3502-111.8677-4-52-000		7.6	1400	2.20	5	-2	17	2.3	191	89	-1	89	-30	-2	5	31
YMCAS21R	04-33.3603-111.8358-4-52-000		7.7	1750	2.90	-5	-2	20	2.8	219	85	-1	99	-30	-2	-4	24
YMCAS22R	04-33.4948-111.8918-4-52-000		8.0	900	2.70	-5	-2	15	8.1	105	14	-1	22	-30	-2	36	-2
YMCAS23R	04-33.4732-111.7871-4-52-000		7.7	750	3.20	-5	-2	24	6.9	145	30	-1	29	-30	-2	-4	3
YMCAS24R	04-33.4272-111.8258-4-52-000		7.4	1300	3.70	8	3	14	2.2	189	32	-1	66	-30	-2	5	3
YMCAS25R	04-33.4081-111.8234-4-52-000		7.6	1100	2.10	11	-2	16	2.5	149	22	-1	63	-30	-2	10	3
YMCAS26R	04-33.4075-111.8472-4-52-000		8.3	1100	1.80	6	-2	31	17.0	265	14	-1	16	-30	-2	14	-2
YMCAS27R	04-33.4333-111.8781-4-52-000		6.9	1300	4.50	-5	-2	24	19.0	439	57	-1	66	-30	-2	-4	6
YMCAS28R	04-33.4501-111.8551-4-52-000		7.9	950	3.80	9	2	60	3.0	171	27	-1	45	-30	2	-4	3
YMCAS29R	04-33.4108-111.8802-4-52-000		7.6	1200	2.50	12	3	-10	5.1	168	67	-1	57	-30	3	13	7
YMCAS30R	04-33.4112-111.9337-4-52-000		7.2	1800	7.80	-5	-2	20	3.2	409	96	-1	86	-30	-2	-4	11
YMCAS31R	04-33.4584-111.9157-4-52-000		7.5	1400	4.70	-5	-2	26	3.0	193	51	-1	58	-30	-2	6	5
YMCAS32R	04-33.2772-111.8755-4-52-000		7.6	2400	1.50	14	4	39	4.0	157	122	-1	122	-35	-2	17	6
YMCB501R	04-33.4374-111.5185-4-52-000		7.7	820	3.30	-5	-2	50	1.7	101	86	-1	94	-30	-2	-4	53
YMCB502R	04-33.4636-111.5350-4-52-000		7.4	530	3.60	-5	-2	34	0.9	57	14	-1	74	-30	-2	-4	22
YMCB503R	04-33.4530-111.5755-4-7-000		7.4	374	3.10	-5	-2	-10	4.6	116	12	-1	47	-30	-2	-4	11
YMCB504R	04-33.4326-111.6149-4-52-000		7.6	720	2.40	10	-2	27	1.4	147	31	-1	70	-30	2	4	9
YMCB505R	04-33.3728-111.5766-4-52-000		8.4	270	0.90	-5	-2	36	6.0	111	24	-1	14	-30	8	14	27
YMCB506R	04-33.2637-111.5632-4-52-000		7.6	900	1.30	-5	-2	35	1.9	89	42	-1	84	-30	5	5	20
YMCB507R	04-33.2637-111.5367-4-52-000		8.4	349	0.90	-5	-2	67	2.1	72	26	-1	65	-30	165	8	11
YMCB508R	04-33.2632-111.6086-4-52-000		7.6	880	2.30	7	2	57	-0.5	84	41	-1	67	-30	88	7	11
YMCB509R	04-33.3072-111.5833-4-52-000		7.8	350	1.60	-5	-2	74	1.3	50	26	-1	48	-30	8	4	12
YMCB510R	04-33.2919-111.6174-4-52-000		7.9	570	1.60	-5	2	446	3.5	76	31	-1	51	-30	-2	10	11
YMCB511R	04-33.3855-111.6329-4-52-000		8.0	900	2.40	-5	-2	20	2.4	311	19	-1	31	-30	-2	10	2
YMCB512R	04-33.3858-111.5272-4-52-000		7.5	3720	1.90	10	-2	58	4.3	1381	62	-1	156	-30	4	-4	14
YMCB513R	04-33.3361-111.6447-4-52-000		9.0	396	0.80	11	-2	113	1.5	310	18	-1	44	-30	4	-4	7
YMCB514R	04-33.4004-111.6231-4-52-000		7.7	840	2.40	-5	-2	35	7.8	340	70	-1	65	-30	-2	5	5
YMCB515R	04-33.3785-111.6186-4-52-000		8.2	460	1.70	12	2	41	3.3	82	12	-1	17	33	-2	18	4
YMCB516R	04-33.3194-111.6068-4-52-000		9.8	299	1.20	-5	-2	14	5.4	71	18	-1	19	-30	-2	8	6
YMCB517R	04-33.2712-111.6341-4-52-000		7.5	990	1.10	18	-2	25	1.8	83	63	-1	92	31	3	7	5

APPENDIX 11 TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI P SC SE SR TI V Y ZN AND ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL	I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
YMBE514R		82	1.4	100	1.8	3	-4	115.7	-4	-4	-40	-1.0	0.8	6.3	80	-2	55	-1	-4	-2
YMBE515R		16	15.0	15	27.9	24	-4	26.5	-4	-4	276	-1.0	-0.2	10.3	391	3	-4	-1	-4	-2
YMBE516R		-10	9.7	274	27.2	9	-4	366.2	-4	-4	-40	1.0	-0.2	10.6	965	5	5	-1	1158	-2
YMBE517R		-10	2.9	13	28.8	3	-4	18.7	-4	-4	-40	1.0	-0.2	22.1	158	3	13	1	44	-2
YMBE518R		796	7.2	6	40.9	244	-4	18.4	-4	10	-40	1.0	-0.2	11.0	146	3	-4	-1	86	-2
YMCA501R		-10	5.5	134	23.7	62	-4	190.9	6	-4	59	1.0	-0.2	12.4	792	3	7	1	-4	-2
YMCA502R		37	2.7	92	11.3	2	4	129.3	-4	7	-40	-1.0	-0.2	10.3	298	2	8	1	64	-2
YMCA503R		-10	5.5	145	15.5	11	-4	155.2	10	8	-40	-1.0	-0.2	14.7	584	2	10	-1	-4	-2
YMCA504R		-10	8.5	282	29.0	11	-4	229.2	-4	4	-40	-1.0	0.2	17.3	2350	3	7	-1	920	-2
YMCA505R		-10	7.8	225	51.2	8	5	252.9	-4	-4	-40	-1.0	-0.2	13.4	2092	3	5	-1	85	-2
YMCA506R		-10	8.0	196	38.9	4	-4	179.5	4	-4	-40	1.0	-0.2	10.4	2042	4	6	-1	-4	-2
YMCA507R		-10	7.5	108	33.5	57	-4	94.2	-4	-4	-40	-1.0	-0.2	13.4	1737	3	-4	-1	511	-2
YMCA508R		-10	7.6	133	37.5	4	-4	97.1	-4	-4	-40	-1.0	-0.2	14.4	1842	3	-4	-1	17	-2
YMCA509R		-10	9.0	246	71.3	6	-4	244.5	-4	-4	-40	1.0	-0.2	10.4	3666	7	-4	-1	81	-2
YMCA510R		-10	6.8	251	33.1	13	-4	351.4	-4	9	-40	1.0	-0.2	12.7	1539	4	-4	1	1736	2
YMCA511R		-10	5.9	165	38.0	5	-4	191.8	-4	-4	-40	-1.0	-0.2	13.0	1325	3	-4	-1	123	-2
YMCA512R		-10	5.1	207	40.3	5	-4	313.1	-4	-4	-40	1.0	-0.2	11.3	1238	4	4	-1	304	-2
YMCA513R		-10	6.2	117	35.3	4	-4	173.6	-4	-4	-40	-1.0	-0.2	9.0	1569	3	-4	-1	160	-2
YMCA514R		-10	6.5	185	52.9	7	-4	303.8	4	-4	-40	1.0	-0.2	10.9	1868	5	-4	-1	35	-2
YMCA515R		-10	8.3	186	77.3	8	-4	277.2	-4	-4	-40	-1.0	-0.2	11.3	2758	6	8	-1	44	-2
YMCA516R		14	7.2	257	49.4	6	-4	252.0	-4	4	-40	-1.0	-0.2	14.6	2943	4	-4	-1	-4	-2
YMCA517R		-10	4.9	163	17.6	-2	-4	206.5	7	7	-40	-1.0	-0.2	12.5	981	-2	6	1	6	-2
YMCA518R		-10	7.9	235	54.6	4	-4	238.8	-4	-4	-40	-1.0	-0.2	14.4	2483	4	-4	-1	552	-2
YMCA519R		-10	5.8	209	40.5	3	-4	309.3	-4	-4	-40	1.0	0.4	10.7	1268	5	-4	-1	183	-2
YMCA520R		-10	5.7	135	39.8	5	-4	154.5	-4	11	-40	1.0	0.3	11.8	1260	4	-4	-1	40	-2
YMCA521R		-10	6.7	179	45.3	4	-4	193.1	-4	-4	-40	-1.0	0.3	12.3	1552	3	-4	-1	18	-2
YMCA522R		-10	3.8	118	16.2	7	-4	128.9	-4	-4	-40	-1.0	0.2	11.3	311	-2	21	-1	-4	-2
YMCA523R		-10	3.2	107	11.9	7	5	137.3	-4	-4	-40	-1.0	0.2	9.0	279	-2	4	-1	-4	-2
YMCA524R		-10	4.8	103	24.7	3	-4	162.4	-4	-4	-40	-1.0	0.4	11.2	753	2	8	1	-4	-2
YMCA525R		-10	4.7	82	26.7	3	-4	106.5	-4	-4	-40	-1.0	0.2	13.1	743	2	12	1	-4	-2
YMCA526R		-10	2.9	121	4.3	35	9	173.8	6	-4	-40	-1.0	0.2	7.7	211	3	46	-1	-4	-2
YMCA527R		-10	7.3	129	23.6	109	-4	181.8	-4	-4	745	-1.0	0.3	13.7	675	2	9	-1	-4	-2
YMCA528R		24	4.7	116	15.6	19	-4	163.2	11	4	-40	-1.0	0.2	10.3	483	3	7	-1	-4	-2
YMCA529R		-10	4.8	115	22.8	3	-4	123.9	11	-4	-40	1.0	0.3	12.5	769	3	13	1	-4	2
YMCA530R		-10	6.1	207	32.8	27	6	267.4	4	-4	-40	-1.0	0.3	12.4	1012	3	8	-1	-4	-2
YMCA531R		-10	5.6	177	29.6	22	4	171.4	4	5	-40	-1.0	0.2	12.4	822	2	7	-1	-4	-2
YMCA532R		-10	6.2	181	50.4	5	-4	222.9	5	4	-40	-1.0	0.2	11.9	2243	4	14	1	129	3
YMCB501R		65	2.4	30	29.4	12	-4	66.5	-4	4	143	-1.0	-0.2	21.3	1912	2	12	-1	217	-2
YMCB502R		-10	2.1	74	16.0	4	-4	36.6	4	-4	-40	-1.0	-0.2	18.5	338	2	5	-1	1867	-2
YMCB503R		-10	3.1	43	12.3	3	-4	28.6	-4	-4	-40	-1.0	-0.2	29.8	353	3	10	-1	848	-2
YMCB504R		108	4.4	52	15.6	4	-4	56.6	-4	-4	-40	-1.0	-0.2	22.4	743	4	7	-1	378	-2
YMCB505R		118	3.2	41	0.9	4	-4	66.2	7	-4	-40	-1.0	-0.2	17.1	129	-2	21	-1	265	-2
YMCB506R		37	4.4	29	15.7	5	-4	61.1	-4	7	-40	-1.0	-0.2	15.1	565	4	8	-1	159	-2
YMCB507R		-10	4.3	29	12.6	4	-4	57.6	-4	7	-40	-1.0	-0.2	17.7	446	3	12	-1	75	-2
YMCB508R		13	5.5	54	13.6	6	-4	69.4	12	-4	-40	-1.0	-0.2	15.9	723	3	13	-1	77	-2
YMCB509R		25	4.0	27	9.2	7	-4	35.1	-4	-4	-40	-1.0	-0.2	17.7	402	2	11	-1	158	-2
YMCB510R		324	4.7	41	9.8	13	-4	52.2	-4	-4	349	-1.0	-0.2	19.7	570	15	22	-1	41	-2
YMCB511R		-10	3.8	134	1.5	-2	-4	120.7	-4	-4	-40	-1.0	-0.2	16.7	210	2	13	-1	19	-2
YMCB512R		14	25.0	1550	19.7	11	21	392.9	12	-4	-40	1.0	-0.2	21.3	2548	8	8	-1	377	-2
YMCB513R		224	9.5	406	6.8	14	-4	152.7	-4	-4	-40	-1.0	-0.2	10.4	609	6	5	1	44	2
YMCB514R		-10	9.5	269	8.6	14	-4	128.1	-4	4	-40	-1.0	-0.2	20.7	819	5	9	-1	209	-2
YMCB515R		103	3.5	42	1.1	9	7	72.5	-4	5	-40	-1.0	-0.2	19.3	155	3	22	1	59	3
YMCB516R		-10	2.7	65	4.5	5	-4	49.8	7	6	-40	-1.0	-0.2	18.5	266	2	28	-1	79	-2
YMCB517R		-10	5.2	52	18.5	7	-4	58.2	-4	6	-40	-1.0	-0.2	15.0	1138	4	10	1	34	3

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
ELEMENTAL CONCENTRATIONS IN PPB. ALK IN MEQ/L. COND IN UM/CM.

SRL	I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
YMCB513R	04-33.2660-111.6853-4-52-000		7.5	870	0.50	12	2	37	1.3	95	59	-1	73	-30	-2	5	5
YMCB519R	04-33.2598-111.7374-4-52-000		7.3	2300	1.50	-5	-2	13	0.7	151	156	-1	272	-30	-2	-4	21
YMCB520R	04-33.2919-111.7440-4-52-000		7.7	850	1.30	-5	-2	38	1.4	91	30	-1	51	-30	-2	11	6
YMCB521R	04-33.3078-111.6881-4-52-000		7.0	3210	1.30	12	2	28	-0.5	120	301	-1	427	-30	3	4	19
YMCB522R	04-33.3327-111.6875-4-52-000		9.2	282	1.50	11	2	25	2.0	154	24	-1	61	-30	4	33	8
YMCB523R	04-33.3494-111.7172-4-52-000		7.3	2470	3.20	5	-2	41	1.6	1396	70	-1	306	-30	-2	12	21
YMCB524R	04-33.4219-111.5290-4-52-000		6.7	820	1.30	-5	-2	41	-0.5	317	60	-1	144	-30	68	-4	21
YMCB525R	04-33.3933-111.5697-4-52-000		7.6	920	2.60	8	2	43	3.8	341	60	-1	71	-30	28	8	22
YMCB526R	04-33.3936-111.6843-4-52-000		8.1	620	1.30	-5	-2	96	3.3	171	23	-1	33	-30	4	15	9
YMCB527R	04-33.3815-111.6685-4-52-000		7.9	451	1.20	-5	-2	63	3.7	108	7	-1	18	-30	-2	14	5
YMCB528R	04-33.3090-111.6411-4-52-000		8.1	420	1.60	-5	-2	39	1.1	73	26	-1	45	-30	-2	6	9
YMCB529R	04-33.3650-111.7338-4-52-000		8.4	520	1.90	-5	-2	19	2.1	63	12	-1	23	-30	-2	14	3
YMCB530R	04-33.4537-111.7183-4-52-000		7.7	1000	1.90	-5	-2	201	4.2	138	41	-1	51	-30	-2	-4	14
YMCB531R	04-33.4144-111.7370-4-52-000		8.0	1300	2.00	-5	-2	32	2.3	191	7	-1	34	-30	-2	-4	5
YMCB532R	04-33.3996-111.6687-4-52-000		7.8	1000	1.10	-5	-2	45	4.5	431	32	-1	45	-30	-2	7	7
YMCB533R	04-33.4436-111.6561-4-52-000		7.9	600	1.90	9	-2	37	5.0	171	27	-1	43	-30	-2	7	5
YMCB534R	04-33.4588-111.6857-4-52-000		7.7	560	1.60	8	-2	-10	4.9	87	19	-1	42	-30	-2	4	6
YMCB535R	04-33.4659-111.7356-4-52-000		7.4	1310	2.90	13	2	18	3.8	171	64	-1	70	-30	-2	5	4
YMC501R	04-33.3603-111.4714-4-52-000		9.5	361	1.70	-5	-2	39	4.0	73	5	-1	7	-30	-2	6	2
YMC502R	04-33.3810-111.4333-4-52-000		7.9	510	2.60	8	2	17	3.2	138	107	-1	47	-30	-2	9	10
YMC503R	04-33.2927-111.3810-4-52-000		7.6	281	2.40	-5	-2	10	3.7	135	8	-1	24	-30	-2	-4	9
YMC504R	04-33.2594-111.3359-4-52-000		7.2	570	3.20	-5	-2	41	1.3	53	45	2	45	-30	-2	-4	15
YMC505R	04-33.3006-111.2933-4-52-000		7.3	1072	4.00	-5	-2	-10	0.9	64	30	-1	151	-30	-2	-4	28
YMC506R	04-33.2954-111.3205-4-52-000		7.2	560	3.40	16	3	-10	-0.5	49	24	-1	96	-30	-2	6	29
YMC507R	04-33.3522-111.3412-4-52-000		6.8	447	1.50	-5	-2	14	1.0	75	10	-1	43	-30	-2	-4	10
YMC508R	04-33.4577-111.4872-4-52-000		7.1	1000	3.00	-5	-2	48	0.9	131	31	-1	68	-30	-2	-4	32
YMC509R	04-33.4913-111.4678-4-52-000		6.8	560	4.00	-5	-2	44	0.5	67	33	-1	84	-30	-2	-4	20
YMC510R	04-33.4136-111.4819-4-52-000		8.1	257	1.40	-5	-2	29	21.8	121	7	-1	20	-30	-2	13	7
YMC511R	04-33.3946-111.3492-4-53-000		6.6	530	2.30	-5	-2	51	2.3	52	133	-1	53	-30	-2	-4	18
YMC512R	04-33.3823-111.3390-4-52-000		7.6	460	2.50	-5	-2	11	3.5	49	33	-1	57	-30	-2	-4	13
YMC513R	04-33.3934-111.3203-4-52-000		7.5	1250	4.30	12	2	25	1.0	66	13	-1	73	-30	-2	4	11
YMC514R	04-33.4993-111.2991-4-52-000		7.1	130	1.00	-5	-2	151	-0.5	22	11	-1	16	-30	-2	-4	10
YMC501R	04-33.2805-111.1497-4-52-000		6.8	1210	5.50	7	-2	20	1.1	76	7	-1	162	-30	-2	-4	12
YMC502R	04-33.2710-111.1833-4-52-000		7.3	690	4.80	-5	-2	40	1.1	67	18	-1	97	-30	-2	-4	4
YMC503R	04-33.2987-111.2483-4-52-000		8.5	980	2.30	12	3	50	0.6	64	31	-1	132	-30	-2	4	6
YMC504R	04-33.2994-111.1971-4-53-000		7.2	880	3.90	14	3	49	0.9	94	6	-1	98	-30	-2	5	4
YMC505R	04-33.3213-111.1654-4-53-000		8.4	111	0.30	5	2	2970	4.8	12	22	1	7	-30	-2	4	17
YMC506R	04-33.3390-111.1353-4-52-000		7.0	790	2.40	-5	-2	328	-0.5	36	21	-1	109	-30	-2	-4	3
YMC507R	04-33.3271-111.2309-4-52-000		7.3	700	3.20	-5	-2	104	-0.5	47	17	-1	81	-30	-2	-4	57
YMC508R	04-33.3586-111.2082-4-52-000		7.4	810	5.50	-5	-2	138	1.1	77	30	-1	114	-30	-2	-4	9
YMC509R	04-33.3782-111.1922-4-52-000		7.8	1170	5.70	6	-2	21	-0.5	72	24	-1	153	-30	-2	-4	10
YMC510R	04-33.4194-111.0330-4-53-000		8.0	295	1.40	-5	-2	193	3.7	28	45	-1	33	-30	-2	-4	8
YMC511R	04-33.4371-111.0711-4-53-000		7.3	600	3.30	10	2	71	-0.5	39	61	2	86	-30	5	6	7
YMC512R	04-33.4281-111.0865-4-53-000		8.3	700	4.10	11	-2	64	1.6	32	51	-1	107	-30	-2	5	5
YMC513R	04-33.4275-111.0176-4-53-000		8.1	225	0.80	-5	-2	105	4.4	51	28	-1	33	-30	-2	-4	7
YMC514R	04-33.4618-111.0040-4-52-000		7.9	600	3.30	-5	-2	41	85.7	125	121	-1	65	-30	-2	-4	2
YMC515R	04-33.3403-111.0080-4-52-000		6.1	340	0.60	-5	-2	61	-0.5	74	63	-1	35	-30	-2	-4	39
YMC516R	04-33.3397-111.0627-4-53-000		8.4	600	2.90	-5	-2	130	2.7	28	35	-1	95	-30	-2	-4	14
YMC517R	04-33.3403-111.0951-4-53-000		7.9	710	2.60	-5	-2	58	0.6	42	23	-1	100	-30	-2	-4	14
YMC518R	04-33.2680-111.0953-4-53-000		7.9	690	2.50	14	2	270	4.2	161	25	1	73	-30	6	4	25
YMC519R	04-33.4761-111.0465-4-53-000		8.5	525	4.30	14	2	161	14.1	51	17	-1	75	-30	4	6	5
YMC501R	04-33.3076-110.7781-4-53-000		7.6	240	1.15	-5	-2	123	-0.5	21	41	-1	38	-30	-2	-4	7
YMC502R	04-33.3776-110.8168-4-52-000		6.6	490	2.10	6	-2	86	-0.5	35	67	-1	75	-30	-2	-4	21
YMC503R	04-33.4166-110.8331-4-52-000		6.6	700	1.10	-5	-2	160	2.0	53	28	1	94	-30	5	-4	75

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI P SC SE SR TI V Y ZN AND ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL	I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
MMCB518R		-10	5.3	75	15.6	3	-4	78.2	-4	5	-40	-1.0	-0.2	15.1	839	3	12	1	25	-2
MMCB519R		-10	7.9	101	51.0	7	-4	111.5	-4	-4	-40	1.0	0.2	14.3	3360	6	-4	-1	53	-2
MMCB520R		-10	5.8	147	18.0	2	-4	120.0	-4	-4	-40	-1.0	-0.2	12.3	836	3	10	-1	40	-2
MMCB521R		142	9.4	91	93.4	10	-4	90.1	-4	-4	-40	1.0	-0.2	14.7	6037	11	-4	1	646	-2
MMCB522R		-10	2.3	48	12.1	2	-4	74.4	-4	4	-40	-1.0	-0.2	11.0	746	2	63	1	75	-2
MMCB523R		-10	10.0	235	76.1	16	-4	198.1	-4	8	-40	1.0	-0.2	17.3	3955	8	5	1	1226	-2
MMCB524R		76	3.9	53	28.8	5762	-4	86.3	-4	142	-40	1.0	-0.2	12.9	1908	5	-4	-1	25E3	-2
MMCB525R		-10	11.1	212	12.1	2095	8	96.4	7	61	-40	-1.0	-0.2	19.5	1060	3	12	1	7969	3
MMCB526R		117	6.1	129	5.1	565	12	99.9	4	12	-40	-1.0	-0.2	16.2	418	3	14	-1	691	-2
MMCB527R		13	3.5	82	1.7	139	-4	102.7	-4	-4	-40	-1.0	-0.2	14.8	148	2	18	-1	213	-2
MMCB528R		68	3.9	40	8.0	268	-4	50.3	4	10	-40	-1.0	-0.2	14.5	448	2	-4	-1	274	-2
MMCB529R		13	4.1	101	4.9	6	-4	95.1	-4	-4	-40	-1.0	-0.2	16.1	283	2	10	-1	40	-2
MMCB530R		135	4.8	104	16.4	16	-4	157.4	-4	-4	-40	-1.0	-0.2	11.7	555	8	-4	-1	147	-2
MMCB531R		-10	3.6	246	6.5	9	-4	207.6	-4	-4	-40	-1.0	-0.2	16.3	419	3	14	-1	28	-2
MMCB532R		-10	6.6	395	3.9	10	-4	149.8	-4	4	-40	-1.0	-0.2	18.1	530	3	8	-1	60	-2
MMCB533R		-10	4.4	151	9.4	5	6	107.6	-4	-4	-40	-1.0	-0.2	12.0	401	3	11	-1	36	2
MMCB534R		18	3.0	69	9.5	5	-4	76.7	-4	-4	-40	-1.0	-0.2	8.9	335	3	-4	-1	39	-2
MMCB535R		-10	4.5	126	19.9	4	-4	174.9	-4	4	-40	1.0	-0.2	10.9	632	3	5	1	-4	2
MMCC501R		-10	0.8	74	1.7	-2	-4	111.2	-4	-4	-40	-1.0	-0.2	14.3	58	-2	33	-1	51	-2
MMCC502R		23	1.5	24	19.1	6	5	90.5	6	-4	-40	-1.0	-0.2	19.3	2977	2	24	-1	820	3
MMCC503R		255	3.0	29	4.7	3	7	49.3	-4	-4	-40	-1.0	-0.2	19.7	257	2	16	-1	178	-2
MMCC504R		11	3.3	24	9.4	7	-4	50.1	-4	4	-40	2.0	-0.2	17.7	273	3	4	2	276	-2
MMCC505R		-10	3.6	19	30.9	4	-4	42.5	10	6	-40	1.0	-0.2	19.6	620	6	4	-1	130	-2
MMCC506R		-10	2.9	12	21.9	11	-4	30.3	4	4	-40	1.0	-0.2	19.2	386	3	8	1	643	3
MMCC507R		-10	10.7	26	5.3	4	5	50.4	4	7	-40	-1.0	-0.2	39.2	74	2	-4	-1	2015	-2
MMCC508R		-10	5.5	51	27.5	23	7	79.3	-4	13	66	-1.0	-0.2	24.8	658	3	5	-1	1099	-2
MMCC509R		-10	2.4	50	21.1	44	-4	42.6	-4	6	-40	-1.0	-0.2	19.0	737	2	-4	-1	1619	-2
MMCC510R		-10	1.9	16	4.5	7	-4	47.4	6	-4	-40	-1.0	-0.2	12.5	144	2	48	-1	29	-2
MMCC511R		-10	2.4	22	19.7	3	-4	38.8	4	18	-40	-1.0	-0.2	19.8	247	2	11	-1	125	-2
MMCC512R		-10	4.4	25	15.8	5	-4	32.4	-4	-4	72	-1.0	-0.2	23.1	301	-2	4	-1	450	-2
MMCC513R		-10	2.9	91	33.8	16	4	128.9	-4	-4	-40	-1.0	-0.2	22.4	677	3	13	1	1111	2
MMCC514R		56	2.7	2	3.2	4	5	7.1	-4	-4	88	-1.0	-0.2	15.4	74	4	-4	-1	186	-2
MMCD501R		-10	2.7	11	67.1	6	-4	46.3	-4	4	-40	-1.0	0.4	32.5	626	4	13	1	913	-2
MMCD502R		-10	1.8	33	20.1	7	4	27.8	-4	-4	-40	-1.0	0.2	17.4	379	4	-4	-1	231	-2
MMCD503R		17	2.9	13	33.4	5	4	35.1	-4	5	-40	1.0	0.3	11.1	453	6	-4	1	-4	-2
MMCD504R		-10	1.4	41	29.5	5	-4	57.6	-4	5	-40	-1.0	0.2	26.0	190	4	18	1	-4	2
MMCD505R		2181	2.2	8	2.4	62	-4	2.8	-4	8	72	1.0	0.3	17.5	32	39	12	3	12	2
MMCD506R		263	2.0	28	38.9	52	-4	37.2	9	-4	-40	-1.0	0.2	11.5	587	10	-4	-1	22	-2
MMCD507R		985	1.0	10	25.7	45	-4	25.6	-4	-4	-40	-1.0	0.4	14.6	301	3	-4	-1	950	-2
MMCD508R		88	1.5	15	48.4	10	-4	34.0	-4	-4	-40	-1.0	0.4	30.2	379	5	16	-1	27	-2
MMCD509R		44	1.2	59	44.8	14	23	86.4	-4	-4	-40	1.0	0.4	18.7	1744	5	-4	-1	72	-2
MMCD510R		202	3.4	10	11.7	22	-4	9.1	-4	-4	-40	-1.0	0.4	15.0	124	8	-4	-1	16	-2
MMCD511R		562	3.1	13	33.0	48	-4	12.7	10	-4	-40	2.0	0.5	11.5	179	8	-4	3	338	4
MMCD512R		-10	1.2	39	32.1	5	-4	21.6	-4	-4	-40	-1.0	0.3	16.1	547	5	6	1	57	2
MMCD513R		41	3.9	9	8.5	5	-4	11.9	-4	-4	137	-1.0	0.4	18.5	197	5	4	1	-4	-2
MMCD514R		-10	5.9	58	9.8	5	-4	66.3	4	-4	-40	1.0	0.4	13.6	776	4	4	1	8	-2
MMCD515R		-10	25.3	10	10.8	5	-4	19.8	-4	-4	181	-1.0	0.3	15.0	260	2	6	-1	261	-2
MMCD516R		63	3.9	7	34.6	14	-4	12.3	-4	-4	-40	-1.0	-0.2	18.9	241	6	-4	-1	23	-2
MMCD517R		19	6.3	10	23.1	6	-4	28.6	-4	6	52	-1.0	-0.2	13.9	521	5	7	1	6	-2
MMCD518R		207	5.0	5	27.6	42	16	74.9	-4	10	47	1.0	-0.2	21.4	326	8	19	2	20	4
MMCD519R		72	2.5	23	20.2	6	6	22.5	5	5	57	-1.0	-0.2	17.1	275	8	15	1	16	2
MMCE501R		118	1.4	9	11.9	4	8	19.6	-4	-4	-40	-1.0	-0.2	12.8	243	4	-4	-1	-4	-2
MMCE502R		1529	2.3	4	21.6	15	6	25.9	-4	-4	-40	-1.0	0.3	13.6	396	4	5	-1	2017	-2
MMCE503R		489	2.5	17	19.0	614	-4	59.4	-4	17	-40	-1.0	0.2	12.1	404	4	-4	-1	118	-2

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
 ELEMENTAL CONCENTRATIONS IN PPB, ALK IN MEQ/L, COND IN UM/CM.

SRL I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
YMC504R	04-33.3844-110.8638-4-52-000	7.1	2400	5.10	-5	-2	270	-0.5	35	28	1	99	-30	10	-4	244
YMC506R	04-33.3964-110.7882-4-52-000	7.0	525	2.20	-5	-2	152	1.0	52	8	-1	84	-30	-2	-4	88
YMC507R	04-33.4582-110.8130-4-52-000	7.3	600	3.40	-5	-2	55	2.7	57	7	-1	73	-30	-2	-4	36
YMC508R	04-33.4413-110.7832-4-53-000	7.3	1100	3.40	-5	-2	372	0.7	61	24	-1	93	-30	-2	-4	78
YMC509R	04-33.2774-110.7527-4-52-000	7.4	350	2.40	6	-2	196	-0.5	17	31	6	31	-30	8	5	64
YMC510R	04-33.3013-110.8589-4-52-000	5.9	320	3.40	-5	-2	249	-0.5	20	43	-1	62	-30	-2	-4	54
YMC511R	04-33.4408-110.7504-4-52-000	7.5	510	3.00	-5	-2	23	1.2	43	16	-1	57	-30	-2	-4	13
YMC512R	04-33.3094-110.7942-4-53-000	6.3	140	0.35	-5	-2	225	-0.5	8	34	-1	15	-30	-2	-4	15
YMC513R	04-33.2720-110.7999-4-53-000	6.1	125	0.60	-5	-2	232	-0.5	11	55	-1	15	-30	-2	-4	16
YMC514R	04-33.3380-110.7988-4-52-000	6.6	200	1.10	6	-2	48	-0.5	19	32	-1	27	-30	-2	-4	13
YMC515R	04-33.3438-110.7750-4-52-000	7.4	1200	5.00	-5	-2	229	0.5	92	54	-1	102	-30	-2	-4	26
YMC516R	04-33.3963-110.9459-4-52-000	7.7	1990	1.80	17	-2	109	1.1	122	52	1	353	-30	17	4	149
YMC517R	04-33.3424-110.9363-4-52-000	7.5	450	2.20	5	-2	99	1.1	107	31	-1	56	-30	-2	4	54
YMC518R	04-33.3802-110.8960-4-53-000	8.2	445	0.80	-5	-2	49	1.4	25	102	-1	70	-30	-2	-4	11
YMC519R	04-33.3569-110.9695-4-53-000	8.1	285	0.70	-5	-2	301	1.5	14	19	-1	16	-30	-2	-4	76
YMC520R	04-33.4843-110.6881-4-53-000	7.5	800	5.30	7	-2	10	1.2	54	17	-1	74	-30	-2	-4	10
YMC521R	04-33.4700-110.9172-4-52-000	8.1	650	3.70	-5	-2	13	1.7	40	140	-1	79	-30	-2	-4	12
YMC522R	04-33.4699-110.9365-4-53-000	6.2	525	0.30	14	2	101	0.5	38	74	1	74	-30	-2	-4	9
YMC523R	04-33.4347-110.9120-4-53-000	7.7	600	0.30	6	-2	44	5.6	39	85	-1	96	-30	-2	-4	25
YMC524R	04-33.4115-110.9292-4-52-000	7.3	325	1.80	71	7	-10	4.7	42	12	-1	52	68	10	10	4
YMC525R	04-33.2781-110.8871-4-53-000	7.6	445	0.80	22	-2	506	1.7	30	21	-1	33	-30	5	-4	13
YMC526R	04-33.2694-110.9057-4-52-000	7.9	900	3.70	60	-2	91	0.5	41	10	-1	72	-30	-2	-4	9
YMC527R	04-33.2537-110.9513-4-7-000	7.1	700	5.10	63	-2	45	0.7	41	60	-1	89	-30	3	-4	2
YMD8501R	04-33.2467-111.6339-4-52-000	7.5	1000	1.90	-5	-2	29	1.1	109	69	2	98	-30	-2	4	13
YMD8502R	04-33.2379-111.6858-4-52-000	7.7	800	1.80	-5	-2	19	1.5	100	47	-1	54	-30	-2	10	6
YMD8503R	04-33.2341-111.7116-4-52-000	7.8	1000	1.80	-5	-2	74	1.8	104	57	-1	58	-30	-2	7	16
YMD8504R	04-33.2077-111.7294-4-52-000	7.8	1100	0.90	8	2	35	5.5	99	100	-1	48	-30	-2	8	4
YMD8505R	04-33.2065-111.6774-4-52-000	8.0	1000	1.50	-5	-2	70	4.0	108	116	-1	50	-30	-2	4	15
YMD8506R	04-33.2126-111.6344-4-52-000	7.7	900	1.80	-5	-2	25	1.9	104	56	-1	56	-30	-2	-4	4
YMD8507R	04-33.0031-111.5047-4-52-000	7.0	2100	2.60	-5	-2	152	1.6	222	127	-1	174	-30	-2	-4	17
YMD8508R	04-33.0098-111.5576-4-52-000	6.8	2200	2.60	12	2	106	-0.5	235	109	-1	230	-30	-2	-4	17
YMD8509R	04-33.0256-111.5947-4-52-000	7.1	950	2.30	-5	-2	84	1.1	146	86	-1	87	-30	-2	-4	7
YMD8510R	04-33.1482-111.5152-4-52-000	7.3	1000	1.80	7	-2	28	1.3	136	45	-1	96	-30	-2	4	4
YMD8511R	04-33.1624-111.5500-4-52-000	7.4	1000	2.00	-5	-2	14	2.1	120	27	-1	72	-30	-2	-4	2
YMD8512R	04-33.2168-111.6001-4-52-000	7.5	725	1.00	-5	-2	52	1.1	65	27	-1	42	-30	-2	4	6
YMD8513R	04-33.2262-111.5628-4-52-000	7.5	800	1.80	-5	-2	29	1.2	95	42	-1	68	-30	-2	-4	3
YMD8514R	04-33.2125-111.5288-4-52-000	7.6	850	1.30	-5	-2	11	1.0	90	28	-1	66	-30	-2	-4	-2
YMD8515R	04-33.2051-111.5416-4-52-000	7.4	1000	1.90	-5	-2	26	1.2	105	54	-1	84	-30	-2	-4	3
YMD8516R	04-33.2285-111.5285-4-52-000	7.5	800	1.00	-5	-2	25	1.0	77	29	-1	70	-30	-2	-4	2
YMD8517R	04-33.2119-111.6170-4-52-000	7.8	900	1.80	9	-2	34	3.1	103	51	-1	51	-30	-2	6	3
YMD8518R	04-33.1179-111.7417-4-52-000	8.5	900	1.40	-5	-2	22	4.0	366	6	-1	45	-30	-2	-4	6
YMD8519R	04-33.1069-111.7465-4-52-000	8.2	1000	1.90	-5	-2	96	4.1	203	54	-1	69	-30	-2	8	9
YMD8520R	04-33.0925-111.6861-4-52-000	7.8	2700	3.60	-5	-2	101	0.5	505	34	-1	173	-30	-2	-4	21
YMD8521R	04-33.0682-111.6807-4-52-000	9.1	1600	0.90	-5	-2	41	2.0	554	7	-1	74	-30	-2	-4	4
YMD8522R	04-33.0349-111.5837-4-52-000	8.0	1400	1.90	-5	-2	53	1.7	169	128	-1	105	-30	2	-4	9
YMD8501R	04-33.1431-111.4945-4-52-000	7.8	900	1.70	-5	-2	118	1.7	120	24	-1	62	-30	-2	-4	3
YMD8502R	04-33.1646-111.4962-4-52-000	7.7	900	1.90	-5	-2	92	1.3	116	28	-1	63	-30	-2	-4	3
YMD8503R	04-33.1610-111.4399-4-52-000	8.2	800	1.60	-5	-2	264	4.0	122	16	-1	39	-30	-2	5	116
YMD8504R	04-33.1328-111.4044-4-52-000	7.9	1000	2.00	-5	-2	58	0.8	129	14	-1	56	-30	-2	5	29
YMD8505R	04-33.1913-111.4926-4-52-000	7.3	700	1.50	-5	-2	45	0.5	107	32	-1	74	-30	-2	-4	147
YMD8506R	04-33.0010-111.4737-4-52-000	7.9	1300	2.00	8	-2	48	1.7	165	83	-1	87	-30	-2	-4	5
YMD8507R	04-33.0151-111.4296-4-52-000	6.5	2300	3.80	-5	-2	50	0.7	535	110	-1	225	-30	-2	-4	12
YMD8508R	04-33.0512-111.3958-4-52-000	7.6	1200	2.30	-5	2	41	1.5	158	23	-1	103	-30	-2	-4	5
YMD8509R	04-33.0490-111.4357-4-52-000	7.5	1900	2.30	-5	-2	55	1.0	171	84	-1	172	-30	-2	-4	8

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI P SC SE SR TI V Y ZN AND ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL	I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
MMCE504R	2390	2.3	11	19.4	799	-4	36.9	-4	17	139	-1.0	0.2	10.9	415	4	-4	1	127	-2	
MMCE506R	1546	4.9	39	24.3	112	-4	36.4	-4	-4	42	-1.0	0.3	9.9	407	5	-4	-1	170	-2	
MMCE507R	503	5.1	28	33.7	25	-4	31.8	-4	5	-40	-1.0	0.3	10.8	289	3	-4	-1	559	-2	
MMCE508R	1137	7.9	9	88.6	33	-4	46.7	-4	-4	71	-1.0	0.2	16.6	501	9	-4	-1	-4	-2	
MMCE509R	7016	1.2	15	21.1	79	4	42.0	-4	5	53	5.0	0.2	5.7	225	14	-4	6	678	2	
MMCE510R	727	1.5	8	19.3	14	4	22.9	-4	-4	54	-1.0	-0.2	13.4	270	10	6	1	43	-2	
MMCE511R	-10	2.2	10	40.8	20	6	21.6	-4	4	-40	-1.0	0.3	13.5	546	3	-4	-1	630	-2	
MMCE512R	155	0.9	3	7.5	7	13	10.5	-4	-4	43	-1.0	-0.2	12.6	102	7	-4	-1	49	-2	
MMCE513R	189	1.1	8	4.5	8	4	12.2	9	4	107	-1.0	-0.2	14.3	95	7	-4	1	-4	-2	
MMCE514R	185	0.8	5	7.9	3	-4	17.7	-4	6	-40	-1.0	0.3	11.4	189	2	-4	1	376	-2	
MMCE515R	189	2.9	43	64.7	10	-4	122.7	-4	6	-40	-1.0	0.5	19.0	961	9	11	-1	2125	-2	
MMCE516R	309	17.2	44	42.9	4551	84	91.2	8	22	349	1.0	0.4	15.8	1523	11	4	1	129	2	
MMCE517R	64	29.8	10	13.8	12	-4	58.4	8	7	593	-1.0	0.5	13.5	364	3	9	-1	1816	2	
MMCE518R	-10	1.7	29	16.4	2	-4	33.0	-4	-4	-40	-1.0	0.4	17.3	991	2	-4	-1	55	-2	
MMCE519R	117	1.3	8	4.6	6	-4	10.8	-4	-4	42	-1.0	-0.2	11.0	117	6	-4	-1	105	-2	
MMCE520R	-10	5.4	76	81.4	5	-4	25.1	-4	7	-40	1.0	0.3	18.8	1205	3	7	1	12	-2	
MMCE521R	-10	2.0	31	34.6	4	7	24.0	-4	-4	-40	-1.0	0.3	12.9	341	2	-4	-1	209	-2	
MMCE522R	65	1.0	75	25.4	45	-4	7.1	4	4	-40	-1.0	0.2	20.4	320	4	5	6	54	3	
MMCE523R	-10	5.8	10	21.8	23	7	18.6	-4	5	214	-1.0	0.4	18.9	713	3	5	1	111	2	
MMCE524R	-10	2.1	19	4.5	6	5	22.5	18	-4	545	1.0	0.6	24.4	327	4	5	2	117	5	
MMCE525R	401	1.7	6	14.0	16	6	56.8	6	11	233	-1.0	0.3	18.4	235	21	8	1	-4	2	
MMCE526R	88	2.2	29	38.6	12	10	85.8	8	6	67	-1.0	0.5	14.4	606	3	14	1	58	2	
MMCE527R	-10	2.4	16	31.7	2	9	34.3	-4	-4	64	-1.0	0.4	20.9	296	-2	16	1	-4	-2	
MMDB501R	-10	4.6	67	17.9	7	-4	95.1	-4	4	-40	2.0	-0.2	13.9	888	6	7	2	8	-2	
MMDB502R	-10	5.6	96	10.7	5	-4	86.2	-4	6	-40	-1.0	-0.2	16.0	642	3	10	-1	-4	-2	
MMDB503R	-10	5.8	112	12.6	3	-4	96.3	-4	-4	-40	-1.0	0.2	16.0	737	3	14	-1	-4	-2	
MMDB504R	-10	4.5	85	8.0	3	-4	118.9	4	7	-40	1.0	-0.2	11.1	672	4	28	-1	-4	-2	
MMDB505R	59	4.6	83	9.2	5	-4	124.8	-4	-4	-40	1.0	-0.2	12.0	619	4	20	-1	-4	-2	
MMDB506R	-10	5.3	89	10.3	9	6	93.9	-4	-4	-40	-1.0	-0.2	15.7	603	4	11	-1	-4	-2	
MMDB507R	94	7.3	189	34.4	12	-4	199.0	-4	7	-40	1.0	-0.2	16.0	1655	9	-4	-1	6	-2	
MMDB508R	146	10.8	229	44.1	22	7	213.0	-4	8	71	1.0	-0.2	15.3	2992	10	6	1	1557	-2	
MMDB509R	1081	5.0	124	15.5	18	-4	146.2	-4	-4	-40	-1.0	-0.2	11.4	1188	5	9	-1	75	-2	
MMDB510R	-10	5.4	110	20.3	5	-4	123.1	6	-4	-40	-1.0	-0.2	14.6	837	4	12	1	-4	-2	
MMDB511R	-10	4.8	95	14.0	2	-4	106.2	-4	-4	-40	-1.0	-0.2	14.4	653	3	16	-1	-4	-2	
MMDB512R	-10	4.3	62	4.9	3	-4	93.2	-4	-4	-40	-1.0	-0.2	13.4	439	3	10	-1	-4	-2	
MMDB513R	-10	6.2	75	12.7	2	-4	74.6	-4	-4	-40	-1.0	-0.2	15.7	760	3	10	-1	-4	-2	
MMDB514R	-10	5.7	55	11.3	2	-4	75.6	4	7	-40	-1.0	-0.2	15.9	610	3	9	-1	-4	-2	
MMDB515R	-10	6.0	73	16.7	2	5	94.4	-4	-4	-40	-1.0	0.5	15.0	843	3	7	-1	-4	-2	
MMDB516R	-10	5.7	42	11.5	2	-4	61.2	7	-4	-40	-1.0	0.3	15.6	719	3	10	-1	-4	-2	
MMDB517R	-10	4.7	83	9.1	2	-4	92.2	14	-4	-40	-1.0	0.4	14.8	577	3	20	-1	-4	2	
MMDB518R	34	3.2	141	4.2	3	11	130.5	7	-4	-40	-1.0	-0.2	15.5	427	3	11	-1	-4	-2	
MMDB519R	167	3.0	103	10.4	4	7	128.2	-4	5	-40	1.0	0.3	17.4	1106	6	17	-1	69	-2	
MMDB520R	287	5.1	220	39.6	48	24	308.7	-4	-4	-40	1.0	-0.2	16.3	2046	8	-4	-1	1116	-2	
MMDB521R	-10	4.7	237	1.4	4	49	189.6	-4	-4	-40	-1.0	0.4	12.8	1128	3	7	-1	-4	-2	
MMDB522R	-10	5.4	132	18.2	3	-4	144.1	10	4	-40	1.0	0.3	13.5	1331	5	10	-1	134	-2	
MMDC501R	41	4.7	84	10.9	4	-4	93.4	-4	-4	-40	-1.0	-0.2	13.3	582	5	15	-1	-4	-2	
MMDC502R	40	4.7	79	13.1	3	4	91.0	-4	-4	-40	-1.0	-0.2	14.7	596	5	11	-1	-4	-2	
MMDC503R	389	4.6	73	7.9	10	-4	108.1	-4	-4	-40	-1.0	-0.2	15.1	405	9	23	-1	-4	-2	
MMDC504R	20	4.2	100	10.5	3	-4	106.4	9	-4	-40	-1.0	0.3	15.3	502	6	11	-1	-4	-2	
MMDC505R	145	6.1	61	12.8	27	-4	70.1	-4	10	-40	-1.0	-0.2	15.3	703	3	5	-1	-4	-2	
MMDC506R	-10	5.5	114	14.1	2	-4	125.9	-4	-4	-40	1.0	0.3	15.2	1173	5	9	-1	-4	-2	
MMDC507R	-10	7.4	221	43.0	14	-4	212.2	6	-4	-40	1.0	-0.2	18.0	1854	7	4	-1	771	-2	
MMDC508R	-10	4.9	130	21.5	3	-4	114.9	-4	-4	-40	-1.0	-0.2	15.9	864	4	7	-1	23	-2	
MMDC509R	29	5.8	166	31.4	4	-4	144.7	-4	4	-40	1.0	-0.2	15.4	1331	7	5	-1	-4	-2	

APPENDIX II TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA---GROUND WATER--- MESA SHEET
 ELEMENTAL CONCENTRATIONS IN PPB. ALK IN MEQ/L. COND IN UM/CM.

SRL I.D.	DOE I.D.	PH	COND	ALK	TH	AG	AL	AS	B	BA	BE	CA	CE	CO	CR	CU
MMDC51JR	04-33.0433-111.4771-4-52-000	7.6	2100	2.10	7	-2	86	1.2	195	92	-1	214	-30	-2	4	6
MMDC511R	04-33.0266-111.3869-4-52-000	8.8	800	1.50	8	-2	46	1.7	107	10	-1	70	-30	-2	-4	6
MMDC512R	04-33.1035-111.4576-4-52-000	7.4	1700	1.40	-5	-2	80	1.3	125	60	-1	161	-30	-2	-4	5
MMDC513R	04-33.1180-111.4563-4-52-000	7.3	1500	1.60	5	-2	53	1.4	121	30	-1	122	-30	3	4	5
MMDC514R	04-33.2166-111.3586-4-52-000	8.5	650	1.80	-5	-2	62	2.5	104	28	-1	60	-30	-2	4	61
MMDC515R	04-33.1226-111.3126-4-52-000	7.4	900	2.00	9	2	11	0.6	127	6	-1	78	-30	2	4	13
MMDC516R	04-33.1034-111.2724-4-52-000	7.3	1400	2.20	18	4	-10	2.6	202	29	-1	106	-30	2	5	8
MMDC517R	04-33.0825-111.3296-4-52-000	7.2	4100	3.70	13	2	73	1.6	1349	77	-1	416	-30	-2	4	34
MMDC518R	04-33.0341-111.3541-4-52-000	7.4	1350	2.70	-5	2	41	1.3	285	44	-1	147	-30	-2	-4	9
MMDC519R	04-33.0532-111.3441-4-52-000	7.4	1625	2.30	-5	-2	25	1.0	202	61	-1	186	-30	-2	-4	13
MMDC520R	04-33.0703-111.3185-4-52-000	7.3	1525	2.30	8	-2	10	1.7	223	28	-1	132	-30	-2	-4	2
MMDD501R	04-33.2270-111.2045-4-53-000	7.4	525	2.30	6	-2	32	1.1	81	205	-1	76	-30	-2	-4	10
MMDD502R	04-33.1994-111.2451-4-52-000	7.3	1200	4.80	7	-2	58	1.0	144	137	-1	120	-30	-2	-4	16
MMDD503R	04-33.2200-111.1488-4-52-000	7.3	650	4.10	14	3	33	1.3	70	78	-1	91	-30	-2	4	9
MMDD504R	04-33.1586-111.1872-4-52-000	8.1	800	2.30	9	2	13	-0.5	139	43	-1	62	-30	2	-4	14
MMDD505R	04-33.1635-111.1603-4-52-000	7.8	500	2.20	-5	-2	37	2.6	80	148	-1	64	-30	-2	-4	15
MMDD506R	04-33.0480-111.2273-4-52-000	7.7	2600	4.10	-5	-2	58	3.5	401	51	-1	176	-30	-2	-4	16
MMDD507R	04-33.1034-111.0869-4-53-000	7.9	1250	4.10	7	2	87	2.8	166	154	-1	132	-30	-2	-4	11
MMDD508R	04-33.2364-111.0526-4-53-000	7.3	320	2.70	8	2	117	5.5	39	51	-1	85	-30	2	-4	8
MMDD509R	04-33.0103-111.0647-4-7-000	6.9	600	3.10	-5	-2	14	1.4	90	29	-1	93	-30	-2	-4	2
MMDD510R	04-33.2372-111.0154-4-53-000	7.8	600	3.90	23	5	67	0.5	40	30	-1	103	43	3	8	6
MMDD511R	04-33.2104-111.1144-4-53-000	7.8	230	1.10	12	4	145	3.9	34	4	-1	18	-30	-2	5	11
MMDD512R	04-33.2333-111.0941-4-52-000	7.1	600	3.00	-5	-2	81	1.4	49	37	-1	72	-30	-2	-4	8
MMDD513R	04-33.1925-111.0468-4-53-000	6.8	500	3.30	9	2	59	0.6	79	93	-1	72	-30	-2	-4	24
MMDE501R	04-33.1687-110.9731-4-53-000	8.0	560	4.20	71	5	12	1.1	39	37	-1	67	42	4	7	9
MMDE502R	04-33.1982-110.9924-4-52-000	8.8	600	3.30	7	-2	31	6.0	172	6	-1	10	-30	-2	-4	9
MMDE503R	04-33.1049-110.9624-4-52-000	7.1	4490	4.90	256	6	79	2.3	421	52	1	370	110	13	11	19
MMDE504R	04-33.1131-110.9124-4-53-000	7.5	1140	4.30	142	7	-10	1.8	102	87	-1	162	87	8	11	7
MMDE505R	04-33.0830-110.9267-4-52-000	8.1	458	3.80	44	2	23	-0.5	78	163	-1	47	-30	3	5	5
MMDE506R	04-33.0414-110.8843-4-52-000	7.5	2750	3.40	226	10	35	1.1	295	138	-1	258	128	14	14	13
MMDE507R	04-33.0835-110.8708-4-53-000	8.3	910	3.20	103	2	34	3.9	103	42	-1	116	42	5	5	10
MMDE508R	04-33.0481-110.8430-4-53-000	7.3	2250	2.20	281	6	29	8.4	79	35	-1	457	146	9	11	12
MMDE509R	04-33.1022-110.7522-4-52-000	7.4	700	3.00	111	5	14	2.4	72	41	-1	117	65	7	11	8
MMDE510R	04-33.1083-110.7712-4-52-000	7.6	570	4.90	70	2	-10	0.5	52	40	-1	79	-30	4	5	44
MMDE511R	04-33.1949-110.8040-4-52-000	7.4	800	6.90	118	7	41	1.0	92	29	1	118	67	11	10	39
MMDE512R	04-33.2225-110.7910-4-52-000	7.9	610	4.10	99	7	126	-0.5	66	66	-1	108	60	12	9	48
MMDE513R	04-33.1483-110.8402-4-52-000	7.2	510	3.20	56	3	27	-0.5	41	13	-1	59	34	5	7	21
MMDE514R	04-33.2303-110.8558-4-53-000	7.0	428	3.30	48	-2	41	0.5	42	130	-1	62	-30	-2	-4	47
MMDE515R	04-33.2339-110.7751-4-53-000	7.3	420	2.20	56	2	39	1.8	28	72	-1	57	-30	4	4	17
MMDE516R	04-33.1506-110.8111-4-52-000	7.7	413	3.50	49	-2	41	-0.5	28	23	-1	62	-30	3	-4	4
MMDE517R	04-33.1633-110.8767-4-52-000	7.8	487	5.30	39	-2	61	0.7	33	48	-1	63	-30	2	-4	10
MMDE518R	04-33.1897-110.8830-4-52-000	7.4	461	3.30	67	5	-10	-0.5	34	12	-1	71	40	8	5	3
MMDE519R	04-33.1834-110.9317-4-53-000	7.3	590	5.40	80	6	17	-0.5	42	37	-1	81	43	5	6	6
MMDE520R	04-33.2302-110.8820-4-53-000	7.5	690	6.10	74	5	40	-0.5	90	43	-1	85	-30	8	6	4
MMDE521R	04-33.2363-110.9386-4-52-000	8.0	432	3.80	6	-2	21	-0.5	34	23	-1	61	-30	-2	-4	19

APPENDIX 11 TABULATION OF KEY FIELD MEASUREMENTS AND ANALYTICAL DATA--- GROUND WATER---
 FE LI MN MO NB NI P SC SE SR TI V Y ZN AND ZR CONCENTRATIONS IN PPB.
 CA K MG NA AND SI CONCENTRATIONS IN PPM.

MESA SHEET

SRL	I.D.	FE	K	LI	MG	MN	MO	NA	NB	NI	P	SC	SE	SI	SR	TI	V	Y	ZN	ZR
MMDC510R		357	6.2	150	38.9	17	6	146.6	-4	4	-40	1.0	0.3	15.4	1690	9	7	-1	-4	-2
MMDC511R	1826	4.1	66	13.8		40	-4	65.8	5	7	-40	1.0	0.5	11.1	556	4	4	-1	8	-2
MMDC512R	31	5.5	138	29.2		6	-4	135.5	-4	7	-40	-1.0	0.2	13.9	1274	6	4	-1	-4	-2
MMDC513R	100	5.4	115	23.5		4	8	116.5	-4	6	-40	-1.0	0.3	13.8	1054	4	15	-1	-4	-2
MMDC514R	738	4.0	51	12.6		19	-4	64.5	-4	-4	-40	-1.0	-0.2	16.1	578	4	18	-1	-4	-2
MMDC515R	640	5.4	59	17.1		15	10	64.8	4	4	-40	1.0	-0.2	13.2	630	4	10	1	151	2
MMDC516R	87	4.4	149	21.9		4	11	121.2	-4	8	-40	1.0	0.4	17.0	733	4	17	1	24	4
MMDC517R	566	10.0	214	77.1		19	-4	262.9	-4	-4	-40	2.0	0.4	17.4	4486	14	12	1	1489	-2
MMDC518R	217	4.6	131	25.1		5	-4	121.8	-4	-4	-40	1.0	0.3	14.7	1151	7	-4	-1	-4	-2
MMDC519R	178	5.4	173	36.2		7	-4	140.8	-4	-4	-40	1.0	0.4	15.6	1265	5	-4	-1	-4	-2
MMDC520R	-10	5.2	163	28.7		2	-4	159.2	-4	4	-40	1.0	0.3	15.6	975	4	4	-1	452	-2
MMDD501R	57	4.5	24	19.4		3	-4	31.9	-4	-4	42	-1.0	0.3	9.8	372	3	-4	-1	-4	-2
MMDD502R	985	4.4	66	38.1		12	-4	78.9	-4	4	-40	-1.0	0.2	17.2	905	4	10	-1	766	-2
MMDD503R	230	2.5	39	31.9		14	6	48.6	-4	8	51	1.0	0.3	13.7	327	5	6	1	176	4
MMDD504R	106	2.5	99	18.8		13	-4	92.1	7	-4	-40	1.0	0.6	12.8	1337	3	-4	1	67	-2
MMDD505R	100	9.9	26	18.0		5	-4	31.1	-4	-4	41	-1.0	0.2	13.6	496	3	-4	-1	34	-2
MMDD506R	148	6.2	131	42.6		40	-4	282.1	-4	-4	-40	1.0	0.5	20.0	2025	5	18	-1	88	-2
MMDD507R	165	3.1	82	35.7		10	-4	124.8	-4	-4	101	1.0	0.5	24.6	2090	9	15	1	-4	-2
MMDD508R	60	2.1	4	5.8		5	-4	4.2	5	-4	-40	-1.0	0.5	4.9	184	4	-4	1	167	-2
MMDD509R	-10	2.7	37	16.7		5	10	37.7	8	-4	-40	1.0	0.2	16.4	576	2	4	-1	1337	-2
MMDD510R	136	0.7	8	52.8		5	6	7.7	17	6	-40	1.0	0.3	7.0	210	4	12	2	15	5
MMDD511R	116	7.2	11	3.0		10	4	27.9	5	8	136	-1.0	0.4	25.3	14	5	11	1	36	4
MMDD512R	10	5.4	14	24.5		4	-4	25.2	-4	4	-40	-1.0	0.3	27.2	324	4	12	-1	163	-2
MMDD513R	179	1.9	8	32.8		5	-4	13.8	-4	8	68	1.0	0.3	7.8	256	5	-4	2	298	-2
MMDE501R	-10	2.5	11	30.1		2	9	18.1	17	13	-40	1.0	0.2	8.7	139	4	20	2	-4	3
MMDE502R	373	2.1	44	2.4		4	25	121.7	-4	-4	-40	-1.0	0.4	10.3	57	2	-4	-1	-4	-2
MMDE503R	18	6.1	179	151.1		20	24	404.3	51	16	92	1.0	0.4	26.9	2010	10	58	5	175	7
MMDE504R	-10	5.5	19	65.6		5	37	80.4	30	10	-40	1.0	0.4	15.0	870	6	25	3	35	6
MMDE505R	-10	7.0	81	25.0		3	-4	45.9	5	11	-40	-1.0	0.4	17.9	529	2	9	1	51	-2
MMDE506R	-10	10.2	143	58.7		4213	21	296.6	46	14	65	1.0	0.2	12.2	2283	8	34	4	41	10
MMDE507R	-10	6.4	26	80.5		166	12	47.6	22	10	-40	1.0	0.4	17.8	435	3	32	2	19	3
MMDE508R	-10	3.3	49	81.2		12	18	38.2	44	14	-40	1.0	0.3	19.0	2503	8	56	5	33	6
MMDE509R	-10	1.4	26	40.3		6	15	30.6	21	11	-40	1.0	0.4	18.1	613	4	33	3	-4	6
MMDE510R	-10	1.3	18	35.2		10	5	28.5	19	4	42	-1.0	-0.2	16.4	381	3	20	1	1688	-2
MMDE511R	72	1.9	6	61.8		10	6	36.4	24	8	48	1.0	0.2	16.3	428	5	26	3	155	5
MMDE512R	67	3.0	12	45.0		16	8	39.9	23	25	56	1.0	0.2	16.0	464	6	17	2	35	8
MMDE513R	-10	2.2	25	34.9		5	17	21.3	20	9	44	1.0	0.3	14.9	368	4	19	2	1053	3
MMDE514R	-10	4.9	16	27.0		3	5	20.6	13	-4	-40	-1.0	0.2	10.9	225	-2	7	1	63	-2
MMDE515R	15	1.5	15	20.7		4	-4	37.1	-4	-4	51	-1.0	0.3	15.1	422	2	9	1	26	-2
MMDE516R	32	1.4	3	29.1		13	-4	24.2	4	4	40	-1.0	0.3	12.0	240	-2	10	-1	139	-2
MMDE517R	-10	2.3	18	39.0		4	4	20.0	-4	4	-40	-1.0	0.2	16.1	422	-2	16	-1	157	-2
MMDE518R	23	1.7	14	22.4		6	5	19.7	10	-4	-40	1.0	0.3	14.4	277	4	12	1	76	4
MMDE519R	-10	3.2	5	40.2		5	13	10.8	25	10	-40	1.0	0.2	9.4	206	3	18	2	35	5
MMDE520R	-10	4.7	13	51.4		21	16	25.2	20	13	52	-1.0	0.5	17.6	211	3	24	2	-4	3
MMDE521R	13	0.8	4	34.9		11	-4	23.6	4	4	-40	-1.0	-0.2	13.8	285	2	5	-1	34	-2

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