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Sediment magnetic, Paleomagnetic, and Geochemical Data from Quaternary Lacustrine Sediment in a Core from Grass Lake , Siskiyou County, California

by

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INTRODUCTION

As part of the U.S. Geological Survey's Global Change and Climate History Program, sediment magnetic, paleomagnetic and geochemical results have been obtained from lacustrine sediments recovered in a 30- meter core taken by rotary drilling methods at Grass Lake, Siskiyou County, California. The data, presented in five tables here, have been analyzed and interpreted in terms of environmental change in the Grass Lake catchment over the past ca. 100,000 years for a Master's thesis by Best (1996). Volcanic activity in the catchment was identified as a factor that influenced the magnetic mineralogy and geochemical properties of the sediment. The magnetic and geochemical results will further be compared to detailed pollen analysis, currently undertaken by Katherine Hakala (University of Pittsburgh) and Prof. Cathy Whitlock (University of Oregon), to test the possibility that variations in the magnetic mineralogy are related to paleoclimatic change and associated watershed processes. This report also describes the methods used to obtain the magnetic and geochemical results. The site, drilling procedure, and core lithology are described by Adam et al. (1994).

METHODS

Samples (Table 1): Samples used for paleomagnetic directions, magnetic susceptibility, and laboratory induced magnetizations were taken approximately every 5 cm. The majority of the core was soft, and an empty cube with a volume of 3.2 cm^3 oriented with respect to the top of the core could be inserted directly into the sediment. The cube was then carved out of the core and sealed. To sample drier sections of core, a pedestal of sediment was carved over which the cube could be inserted. Each cube was assigned a sample number and a sample box number. Sediment displaced during sampling was placed into vials and assigned a unique vial number. Approximately every 100 cm, a 10 to 20 cm interval of sediment was collected and stored in bags for magnetic mineral separations.

Paleomagnetic Directions (Table 2): Natural Remanent Magnetization (NRM) was measured on oriented samples using a 90-Hz spinner magnetometer with a sensitivity better than 10^{-5} A/m. Samples were demagnetized in steps through alternating-field (AF) demagnetization with peak fields of 5, 10, 15, 20, 30, 40, 60 and 80 milliTeslas (mT). Declination and inclination were calculated from a best fit line of the demagnetization data displayed as orthogonal vector diagrams as described in Kirschvink (1980).

Magnetic Susceptibility (Table 3): Volume susceptibility (MS) was measured using a susceptometer with a sensitivity better than 10^{-5} volume SI. Samples were measured in a 0.1 mT induction at a low frequency of 600 Hz (MS_{lf}) and high frequency of 6000 Hz (MS_{hf}). For each sample, the MS value was determined as the mean of four measurements. Frequency dependent susceptibility was calculated as:

$$FDMS=(MS_{lf}-MS_{hf})/MS_{lf}.$$

Laboratory induced magnetization (Table 3): After the paleomagnetic analysis, anhysteretic remanent magnetization (ARM) and isothermal remanent magnetization (IRM) experiments were conducted. Magnetizations were measured with a high speed spinner magnetometer. ARM was imparted in a decreasing AF from a peak induction of 100 mT and a DC bias of 0.1 mT. IRM magnetizations were generated at room temperature using an impulse magnetizer. First IRM was imparted in a 1.2T induction ($IRM_{1.2T}$). The samples were then magnetized in the opposite direction using an induction of 0.3T ($IRM_{-0.3T}$). Hard isothermal remanent magnetization (HIRM) and the S-parameter were calculated as follows (King and Channel, 1991):

$$HIRM=(IRM_{1.2T}+IRM_{-0.3T})/2$$

$$S=IRM_{-0.3T}/IRM_{1.2T}$$

Elemental Abundance (Tables 4 and 5): Elemental abundances were determined on selected samples using energy dispersive X-ray fluorescence analysis at the University of Colorado's Department of Geological Sciences. Contents of Cr, Cu, Fe, Mn, Mo, Nb, Ni, Rb, Sr, Ti, V, Y, Zn and Zr were measured. Organic carbon was determined on selected samples as the difference between total and inorganic carbon. Sample splits were combusted in oxygen for 5 minutes at 960°C. Total CO_2 was measured using a coulometer. Inorganic carbon was then determined through acidification with perchloric acid and measured with a coulometer (Engleman et al., 1985).

REFERENCES

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Engleman, E.E., Jackson, L.L., Norton, D.R. and Fischer, A. G., 1985, Determination of carbonate carbon in geological materials by coulometric titration: Chemical Geology, v. 53, p. 125-128.

King, J.W., and Channel, J.E.T., 1991, Sedimentary magnetism, environmental magnetism, and magnetostratigraphy: Reviews of Geophysics, Supplement, p. 358-370.

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TABLE 1. Sample Numbers and Depths.

Grass Lake Sample no.: A unique sample number assigned regardless of sample type.

Sample box no.: A unique sample number assigned to samples put into plastic cubes for magnetic mineral studies. The volume of each cube is 3.2 cubic centimeters.

Vial no.: A unique sample number assigned to sediment sample put into vials.

Drive no.: Identifies location in the core. The core was divided into drives numbered sequentially starting with 1 at the top. Some drives have been further divided into slugs indicated by letters, starting with A at the top of the drive.

Drive depth: The depth in meters of the top of the drive from the top of the core. Taken from Adam et al. (1994).

Depth interval of sample: The depth range of the sample within the drive.

Sample depth within drive (cm): Midpoint of the depth interval in centimeters.

Sample depth within drive (m): Midpoint of depth interval in meters.

Sample depth in core (m): Sample depth within drive (m) plus depth of drive from top of core.

Sample density (kg/m^3): Density of sample calculated from the mass of the dried box samples used in magnetic mineral studies.

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50238	1		1A	0	18-19.5	18.75	0.1875	0.1875	1322.5
50239	2		1A	0	22.5-24.5	23.5	0.235	0.235	1315.1
50240	3		1A	0	27.5-29	28.25	0.2825	0.2825	1299.9
50241	4		1A	0	33-34	33.5	0.335	0.335	1299.1
50242	5		1A	0	37-39	38	0.38	0.38	929.5
50243	6		1A	0	44-45.5	44.75	0.4475	0.4475	973.5
50244	7		2A	0.61	2.5-5	3.75	0.0375	0.6475	1099.4
50245	8		2A	0.61	9-11	10	0.1	0.71	1208.2
50246	9		2A	0.61	14.5-16	15.25	0.1525	0.7625	1166.1
50247	10		2A	0.61	21-22.5	21.75	0.2175	0.8275	690.9
50248	11		2A	0.61	26-28	27	0.27	0.88	1143.0
10936		10936	2A	0.61	26-29	27.5	0.275	0.885	
50249	12		2A	0.61	31-32.5	31.75	0.3175	0.9275	1143.0
50250	13		2A	0.61	36.5-38	37.25	0.3725	0.9825	1217.4
50251	14		2A	0.61	42.5-44	43.25	0.4325	1.0425	1060.9
50252	15		2A	0.61	48-50	49	0.49	1.1	1083.5
50253	16		2A	0.61	55-57	56	0.56	1.17	1088.6
50254	17		4A	1.27	3.5-5	4.25	0.0425	1.3125	928.6
50255	18		4A	1.27	11-12.5	11.75	0.1175	1.3875	920.9
50256	19		4A	1.27	19-20.5	19.75	0.1975	1.4675	917.8
50257	20		4A	1.27	27-29	28	0.28	1.55	892.0
50258	21		4A	1.27	33-35	34	0.34	1.61	870.6
50259	22		4A	1.27	38.5-40	39.25	0.3925	1.6625	875.2
10957		10957	4A	1.27	37-42	39.5	0.395	1.665	
10958		10958	4A	1.27	37-42	39.5	0.395	1.665	
50260	23		4A	1.27	45.5-47	46.25	0.4625	1.7325	825.0
50261	24		4A	1.27	51.5-53	52.25	0.5225	1.7925	786.1
50262	25		4A	1.27	56.5-58	57.25	0.5725	1.8425	955.5
50263	26		4A	1.27	63.5-65	64.25	0.6425	1.9125	956.5
50264	27		5A	2.13	21.5-23	22.25	0.2225	2.3525	919.9
50265	28		5A	2.13	26.5-28	27.25	0.2725	2.4025	830.6
50266	29		5A	2.13	33-34.5	33.75	0.3375	2.4675	766.6
50267	30		5A	2.13	37.5-39	38.25	0.3825	2.5125	828.8
10975		10975	5A	2.13	41.5-45	43.25	0.4325	2.5625	
10976		10976	5A	2.13	41.5-45	43.25	0.4325	2.5625	
50268	31		5A	2.13	42.5-44	43.25	0.4325	2.5625	723.2
50269	32		5A	2.13	47.5-49	48.25	0.4825	2.6125	740.8
50270	33		5A	2.13	52.5-54	53.25	0.5325	2.6625	685.2
50271	34		5A	2.13	58-59.5	58.75	0.5875	2.7175	629.6
50272	35		5A	2.13	64-65.5	64.75	0.6475	2.7775	782.3
50273	36		5A	2.13	70-71.5	70.75	0.7075	2.8375	734.9
50274	37		6A	2.89	19-20.5	19.75	0.1975	3.0875	830.1
10987		10987	6A	2.89	19-22	20.5	0.205	3.095	
50275	38		6A	2.89	24.5-26	25.25	0.2525	3.1425	646.6
10989		10989	6A	2.89	23.5-27.5	25.5	0.255	3.145	
10990		10990	6A	2.89	23.5-27.5	25.5	0.255	3.145	
50276	39		6A	2.89	31-32.5	31.75	0.3175	3.2075	1474.2
10991		10991	6A	2.89	30-34	32	0.32	3.21	
10992		10992	6A	2.89	30-34	32	0.32	3.21	
50277	40		6A	2.89	33.5-35	34.25	0.3425	3.2325	1476.1
50278	41		6A	2.89	42.5-44	43.25	0.4325	3.3225	1548.5

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10995		10995	6A	2.89	41.5-45.5	43.5	0.435	3.325	
10996		10996	6A	2.89	41.5-45.5	43.5	0.435	3.325	
50279	42		6A	2.89	47.5-49	48.25	0.4825	3.3725	1548.5
50280	43		6A	2.89	53-54.5	53.75	0.5375	3.4275	1592.7
50281	44		6A	2.89	58.5-60	59.25	0.5925	3.4825	1652.3
50282	45		7A	3.35	5-6.5	5.75	0.0575	3.4075	1365.2
50283	46		7A	3.35	10-11.5	10.75	0.1075	3.4575	1365.2
50284	47		7A	3.35	25-26.5	25.75	0.2575	3.6075	1365.2
50285	48		7A	3.35	30-31.5	30.75	0.3075	3.6575	1346.1
50286	49		7A	3.35	35-36.5	35.75	0.3575	3.7075	1300.6
11009		11009	7A	3.35	35-37	36	0.36	3.71	
50287	50		7A	3.35	40.5-42	41.25	0.4125	3.7625	1449.7
50288	51		7A	3.35	46-47.5	46.75	0.4675	3.8175	1276.9
50289	52		7A	3.35	51.5-53	52.25	0.5225	3.8725	1365.9
50290	53		7A	3.35	58-59.5	58.75	0.5875	3.9375	1300.4
50291	54		10A	4.07	10-11.5	10.75	0.1075	4.1775	1512.7
50292	55		10A	4.07	17-19	18	0.18	4.25	1531.3
50293	56		10A	4.07	23-24.5	23.75	0.2375	4.3075	1462.1
50294	57		10A	4.07	28-29.5	28.75	0.2875	4.3575	1466.6
50295	58		10A	4.07	34-35.5	34.75	0.3475	4.4175	1399.7
50296	59		10A	4.07	40-41.5	40.75	0.4075	4.4775	1522.5
50297	60		10A	4.07	46-47.5	46.75	0.4675	4.5375	1374.7
50298	61		10A	4.07	52-53.5	52.75	0.5275	4.5975	1402.0
50299	62		10A	4.07	58-59.5	58.75	0.5875	4.6575	1501.8
11023		11023	10A	4.07	64.5-66.5	65.5	0.655	4.725	
50300	63		10A	4.07	65-66.5	65.75	0.6575	4.7275	1570.2
50301	64		10A	4.07	72-73.5	72.75	0.7275	4.7975	1457.1
50302	65		10A	4.07	78.5-80	79.25	0.7925	4.8625	1412.2
50303	66		10A	4.07	87-88.5	87.75	0.8775	4.9475	1388.9
50304	67		10A	4.07	95-96.5	95.75	0.9575	5.0275	1415.6
50305	68		10A	4.07	100.5-102	101.25	1.0125	5.0825	1391.9
50306	69		10A	4.07	106-107.5	106.75	1.0675	5.1375	1433.4
50307	70		10A	4.07	113-115	114	1.14	5.21	1413.6
11030		11030	10A	4.07	113-115	114	1.14	5.21	
50308	71		10A	4.07	118-119.5	118.75	1.1875	5.2575	1490.7
50309	72		11A	5.49	10-11.5	10.75	0.1075	5.5975	1485.0
11032		11032	11A	5.49	10-12	11	0.11	5.6	
50310	73		11A	5.49	15-16.5	15.75	0.1575	5.6475	1056.4
50311	74		11A	5.49	20-21.5	20.75	0.2075	5.6975	959.8
50312	75		11A	5.49	25-26.5	25.75	0.2575	5.7475	957.5
50313	76		11A	5.49	30-31.5	30.75	0.3075	5.7975	974.5
50314	77		11A	5.49	35-36.5	35.75	0.3575	5.8475	935.2
50315	78		11A	5.49	40-41.5	40.75	0.4075	5.8975	1195.0
50316	79		11A	5.49	45-46.5	45.75	0.4575	5.9475	978.0
11039		11039	11A	5.49	45-47	46	0.46	5.95	
50317	80		11A	5.49	50-51.5	50.75	0.5075	5.9975	1233.0
50318	81		11A	5.49	55-56.5	55.75	0.5575	6.0475	1323.3
50319	82		11A	5.49	60-61.5	60.75	0.6075	6.0975	1203.5
50320	83		11A	5.49	65-66.5	65.75	0.6575	6.1475	1217.6
50321	84		11A	5.49	70-71.5	70.75	0.7075	6.1975	1398.4
11044		11044	11A	5.49	70-72	71	0.71	6.2	

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50322	85		11A	5.49	75-76.5	75.75	0.7575	6.2475	1096.5
50323	86		11A	5.49	80-81.5	80.75	0.8075	6.2975	1045.9
50324	87		11A	5.49	85-86.5	85.75	0.8575	6.3475	1043.7
50325	88		11A	5.49	90-91.5	90.75	0.9075	6.3975	1105.9
50326	89		11A	5.49	95-96.5	95.75	0.9575	6.4475	1170.0
50327	90		11A	5.49	100-101.5	100.75	1.0075	6.4975	704.6
50328	91		11A	5.49	105-106.5	105.75	1.0575	6.5475	685.1
11051		11051	11A	5.49	105-107	106	1.06	6.55	
50329	92		11A	5.49	111-112.5	111.75	1.1175	6.6075	699.3
50330	93		11A	5.49	115-116.5	115.75	1.1575	6.6475	751.6
50331	94		11A	5.49	120-121.5	120.75	1.2075	6.6975	830.0
50332	95		11A	5.49	128-129.5	128.75	1.2875	6.7775	699.3
11055		11055	11A	5.49	128-130	129	1.29	6.78	
50333	96		11A	5.49	134-135.5	134.75	1.3475	6.8375	662.5
50334	97		11A	5.49	139-140.5	139.75	1.3975	6.8875	699.0
50335	98		12A	7.01	4.5-6	5.25	0.0525	7.0625	1276.0
50336	99		12A	7.01	10-11.5	10.75	0.1075	7.1175	1237.4
50337	100		12A	7.01	15-16.5	15.75	0.1575	7.1675	1557.7
11060		11060	12A	7.01	15-17.5	16.25	0.1625	7.1725	
50338	101		12A	7.01	20-21.5	20.75	0.2075	7.2175	1430.2
50339	102		12A	7.01	25-26.5	25.75	0.2575	7.2675	1520.6
50340	103		12A	7.01	30-31.5	30.75	0.3075	7.3175	1557.2
50341	104		12A	7.01	35-36.5	35.75	0.3575	7.3675	1483.5
50342	105		12A	7.01	40-41.5	40.75	0.4075	7.4175	1492.7
50343	106		12A	7.01	45-46.5	45.75	0.4575	7.4675	1397.5
50344	107		12A	7.01	50-51.5	50.75	0.5075	7.5175	1749.8
11067		11067	12A	7.01	50-52.5	51.25	0.5125	7.5225	
50345	108		12A	7.01	55-56.5	55.75	0.5575	7.5675	1538.7
50346	109		12A	7.01	60-61.5	60.75	0.6075	7.6175	1475.2
50347	110		12A	7.01	65-66.5	65.75	0.6575	7.6675	1427.5
50348	111		12A	7.01	70-71.5	70.75	0.7075	7.7175	1540.3
50349	112		12A	7.01	75-76.5	75.75	0.7575	7.7675	1447.4
50350	113		12A	7.01	80-81.5	80.75	0.8075	7.8175	1510.5
50351	114		12A	7.01	85-86.5	85.75	0.8575	7.8675	1492.6
50352	115		12A	7.01	90-91.5	90.75	0.9075	7.9175	1505.2
11075		11075	12A	7.01	90-92.5	91.25	0.9125	7.9225	
50353	116		12A	7.01	95-96.5	95.75	0.9575	7.9675	1535.9
50354	117		12A	7.01	100-101.5	100.75	1.0075	8.0175	1543.6
50355	118		12B	8.01	5-6.5	5.75	0.0575	8.0675	1477.3
50356	119		12B	8.01	10-11.5	10.75	0.1075	8.1175	1408.1
50357	120		12B	8.01	15-16.5	15.75	0.1575	8.1675	1487.7
50358	121		12B	8.01	20-21.5	20.75	0.2075	8.2175	1377.6
50359	122		12B	8.01	25-26.5	25.75	0.2575	8.2675	1425.7
11082		11082	12B	8.01	25-27	26	0.26	8.27	
50360	123		12B	8.01	30-31.5	30.75	0.3075	8.3175	1393.3
50361	124		12B	8.01	35-36.5	35.75	0.3575	8.3675	1499.8
50362	125		12B	8.01	42-43.5	42.75	0.4275	8.4375	1485.6
50363	126		12B	8.01	47-48.5	47.75	0.4775	8.4875	1445.2
50364	127		12B	8.01	53-54.5	53.75	0.5375	8.5475	1463.4
50365	128		12B	8.01	58-59.5	58.75	0.5875	8.5975	1215.6
50366	129		12B	8.01	63-64.5	63.75	0.6375	8.6475	1159.4

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50367	130		12B	8.01	68-69.5	68.75	0.6875	8.6975	1303.9
50368	131		12B	8.01	73-74.5	73.75	0.7375	8.7475	827.1
50369	132		12B	8.01	78-79.5	78.75	0.7875	8.7975	916.8
11092		11092	12B	8.01	78-80	79	0.79	8.8	
50370	133		12B	8.01	83-84.5	83.75	0.8375	8.8475	1199.3
50371	134		12B	8.01	88-89.5	88.75	0.8875	8.8975	947.7
50372	135		12B	8.01	93-94.5	93.75	0.9375	8.9475	1072.4
50373	136		12B	8.01	98-99.5	98.75	0.9875	8.9975	1143.9
50374	137		12B	8.01	103-104.5	103.75	1.0375	9.0475	1069.4
11097		11097	12B	8.01	103-105	104	1.04	9.05	
50375	138		12B	8.01	108-109.5	108.75	1.0875	9.0975	1298.1
50376	139		12B	8.01	113-114.5	113.75	1.1375	9.1475	1255.7
50377	140		12B	8.01	118-119.5	118.75	1.1875	9.1975	1346.0
11100		11100	12B	8.01	118-120	119	1.19	9.2	
50378	141		12B	8.01	124-126	125	1.25	9.26	1495.3
11101		11101	12B	8.01	124-126	125	1.25	9.26	
50379	142		13A	9.53	8-9.5	8.75	0.0875	9.6175	838.9
50380	143		13A	9.53	15-16.5	15.75	0.1575	9.6875	871.9
11103		11103	13A	9.53	15-17	16	0.16	9.69	
50381	144		13A	9.53	20-21.5	20.75	0.2075	9.7375	812.9
11104		11104	13A	9.53	20-22.5	21.25	0.2125	9.7425	
50382	145		13A	9.53	25-26.5	25.75	0.2575	9.7875	747.1
11105		11105	13A	9.53	25-27.5	26.25	0.2625	9.7925	
50383	146		13A	9.53	30-31.5	30.75	0.3075	9.8375	708.7
50384	147		13A	9.53	35-36.5	35.75	0.3575	9.8875	675.1
11107		11107	13A	9.53	35-37.5	36.25	0.3625	9.8925	
50385	148		13A	9.53	40-41.5	40.75	0.4075	9.9375	22583.5
50386	149		13A	9.53	45-46.5	45.75	0.4575	9.9875	792.8
11109		11109	13A	9.53	45-47.5	46.25	0.4625	9.9925	
50387	150		13A	9.53	50-51.5	50.75	0.5075	10.0375	861.5
50388	151		13A	9.53	55-56.5	55.75	0.5575	10.0875	917.6
50389	152		13A	9.53	60-61.5	60.75	0.6075	10.1375	945.8
11112		11112	13A	9.53	60-62.5	61.25	0.6125	10.1425	
50390	153		13A	9.53	65-66.5	65.75	0.6575	10.1875	872.0
50391	154		13A	9.53	70-71.5	70.75	0.7075	10.2375	886.2
50392	155		13A	9.53	75-76.5	75.75	0.7575	10.2875	858.6
11115		11115	13A	9.53	75-77.5	76.25	0.7625	10.2925	
50393	156		13A	9.53	80-81.5	80.75	0.8075	10.3375	824.0
50394	157		13A	9.53	85-86.5	85.75	0.8575	10.3875	778.6
50395	158		13A	9.53	90-91.5	90.75	0.9075	10.4375	732.9
50396	159		13A	9.53	95-96.5	95.75	0.9575	10.4875	722.8
50397	160		13A	9.53	100-101.5	100.75	1.0075	10.5375	698.3
50398	161		13A	9.53	105-106.5	105.75	1.0575	10.5875	679.3
11121		11121	13A	9.53	105-107.5	106.25	1.0625	10.5925	
50399	162		13A	9.53	110-111.5	110.75	1.1075	10.6375	638.4
50400	163		13A	9.53	115-116.5	115.75	1.1575	10.6875	718.2
50401	164		13A	9.53	120-121.5	120.75	1.2075	10.7375	901.5
50402	165		13A	9.53	125-126.5	125.75	1.2575	10.7875	765.6
11125		11125	13A	9.53	125-127.5	126.25	1.2625	10.7925	
50403	166		13A	9.53	130-131.5	130.75	1.3075	10.8375	724.9
50404	167		13A	9.53	135-136.5	135.75	1.3575	10.8875	743.7

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50405	168		13B	10.93	5-6.5	5.75	0.0575	10.9875	1001.6
50406	169		13B	10.93	10-11.5	10.75	0.1075	11.0375	1072.6
50407	170		13B	10.93	15-16.5	15.75	0.1575	11.0875	934.6
50408	171		13B	10.93	20-21.5	20.75	0.2075	11.1375	885.6
50409	172		13B	10.93	25-26.5	25.75	0.2575	11.1875	824.4
50410	173		13B	10.93	30-31.5	30.75	0.3075	11.2375	789.8
50411	174		13B	10.93	35-36.5	35.75	0.3575	11.2875	809.9
11334		11334	13B	10.93	35-37	36	0.36	11.29	
50412	175		13B	10.93	41.5-43	42.25	0.4225	11.3525	872.1
50413	176		13B	10.93	45-47	46	0.46	11.39	777.1
50414	177		13B	10.93	50-52	51	0.51	11.44	749.5
50415	178		13B	10.93	55-57	56	0.56	11.49	909.2
50416	179		13B	10.93	60-61.5	60.75	0.6075	11.5375	778.9
50417	180		13B	10.93	65-66.5	65.75	0.6575	11.5875	740.9
50418	181		13B	10.93	70-71.5	70.25	0.7025	11.6325	725.4
50419	182		13B	10.93	75-76.5	75.75	0.7575	11.6875	845.0
50420	183		13B	10.93	80-81.5	80.75	0.8075	11.7375	798.9
50421	184		13B	10.93	85-86.5	85.75	0.8575	11.7875	811.5
11344		11344	13B	10.93	85-87	86	0.86	11.79	
50422	185		13B	10.93	90-91.5	90.75	0.9075	11.8375	849.9
50423	186		13B	10.93	95-96.5	95.75	0.9575	11.8875	814.3
50424	187		13B	10.93	101-102.5	101.75	1.0175	11.9475	815.1
50425	188		13B	10.93	105-106.5	105.75	1.0575	11.9875	741.0
50426	189		13B	10.93	110-111.5	110.75	1.1075	12.0375	770.3
50427	190		13B	10.93	115-116.5	115.75	1.1575	12.0875	842.5
50428	191		13B	10.93	120-121.	120.75	1.2075	12.1375	829.7
50429	192		13B	10.93	125-126.5	125.75	1.2575	12.1875	895.0
50430	193		14A	12.42	12-14	13	0.13	12.55	887.8
11353		11353	14A	12.42	12-14	13	0.13	12.55	
50431	194		14A	12.42	17-19	18	0.18	12.6	1060.5
50432	195		14A	12.42	22-24	23	0.23	12.65	823.8
50433	196		14A	12.42	26.5-28.5	27.5	0.275	12.695	878.6
50434	197		14A	12.42	31.5-33.5	32.5	0.325	12.745	873.4
50435	198		14A	12.42	36.5-38.5	37.5	0.375	12.795	984.3
50436	199		14A	12.42	41.5-43.5	42.5	0.425	12.845	1040.8
50437	200		14A	12.42	46-48	47	0.47	12.89	989.4
50438	201		14A	12.42	51-53	52	0.52	12.94	1021.7
11361		11361	14A	12.42	51-53	52	0.52	12.94	
50439	202		14A	12.42	56-58	57	0.57	12.99	1005.4
50440	203		14A	12.42	61-63	62	0.62	13.04	934.8
50441	204		14A	12.42	66-68	67	0.67	13.09	974.7
50442	205		14A	12.42	71-73	72	0.72	13.14	1136.3
50443	206		14A	12.42	75.5-77.5	76.5	0.765	13.185	1062.2
50444	207		14A	12.42	80.5-82.5	81.5	0.815	13.235	893.9
11367		11367	14A	12.42	80.5-82.5	81.5	0.815	13.235	
50445	208		14A	12.42	85.5-87.5	86.5	0.865	13.285	910.8
50446	209		14A	12.42	90.5-92.5	91.5	0.915	13.335	807.3
50447	210		14A	12.42	95.5-97.5	96.5	0.965	13.385	749.9
50448	211		14A	12.42	100.5-102	101.5	1.015	13.435	837.5
50449	212		14A	12.42	105.5-107	106.5	1.065	13.485	1176.7
11372		11372	14A	12.42	105.5-107	106.5	1.065	13.485	

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50450	213		14A	12.42	110.5-112	111.5	1.115	13.535	733.8
50451	214		14A	12.42	115.5-117	116.5	1.165	13.585	545.4
50452	215		14B	13.6	3-5	4	0.04	13.64	647.8
50453	216		14B	13.6	8.5-10.5	9.5	0.095	13.695	686.8
11376		11376	14B	13.6	8.5-10.5	9.5	0.095	13.695	
50454	217		14B	13.6	13-15	14	0.14	13.74	702.2
50455	218		14B	13.6	17.5-19.5	18.5	0.185	13.785	712.4
50456	219		14B	13.6	21.5-23	22.25	0.2225	13.8225	781.3
50457	220		14B	13.6	26-27.5	26.75	0.2675	13.8675	849.5
11380		11380	14B	13.6	26-27.5	26.75	0.2675	13.8675	
50458	221		14B	13.6	30-32	31	0.31	13.91	913.7
50459	222		14B	13.6	34-35.5	34.75	0.3475	13.9475	580.8
50460	223		14B	13.6	39-40.5	39.75	0.3975	13.9975	703.0
50461	224		14B	13.6	43.5-45.5	44.5	0.445	14.045	651.2
50462	225		14B	13.6	49-50.5	49.75	0.4975	14.0975	587.1
11385		11385	14B	13.6	49-51	50	0.5	14.1	
50463	226		14B	13.6	54-55.5	54.75	0.5475	14.1475	574.3
50464	227		14B	13.6	61.5-63.5	62.5	0.625	14.225	599.7
50465	228		14B	13.6	75-76.5	75.75	0.7575	14.3575	623.6
50466	229		14B	13.6	78.5-80.5	79.5	0.795	14.395	588.7
50467	230		14B	13.6	84-85.5	84.75	0.8475	14.4475	673.3
11390		11390	14B	13.6	84-85.5	84.75	0.8475	14.4475	
50468	231		14B	13.6	89-90.5	89.75	0.8975	14.4975	638.4
11391		11391	14B	13.6	89-91	90	0.9	14.5	
50469	232		14B	13.6	93.5-95.5	94.5	0.945	14.545	691.1
50470	233		14B	13.6	99.5-101	100.25	1.0025	14.6025	657.0
11393		11393	14B	13.6	99.5-101	100.25	1.0025	14.6025	
50471	234		14B	13.6	104.5-106	105.25	1.0525	14.6525	662.8
11395		11395	14B	13.6	108.5-110	109.5	1.095	14.695	
50472	235		14B	13.6	109-110.5	109.75	1.0975	14.6975	721.1
50473	236		14B	13.6	116-117.5	116.75	1.1675	14.7675	708.1
50474	237		14B	13.6	121-122.5	121.75	1.2175	14.8175	693.9
50475	238		14B	13.6	126.5-128	127.25	1.2725	14.8725	746.1
11398		11398	14B	13.6	126-129	127.5	1.275	14.875	
50476	239		14B	13.6	132.5-135	133.75	1.3375	14.9375	698.5
50477	240		14B	13.6	140.5-142	141.25	1.4125	15.0125	672.9
50478	241		15A	15.07	5.5-7	6.25	0.0625	15.1325	710.3
50479	242		15A	15.07	9-10.5	9.75	0.0975	15.1675	675.9
50480	243		15A	15.07	18.5-20	19.25	0.1925	15.2625	721.1
50481	244		15A	15.07	23-24.5	23.75	0.2375	15.3075	789.1
50482	245		15A	15.07	28-30	29	0.29	15.36	727.0
11406		11406	15A	15.07	32-35	33.5	0.335	15.405	
50483	246		15A	15.07	33-34.5	33.75	0.3375	15.4075	725.2
50484	247		15A	15.07	38-39.5	38.75	0.3875	15.4575	711.1
50485	248		15A	15.07	43-44.5	43.75	0.4375	15.5075	705.4
50486	249		15A	15.07	48-49.5	48.75	0.4875	15.5575	696.3
50487	250		15A	15.07	53-54.5	53.75	0.5375	15.6075	730.8
50488	251		15A	15.07	58-59.5	58.75	0.5875	15.6575	693.7
50489	252		15A	15.07	63.5-65	64.25	0.6425	15.7125	704.4
50490	253		15A	15.07	68-69.5	68.75	0.6875	15.7575	706.9

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50491	254		15A	15.07	73.5-75	74.25	0.7425	15.8125	693.2
11414		11414	15A	15.07	73.5-75	74.25	0.7425	15.8125	
50492	255		15A	15.07	77-79	78	0.78	15.85	685.6
50493	256		15A	15.07	83-84.5	83.75	0.8375	15.9075	666.0
50494	257		15A	15.07	87.5-89	88.25	0.8825	15.9525	690.9
50495	258		15A	15.07	93.5-95	94.25	0.9425	16.0125	781.2
50496	259		15A	15.07	97-99	98	0.98	16.05	776.5
50497	260		15B	16.08	6-7.5	6.75	0.0675	16.1475	814.0
50498	261		15B	16.08	15-16.5	15.75	0.1575	16.2375	809.8
50499	262		15B	16.08	20-22	21	0.21	16.29	891.6
50500	263		15B	16.08	25-26.5	25.75	0.2575	16.3375	1141.9
50501	264		15B	16.08	30-31.5	30.75	0.3075	16.3875	830.8
50502	265		15B	16.08	35-36.5	35.75	0.3575	16.4375	803.1
11425		11425	15B	16.08	35-37	36	0.36	16.44	
50503	266		15B	16.08	40-42	41	0.41	16.49	831.9
50504	267		15B	16.08	45-47	46	0.46	16.54	776.0
50505	268		15B	16.08	50-51.5	50.75	0.5075	16.5875	823.8
50506	269		15B	16.08	55-57	56	0.56	16.64	779.5
50507	270		15B	16.08	60-61.5	60.75	0.6075	16.6875	791.0
50508	271		15B	16.08	65-66.5	65.75	0.6575	16.7375	871.0
50509	272		15B	16.08	70-71.5	70.75	0.7075	16.7875	819.7
50510	273		15B	16.08	75-76.5	75.75	0.7575	16.8375	772.2
50511	274		15B	16.08	80-81.5	80.75	0.8075	16.8875	747.1
50512	275		15B	16.08	85-86.5	85.75	0.8575	16.9375	776.3
50513	276		15B	16.08	90-92	91	0.91	16.99	780.2
50514	277		15C	17.04	6-8	7	0.07	17.11	770.7
50515	278		15C	17.04	11-12.5	11.75	0.1175	17.1575	701.1
50516	279		15C	17.04	16-18	17	0.17	17.21	772.3
50517	280		15C	17.04	21-22.5	21.75	0.2175	17.2575	819.0
50518	281		15C	17.04	26-27.5	26.75	0.2675	17.3075	815.4
50519	282		15C	17.04	32-34	33	0.33	17.37	788.1
11442		11442	15C	17.04	32-34	33	0.33	17.37	
50520	283		15C	17.04	37.5-39	38.25	0.3825	17.4225	793.4
50521	284		15C	17.04	42.5-44	43.25	0.4325	17.4725	816.3
50522	285		15C	17.04	49-51	50	0.5	17.54	865.1
50523	286		15C	17.04	55-57	56	0.56	17.6	845.6
50524	287		15C	17.04	60-61.5	60.75	0.6075	17.6475	869.6
50525	288		15C	17.04	65-66.5	65.75	0.6575	17.6975	845.7
50526	289		15C	17.04	70-72	71	0.71	17.75	878.6
50527	290		15C	17.04	75-77	76	0.76	17.8	833.7
11450		11450	15C	17.04	75-77	76	0.76	17.8	
50528	291		15C	17.04	80-81.5	80.75	0.8075	17.8475	831.9
50529	292		15C	17.04	85-87	86	0.86	17.9	825.3
50530	293		15C	17.04	90-92	91	0.91	17.95	861.1
50531	294		15C	17.04	95-96.5	95.75	0.9575	17.9975	857.2
50532	295		15C	17.04	100-102	101	1.01	18.05	858.1
50533	296		15C	17.04	105-107	106	1.06	18.1	826.6
50534	297		15C	17.04	110.5-112	111.25	1.1125	18.1525	1027.3
50535	298		15C	17.04	119-120.5	119.75	1.1975	18.2375	919.1
50536	299		15C	17.04	126.5-128	127.5	1.275	18.315	898.9
50537	300		16A	18.37	4.5-6.5	5.5	0.055	18.425	825.1

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50538	301		16A	18.37	10-13	11.5	0.115	18.485	889.1
11461		11461	16A	18.37	10-13	11.5	0.115	18.485	
50539	302		16A	18.37	16-18	17	0.17	18.54	874.9
50540	303		16A	18.37	21.5-23	22.25	0.2225	18.5925	888.8
50541	304		16A	18.37	26-28	27	0.27	18.64	842.5
50542	305		16A	18.37	31.5-33	32.25	0.3225	18.6925	843.2
50543	306		16A	18.37	36.5-38	37.25	0.3725	18.7425	886.3
50544	307		16A	18.37	41.5-43	42.25	0.4225	18.7925	792.6
50545	308		16A	18.37	46-48	47	0.47	18.84	789.2
50546	309		16A	18.37	51-52.5	51.75	0.5175	18.8875	748.1
11469		11469	16A	18.37	51-53	52	0.52	18.89	
50547	310		16A	18.37	56-58	57	0.57	18.94	855.2
11471		11471	16A	18.37	61-63	62	0.62	18.99	
50548	311		16A	18.37	61.5-63	62.25	0.6225	18.9925	1191.2
50549	312		16A	18.37	66-67.5	66.75	0.6675	19.0375	1549.9
50550	313		16A	18.37	71-72.5	71.75	0.7175	19.0875	1482.9
50551	314		16A	18.37	76-78	77	0.77	19.14	1446.5
11474		11474	16A	18.37	76-78	77	0.77	19.14	
50552	315		16A	18.37	81-83	82	0.82	19.19	1478.9
50553	316		16A	18.37	86-88	87	0.87	19.24	1526.0
11476		11476	16A	18.37	86-88	87	0.87	19.24	
50554	317		16A	18.37	91-92.5	91.75	0.9175	19.2875	1423.4
50555	318		16A	18.37	95.5-97	96.25	0.9625	19.3325	1465.6
50556	319		16A	18.37	101-102.5	101.75	1.0175	19.3875	1473.6
50557	320		16A	18.37	106-108	107	1.07	19.44	1431.1
50558	321		16A	18.37	110.5-112	111.5	1.115	19.485	1418.3
50559	322		16A	18.37	115.5-117	116.5	1.165	19.535	1430.4
50560	323		16A	18.37	120.5-122	121.25	1.2125	19.5825	1409.3
50561	324		16A	18.37	125.5-127	126.5	1.265	19.635	1458.8
11484		11484	16A	18.37	125.5-127	126.5	1.265	19.635	
50562	325		16A	18.37	131-132.5	131.75	1.3175	19.6875	1411.7
50563	326		16B	19.77	5.5-7	6.25	0.0625	19.8325	1483.5
50564	327		16B	19.77	9.5-11	10.25	0.1025	19.8725	1443.9
50565	328		16B	19.77	26-27.5	26.75	0.2675	20.0375	1511.9
50566	329		16B	19.77	34-36	35	0.35	20.12	1381.1
11489		11489	16B	19.77	34-36	35	0.35	20.12	
50567	330		16B	19.77	43-44.5	43.75	0.4375	20.2075	1147.3
50568	331		16B	19.77	48.5-50	49.25	0.4925	20.2625	1234.8
50569	332		16B	19.77	53.5-55.5	54.5	0.545	20.315	1298.7
50570	333		16B	19.77	59-60.5	59.75	0.5975	20.3675	1406.1
50571	334		16B	19.77	63.5-65.5	64.5	0.645	20.415	1333.6
50572	335		16B	19.77	68.5-70.5	69.5	0.695	20.465	1281.7
50573	336		16B	19.77	73-75	74	0.74	20.51	1064.0
11496		11496	16B	19.77	73-75	74	0.74	20.51	
50574	337		16B	19.77	78-80	79	0.79	20.56	1027.3
50575	338		16B	19.77	83-84.5	83.75	0.8375	20.6075	1201.7
50576	339		16B	19.77	89-91	90	0.9	20.67	929.5
11499		11499	16B	19.77	89-91	90	0.9	20.67	
50577	340		16B	19.77	102-104	103	1.03	20.8	1129.8
50578	341		16B	19.77	127-129	128	1.28	21.05	988.3

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50579	342		16B	19.77	131.5-133	132.5	1.325	21.095	836.3
50580	343		17A	21.23	7.5-9	8.25	0.0825	21.3125	774.1
50581	344		17A	21.23	17.5-19	18.25	0.1825	21.4125	789.0
50582	345		17A	21.23	22-23.5	22.75	0.2275	21.4575	902.4
50583	346		17A	21.23	27-28.5	27.75	0.2775	21.5075	860.2
50584	347		17A	21.23	32-33.5	32.75	0.3275	21.5575	911.4
11507		11507	17A	21.23	31.5-34.5	33	0.33	21.56	
50585	348		17A	21.23	37-39	38	0.38	21.61	830.3
50586	349		17A	21.23	42-44	43	0.43	21.66	752.1
50587	350		17A	21.23	47-48.5	47.75	0.4775	21.7075	809.5
50588	351		17A	21.23	52-53.5	52.75	0.5275	21.7575	740.1
11511		11511	17A	21.23	52-53.5	52.75	0.5275	21.7575	
50589	352		17A	21.23	57-59	58	0.58	21.81	753.7
50590	353		17A	21.23	62-63.5	62.75	0.6275	21.8575	772.3
50591	354		17A	21.23	67-69	68	0.68	21.91	731.4
50592	355		17A	21.23	71.5-73.5	72.5	0.725	21.955	710.1
11515		11515	17A	21.23	71.5-73.5	72.5	0.725	21.955	
50593	356		17A	21.23	77-79	78	0.78	22.01	629.1
50594	357		17A	21.23	82-83.5	82.75	0.8275	22.0575	658.0
50595	358		17A	21.23	87-88.5	87.75	0.8775	22.1075	709.3
50596	359		17A	21.23	92.5-94	93.25	0.9325	22.1625	675.8
11519		11519	17A	21.23	92.5-95	93.75	0.9375	22.1675	
50597	360		17A	21.23	97.5-99	98.25	0.9825	22.2125	643.1
50598	361		17A	21.23	102.5-104	103.25	1.0325	22.2625	588.4
50599	362		17A	21.23	107-109	108	1.08	22.31	612.3
11522		11522	17A	21.23	107-109	108	1.08	22.31	
50600	363		17A	21.23	113.5-115	114.25	1.1425	22.3725	589.0
50601	364		17A	21.23	118.5-120	119.25	1.1925	22.4225	577.6
50602	365		17A	21.23	124-125.5	124.75	1.2475	22.4775	480.5
11525		11525	17A	21.23	124-125.5	124.75	1.2475	22.4775	
50603	366		17B	22.53	5-6.5	5.75	0.0575	22.5875	582.0
50604	367		17B	22.53	10-12	11	0.11	22.64	609.0
50605	368		17B	22.53	15-16.5	15.75	0.1575	22.6875	627.3
11528		11528	17B	22.53	15-17	16	0.16	22.69	
50606	369		17B	22.53	20-21.5	20.75	0.2075	22.7375	614.8
50607	370		17B	22.53	25-27	26	0.26	22.79	573.0
50608	371		17B	22.53	30-32	31	0.31	22.84	622.2
11531		11531	17B	22.53	30-32	31	0.31	22.84	
50609	372		17B	22.53	35-36.5	35.75	0.3575	22.8875	687.7
50610	373		17B	22.53	40-42	41	0.41	22.94	713.1
50611	374		17B	22.53	45-47	46	0.46	22.99	704.4
11534		11534	17B	22.53	45-47	46	0.46	22.99	
50612	375		17B	22.53	50-52	51	0.51	23.04	784.8
50613	376		17B	22.53	55-57	56	0.56	23.09	771.0
50614	377		17B	22.53	60-61.5	60.75	0.6075	23.1375	848.0
50615	378		17B	22.53	65-67	66	0.66	23.19	1035.3
11538		11538	17B	22.53	65-67	66	0.66	23.19	
50616	379		17B	22.53	70-72	71	0.71	23.24	966.5
50617	380		17B	22.53	75-77	76	0.76	23.29	1050.6
50618	381		17B	22.53	80-82	81	0.81	23.34	923.1
50619	382		17B	22.53	85-86.5	85.75	0.8575	23.3875	810.7

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50620	383		17B	22.53	90-91.5	90.75	0.9075	23.4375	824.8
11543		11543	17B	22.53	90-91.5	90.75	0.9075	23.4375	
50621	384		17B	22.53	95.5-97	96.25	0.9625	23.4925	938.9
50622	385		17B	22.53	100-101.5	100.75	1.0075	23.5375	1129.9
50623	386		17B	22.53	105-106.5	105.75	1.0575	23.5875	921.1
50624	387		17B	22.53	110-112	111	1.11	23.64	955.4
50625	388		17B	22.53	115-116.5	115.75	1.1575	23.6875	978.9
50626	389		17B	22.53	120.5-122	121.25	1.2125	23.7425	1152.4
50627	390		17B	22.53	125-127	126	1.26	23.79	1144.7
11550		11550	17B	22.53	125-127	126	1.26	23.79	
50628	391		17B	22.53	130.5-132	131.5	1.315	23.845	1363.1
50629	392		17B	22.53	136-138	137	1.37	23.9	1460.7
50630	393		18A	23.98	10-12	11	0.11	24.09	1116.0
50631	394		18A	23.98	15-17	16	0.16	24.14	1235.0
50632	395		18A	23.98	20-22	21	0.21	24.19	1191.0
50633	396		18A	23.98	25.5-27	26.25	0.2625	24.2425	1281.5
50634	397		18A	23.98	30-31.5	30.75	0.3075	24.2875	1042.5
50635	398		18A	23.98	35-36.5	35.75	0.3575	24.3375	1112.8
50636	399		18A	23.98	42-44	43	0.43	24.41	1144.8
50637	400		18A	23.98	48-49.5	48.75	0.4875	24.4675	1200.1
50638	401		18A	23.98	53-54.5	53.75	0.5375	24.5175	1308.7
50639	402		18A	23.98	58.5-60	59.25	0.5925	24.5725	1205.8
50640	403		18A	23.98	63-64.5	63.75	0.6375	24.6175	1227.3
50641	404		18A	23.98	67.5-69.5	68.5	0.685	24.665	1214.3
50642	405		18A	23.98	72.5-74.5	73.5	0.735	24.715	1216.1
50643	406		18A	23.98	77-79	78	0.78	24.76	1078.1
11567		11567	18A	23.98	81-83.5	82.25	0.8225	24.8025	
50644	407		18A	23.98	81.5-83	82.25	0.8225	24.8025	1302.3
50645	408		18A	23.98	87-88.5	87.75	0.8775	24.8575	1222.1
50646	409		18A	23.98	92-93.5	92.75	0.9275	24.9075	1132.9
50647	410		18A	23.98	97-99	98	0.98	24.96	1251.1
50648	411		18A	23.98	103-105	104	1.04	25.02	1098.0
50649	412		18A	23.98	113-114.5	113.75	1.1375	25.1175	1432.9
50650	413		18A	23.98	120.5-122	121.25	1.2125	25.1925	1289.4
50651	414		20A	25.39	30-32	31	0.31	25.7	1228.3
50652	415		20A	25.39	40-42	41	0.41	25.8	1290.7
50653	416		20A	25.39	44.5-46.5	45.5	0.455	25.845	1254.7
50654	417		21A	25.98	23-25	24	0.24	26.22	1271.2
50655	418		21A	25.98	30-31.5	30.75	0.3075	26.2875	1322.6
50656	419		21A	25.98	37.5-39.5	38.5	0.385	26.365	1328.8
11580		11580	21A	25.98	49-51.5	50.25	0.5025	26.4825	
50657	420		21A	25.98	49.5-51	50.25	0.5025	26.4825	1013.5
50658	421		21A	25.98	55-57	56	0.56	26.54	1204.9
50659	422		21A	25.98	60.5-62	61.25	0.6125	26.5925	1409.9
50660	423		21A	25.98	65.5-67	66.25	0.6625	26.6425	1292.3
50661	424		21A	25.98	70.5-72	71.25	0.7125	26.6925	1401.7
50662	425		21A	25.98	75.5-77	76.25	0.7625	26.7425	1431.5
50663	426		21A	25.98	80-82	81	0.81	26.79	1362.8
50664	427		21A	25.98	85-86.5	85.75	0.8575	26.8375	1362.8
50665	428		21A	25.98	91-92.5	91.75	0.9175	26.8975	1362.1
50666	429		21A	25.98	98.5-100	99.25	0.9925	26.9725	1348.2

Grass Lake Sample no.	Sample Box no. GL2-	Vial no.	Drive no.	Drive Depth (m)	Depth interval of sample (cm)	Sample depth w/in drive (cm)	Sample depth w/in drive (m)	Sample depth in core (m)	Sample Density (kg/m3)
50667	430		21A	25.98	116-118	117	1.17	27.15	1398.1
11590		11590	21A	25.98	116-118	117	1.17	27.15	
50668	431		22A	27.21	10-12	11	0.11	27.32	1189.3
50669	432		22A	27.21	18-19.5	18.75	0.1875	27.3975	1327.4
50670	433		22A	27.21	23.5-25	24.25	0.2425	27.4525	1349.3
50671	434		22A	27.21	29-30.5	29.75	0.2975	27.5075	1239.0
50672	435		22A	27.21	34-36	35	0.35	27.56	1357.4
50673	436		22A	27.21	39.5-41	40.25	0.4025	27.6125	1381.5
50674	437		22A	27.21	44.5-46	45.25	0.4525	27.6625	1327.0
50675	438		22A	27.21	59.5-61.5	50.5	0.505	27.715	1376.2
50676	439		22A	27.21	55-56.5	55.75	0.5575	27.7675	1314.5
50677	440		22A	27.21	60-62	61	0.61	27.82	1356.2
50678	441		22A	27.21	66-67.5	66.75	0.6675	27.8775	1203.6
50679	442		22A	27.21	71-73	72	0.72	27.93	1177.6
50680	443		22A	27.21	76.5-78	77.25	0.7725	27.9825	1206.0
11604		11604	22A	27.21	81-84	82.5	0.825	28.035	
50681	444		22A	27.21	82-83.5	82.75	0.8275	28.0375	1183.2
50682	445		22A	27.21	87.5-89	88.25	0.8825	28.0925	1232.9
50683	446		22B	28.76	41.5-43.5	42.5	0.425	29.185	1018.6
50684	447		22C	28.11	33.5-35.5	34.5	0.345	28.455	1234.7
50685	448		23A	28.99	8-9.5	8.75	0.0875	29.0775	1136.6
50686	449		23A	28.99	16.5-18	17.25	0.1725	29.1625	1049.1
50687	450		23A	28.99	23-24.5	23.75	0.2375	29.2275	1220.2
50688	451		23A	28.99	30-32	31	0.31	29.3	920.2
50689	452		23A	28.99	35-37	36	0.36	29.35	1027.8
50690	453		23A	28.99	40.5-42	41.25	0.4125	29.4025	1219.7
50691	454		23A	28.99	69.5-71	70.25	0.7025	29.6925	1010.2
50692	455		23A	28.99	79-81	80	0.8	29.79	960.9
11615		11615	23A	28.99	79-81	80	0.8	29.79	
50693	456		23A	28.99	84-86	85	0.85	29.84	920.8
50694	457		23A	28.99	91-92.5	91.75	0.9175	29.9075	1002.8
50695	458		23A	28.99	102-104	103	1.03	30.02	1119.2

TABLE 2. Paleomagnetic Data

Sample Box no.: A unique sample number assigned to samples put into plastic cubes for magnetic mineral studies. The volume of each cube is 3.2 cubic centimeters.

Sample Depth: Depth of sample in meters from top of core.

Declination: Declination of the characteristic magnetization, clockwise from geographic north.

Inclination: The inclination of the characteristic magnetization.

NRM: Natural Remanent Magnetization in Am^2/kg.

Demag. Interval: The demagnetization interval over which both Declination and Inclination were calculated.

Number of Points used in linear fit: Number of points used to create best fit line.

Subjective quality: A subjective grade (a is best, c the worst) given to the orthogonal vector diagrams from which the best fit line was calculated. NR indicates that the sample was not rated.

Comments:

disturbed: Core was disturbed prior to sampling. The orientation of the sample was uncertain and therefore paleomagnetic directions were not calculated on these samples.

poor fit: The vector diagram was extremely poor, and thus either paleomagnetic directions were not calculated or best-fit line used 2 points.

not used: Applies to samples in which sediment was displaced during measurement using a magnetometer. A constant orientation could not be assured, and the sample was not used for paleomagnetic analysis.

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
Drive 1a								
1	0.1875	52.1	79.7	1.98E-05	15-40, org	5	b	
2	0.235	50	57.2	3.87E-05	10-40, org	6	b	
3	0.2825	70.8	62.5	4.45E-05	5-40, org	5	a	
4	0.335	71	56.9	5.05E-05	10-40, org	6	a	
5	0.38	63.7	62.2	1.40E-05	5-80, org	9	a	
6	0.4475	32.9	74.8	6.23E-06	5-60, org	8	b	
Drive 2A								
7	0.6475	306	58.3	6.57E-06	10-40, org	6	c	
8	0.71	311.6	44.3	5.61E-06	5-30	5	c	
9	0.7625	7.7	80.2	6.86E-06	15-60	5	c	
10	0.8275	46.9	31.8	1.05E-05	10-40, org	6	c	
11	0.88	299.6	63	7.30E-06	5-40, org	7	b	
12	0.9275	312.7	35.2	8.69E-06	5-60	7	b	
13	0.9825	325.7	48.9	1.19E-05	5-60, org	8	b	
14	1.0425	301.8	59.7	9.13E-06	10-40, org	6	b	
15	1.1	306	46	8.85E-06	10-60,org	7	b	
16	1.17	326.5	45.8	1.02E-05	5-40	6	b	
Drive 4A								
17	1.3125	140	81.7	1.31E-05	5-40	6	b	
18	1.3875	32.9	76.5	1.54E-05	5-60, org	8	b	
19	1.4675	150.2	71	1.03E-05	5-40	6	c	
20	1.55	192.1	56.9	1.06E-05	5-60	7	b	
21	1.61	125.9	64.1	4.38E-06	5-60	7	c	
22	1.6625	113.2	31.6	8.43E-06	5-80, org	9	b	
23	1.7325	320.8	51.3	1.91E-05	5-80, org	9	a	
24	1.7925	325.2	55.5	1.42E-05	5-40, org	7	a	
25	1.8425	312.9	59.4	1.96E-05	5-60, org	8	a	
26	1.9125	294.3	57.3	1.46E-05	5-40	6	b	
Drive 5A								
27	2.3525	167.4	86.1	9.00E-06	10-30	4	c	
28	2.4025	90	69.6	9.82E-06	10-60, org	7	b	
29	2.4675	85	59.4	1.08E-05	5-80, org	9	a	
30	2.5125	94.2	36.5	1.30E-05	20-60, org	5	c	
31	2.5625	92.9	48.6	8.30E-06	5-30, org	6	b	
32	2.6125	112	64.5	1.15E-05	10-80, org	8	a	
33	2.6625	95.1	54.1	8.62E-06	5-80, org	9	b	
34	2.7175	83.6	64.5	7.54E-06	5-60, org	8	b	
35	2.7775	184.3	62	1.04E-05	10-40	5	c	
36	2.8375	78.2	41.6	4.18E-06				disturbed
Drive 6A								

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
37	2.3275			7.45E-06				poor fit
38	2.3825	15.1	54.8	8.80E-06	5-30, org	6	b	
39	2.4475	285.8	45.1	2.67E-05	5-30	5	c	
40	2.4725	354.9	46.9	2.71E-05	10-20	3	c	
41	2.5625	4.6	40.2	6.40E-05	5-30	5	c	
42	2.6125	332.9	28.6	6.38E-05	5-60, org	8	c	
43	2.6675	356.5	41.3	6.61E-05	5-20	4	c	
44	2.7225	334.6	28.9	6.81E-05	5-40, org	7	b	
Drive 7A	3.4075							
45	3.4575			1.76E-05				poor fit
46	3.6075			3.04E-05				poor fit
47	3.6575			8.17E-06				poor fit
48	3.7075			5.97E-06				poor fit
49	3.7625	348.6	-28.1	1.48E-05	5-60	7	c	
50	3.8175	53.4	31.6	2.44E-05	5-30	5	c	
51	3.8725	66.1	37.4	3.87E-05	5-60, org	8	c	
52	3.9375	0.7	57.5	4.76E-05	5-60, org	8	a	
53		66.3	56.2	3.03E-05	5-30	5	c	
Drive 10A								
54	4.1775	138.9	84.5	2.66E-05	5-40	6	c	
55	4.25	12.9	28.4	4.41E-05	10-40, org	6	c	
56	4.3075	240.8	87.2	6.97E-05	5-60	7	b	
57	4.3575	339.7	72.1	5.75E-05	5-40	6	c	
58	4.4175	335.8	41.8	3.66E-05	5-80, org	9	b	
59	4.4775	44.5	57.1	5.54E-05	5-30	5	c	
60	4.5375	83.1	77.7	2.50E-05	5-40	6	b	
61	4.5975	22.9	77.4	3.54E-05	5-80	8	b	
62	4.6575	295.8	62.9	3.62E-05	nrm,org	2	nr	poor fit
63	4.7275	228.6	77.6	4.68E-05	nrm,org	2	nr	poor fit
64	4.7975	298.9	66.2	6.41E-05	5-80, org	9	b	
65	4.8625	334.6	59.9	5.31E-05	5-40, org	7	b	
66	4.9475	345.1	72.5	3.55E-05	5-20	4	c	
67	5.0275	18.5	42	4.37E-05	5-30, org	6	c	
68	5.0825	334.5	42.8	5.72E-05	5-40, org	7	a	
69	5.1375	10.4	61.7	6.06E-05	5-60	7	b	
70	5.21	342.4	66.5	4.75E-05	5-20	4	c	
71	5.2575	3.3	61.1	6.00E-05	5-30	5	c	
Drive 11A								
72	5.5975	28.4	78.7	8.21E-05	10-60, org	7	b	
73	5.6475	334.9	46.3	5.32E-05	5-80	8	b	
74	5.6975	100.6	80.9	5.67E-05	5-80	8	b	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
75	5.7475	84.4	48.4	5.78E-05	5-20	4	c	
76	5.7975	8.3	60.9	5.93E-05	5-40, org	7	a	
77	5.8475	238.7	82.9	4.88E-05	5-40, org	7	b	
78	5.8975	52.4	68.7	5.18E-05	5-40	6	c	
79	5.9475	10.7	54.6	4.57E-05	5-80, org	9	b	
80	5.9975	70.4	78	7.17E-05	5-80	8	b	
81	6.0475	10.3	38.7	6.35E-05	5-40, org	7	b	
82	6.0975	139.6	51.2	4.13E-05	5-80, org	9	b	
83	6.1475	42.9	72	6.01E-05	5-60	7	b	
84	6.1975	108.6	58.2	7.35E-05	5-80, org	9	b	
85	6.2475	64.1	31.3	9.46E-05	5-40	6	b	
86	6.2975	47.4	51.5	6.39E-05	5-60, org	8	a	
87	6.3475	359	40.4	6.86E-05	5-40	6	b	
88	6.3975	26.6	62.5	6.67E-05	5-80, org	9	a	
89	6.4475	336.5	67.8	5.29E-05	5-20	4	c	
90	6.4975	278.9	62.9	3.80E-05	5-20	4	c	
91	6.5475	158.4	82.1	3.63E-05	5-20	4	c	
92	6.6075			2.61E-05				poor fit
93	6.6475	189.9	54.8	3.85E-05	5-30	5	b	
94	6.6975	137.1	51.5	4.14E-05	5-40, org	7	b	
95	6.7775	74.8	20.9	6.79E-05	5-60, org	8	a	
96	6.8375	116.2	40.2	5.99E-05	5-60	7	b	
97	6.8875							disturbed
Drive 12A								
98	7.0625	61.4	61.8	7.79E-05	5-30	5	c	
99	7.1175	68.5	61.5	5.38E-05	5-40, org	7	a	
100	7.1675	61.9	60.3	8.77E-05	5-30	5	b	
101	7.2175	62.2	59.7	9.72E-05	5-40	6	b	
102	7.2675	9.6	78.8	6.91E-05	nrm,org	2	nr	poor fit
103	7.3175	24.4	61	7.55E-05	nrm,org	2	nr	poor fit
104	7.3675	45.3	72	9.88E-05	5-60, org	8	a	
105	7.4175	43.2	59.5	5.21E-05	5-60	7	b	
106	7.4675	38.7	56.6	8.77E-05	5-40, org	7	a	
107	7.5175	29.3	60.8	2.07E-04	5-80, org	9	a	
108	7.5675	53.3	56.3	1.10E-04	5-30	5	b	
109	7.6175	25.7	63	1.06E-04	5-40	6	c	
110	7.6675	29.5	64.5	4.31E-05	5-60	7	b	
111	7.7175	51.4	51.4	1.35E-04	5-60, org	8	a	
112	7.7675	359.3	78.8	6.63E-05	5-60	7	b	
113	7.8175	344.1	33.9	8.96E-05	10-60, org	7	c	
114	7.8675	346.2	58.3	5.82E-05	5-60, org	8	b	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
115	7.9175	26.3	46.3	9.40E-05	5-80, org	9	a	
116	7.9675	60.2	52.1	8.69E-05	5-40, org	7	a	
117	8.0175	355.6	48.9	1.32E-04	5-60	7	b	
Drive 12B								
118	8.0675	241.2	74.8	9.24E-05	5-40	6	b	
119	8.1175							not done
120	8.1675	279.6	69.7	7.48E-05	5-40	6	b	
121	8.2175	9.7	82.9	4.88E-05	5-30	5	b	
122	8.2675	186.5	67.6	5.52E-05	5-30	5	b	
123	8.3175			2.02E-05				poor fit
124	8.3675	249.3	56.2	7.86E-05	5-40	6	b	
125	8.4375	254.1	36.4	6.90E-05	10-60, org	7	a	
126	8.4875	281.6	26.8	5.17E-05	10-80, org	8	b	
127	8.5475	184.9	62.1	5.34E-05	5-40	6	b	
128	8.5975	231.8	35.7	5.42E-05	5-40, org	7	b	
129	8.6475	290.7	45.3	3.48E-05	5-30, org	6	b	
130	8.6975	91.3	70.4	5.80E-05	5-40	6	b	
131	8.7475	159.9	55.8	2.90E-05	5-15	3	c	
132	8.7975	168.7	45.8	4.50E-05	5-60	7	b	
133	8.8475	138.2	74.7	4.85E-05	5-20	4	c	
134	8.8975	106.6	61.9	6.30E-05	5-30, org	6	b	
135	8.9475	147.9	46.5	5.62E-05	5-60	7	b	
136	8.9975	96.7	66.2	7.02E-05	5-30	5	b	
137	9.0475	106.4	54.6	6.14E-05	5-40, org	7	b	
138	9.0975	102.6	50.5	5.66E-05	5-20	4	b	
139	9.1475	122.1	71.4	5.87E-05	5-30, org	6	b	
140	9.1975	128.3	59.3	5.97E-05	5-60, org	8	a	
141	9.26	96.8	67	5.43E-05	5-30	5	b	
Drive 13A								
142	9.6175	307.2	38.5	5.40E-05	5-40, org	7	a	
143	9.6875	350.7	31.8	6.09E-05	5-80, org	9	a	
144	9.7375	350.2	44.7	4.42E-05	5-80, org	9	a	
145	9.7875	324.8	47.4	1.98E-05	5-40, org	7	a	
146	9.8375	358.7	57.3	9.48E-06	5-60, org	8	a	
147	9.8875	313.2	24.6	4.42E-06	10-20	3	b	
148	9.9375	305.2	44.8	1.61E-07	5-40, org	7	a	
149	9.9875	339	45.1	6.98E-06	5-80	8	b	
150	10.0375	335.3	30	1.40E-05	5-60, org	8	a	
151	10.0875	337.9	67.2	9.43E-06	5-60	7	b	
152	10.1375	320.1	52.1	9.52E-06	5-60, org	8	a	
153	10.1875	321.6	66.7	1.16E-05	5-80, org	9	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
154	10.2375	313.1	55.2	7.41E-06	5-40, org	7	b	
155	10.2875	298.9	53.7	1.25E-05	5-30	5	b	
156	10.3375	327.9	68.1	1.30E-05	5-60, org	8	a	
157	10.3875	281.8	61.1	1.17E-05	5-60, org	8	b	
158	10.4375	304.1	68.7	1.04E-05	5-60, org	8	a	
159	10.4875	283.5	51.1	9.25E-06	10-30, org	5	b	
160	10.5375	277.5	69.8	9.49E-06	5-30, org	6	a	
161	10.5875	278.9	75.9	8.74E-06	5-60	7	b	
162	10.6375	292.6	56.4	5.14E-06	5-15	3	c	
163	10.6875	216.2	73.3	6.96E-06	5-60, org	8	a	
164	10.7375	195.2	72.4	7.83E-06	5-20, org	5	c	
165	10.7875	18.3	80.5	4.29E-06	5-40	6	b	
166	10.8375	39.5	57.1	3.29E-06	5-60	7	b	
167	10.8875	298.2	50.9	2.88E-06	5-60	7	c	
Drive 13B								
168	10.9875	66.9	59.2	6.86E-06	5-80	8	b	
169	11.0375	89.3	63.3	1.67E-05	5-80, org	9	a	
170	11.0875	47.5	63.6	8.33E-06	5-40	6	b	
171	11.1375	72	60.9	8.19E-06	5-40, org	7	b	
172	11.1875	29.9	75.6	5.76E-06	5-30	5	b	
173	11.2375	50.4	66.9	4.71E-06	5-80	8	b	
174	11.2875	76.6	49.4	4.40E-06	5-30, org	6	b	
175	11.3525	6.3	47.5	5.81E-06	5-30	5	b	
176	11.39	138.3	14	3.88E-06	10-40	5	c	
177	11.44	62.4	29.7	3.62E-06	10-30, org	5	c	
178	11.49	152.9	69.7	4.81E-06	5-15	3	c	
179	11.5375	29.6	68	2.48E-06	5-30	5	c	
180	11.5875	70.5	78.2	2.56E-06	10-80	7	b	
181	11.6325	76.2	51.5	4.70E-06	5-30	5	b	
182	11.6875	49.4	68.6	6.43E-06	5-80	8	b	
183	11.7375	352.8	52.3	6.34E-06	5-40	6	b	
184	11.7875	356.3	49.3	7.59E-06	5-40, org	7	a	
185	11.8375	328.9	55.2	9.27E-06	5-80, org	9	a	
186	11.8875	284.7	79	8.40E-06	5-80	8	b	
187	11.9475	111.8	74.5	1.30E-05	5-80, org	9	a	
188	11.9875	310.4	67.6	1.55E-05	10-60, org	7	b	
189	12.0375	123.7	52.6	1.79E-05	5-80, org	9	a	
190	12.0875	49.1	32.4	1.48E-05	5-60, org	8	a	
191	12.1375	357	65.4	1.86E-05	5-60, org	8	a	
192	12.1875	304.7	59.7	1.70E-05	5-80, org	9	a	
Drive 14A								

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
193	12.55							disturbed
194	12.6	109.7	59.5	1.33E-05	5-40	6	b	
195	12.65	91.6	35.5	8.00E-06	5-60, org	8	b	
196	12.695	48.9	66.2	8.00E-06	5-80, org	9	a	
197	12.745	52.5	53	7.08E-06	5-80,org	9	a	
198	12.795	50.6	47.3	7.59E-06	5-20, org	5	b	
199	12.845	40.2	32.4	5.85E-06	10-80, org	8	b	
200	12.89	56.8	67.6	5.62E-06	5-30, org	6	a	
201	12.94	78	70.8	8.66E-06	5-60	7	b	
202	12.99	69.3	67.7	7.24E-06	5-30	5	b	
203	13.04	34.4	49.5	7.19E-06	5-60	7	b	
204	13.09	206.3	67.7	5.58E-06	5-60	7	b	
205	13.14	38.7	53.7	1.22E-05	5-60, org	8	a	
206	13.185	33.1	47.1	1.16E-05	5-60, org	8	a	
207	13.235	169.6	83.1	5.10E-06	5-80	8	b	
208	13.285	68.9	21.5	6.18E-06	5-80, org	9	b	
209	13.335	51.1	45.8	5.19E-06	5-80, org	9	a	
210	13.385	302.2	78.2	8.46E-06	15-80, org	9	a	
211	13.435	106.7	42.5	9.52E-06	5-30, org	6	a	
212	13.485	29.3	31.2	3.24E-05	5-40	6	c	
213	13.535	72	45.1	8.94E-06	5-40, org	7	b	
214	13.585	355.6	50.1	1.60E-06	5-15	3	c	
Drive 14B								
215	13.64	340.3	49.8	3.33E-06	5-30, org	6	b	
216	13.695	107	45.8	3.49E-06	5-30	5	b	
217	13.74	27.1	51.1	5.07E-06	5-40, org	7	c	
218	13.785	157.6	68.7	2.71E-06	5-60	7	b	
219	13.8225	123.4	41.2	1.84E-06	5-60, org	8	b	
220	13.8675	75.5	52.3	1.93E-06	5-60, org	8	a	
221	13.91	54.9	54.9	6.57E-06	5-80, org	9	a	
222	13.9475	81.9	57.1	4.23E-06	5-60, org	8	b	
223	13.9975	55.8	48.5	4.76E-06	5-80, org	9	b	
224	14.045	79.8	65.5	4.33E-06	5-60, org	8	b	
225	14.0975	66.3	35.6	3.04E-06	5-30	5	b	
226	14.1475	29.8	37.9	4.57E-06	5-40, org	7	b	
227	14.225	33.9	23.4	2.07E-06	10-60	6	c	
228	14.3575	77.6	78.1	3.35E-06	5-30	5	c	
229	14.395	35.8	73.4	3.91E-06	5-20	4	c	
230	14.4475	34.6	53.4	1.08E-05	5-80, org	9	a	
231	14.4975	4.2	53.4	1.63E-05	5-80, org	9	a	
232	14.545	14.4	43.1	6.24E-05	5-80, org	9	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
233	14.6025	358.3	34.5	6.47E-05	5-60, org	8	a	
234	14.6525	248.2	66.4	4.95E-05	10-40, org	6	a	
235	14.6975	348.9	41	6.37E-05	5-80, org	9	a	
236	14.7675	168.3	44.1	3.42E-05	10-60, org	7	b	
237	14.8175	161.7	39.5	4.04E-05	10-80, org	8	b	
238	14.8725	341	56	5.45E-05	10-60, org	7	a	
239	14.9375	308.6	34.2	6.98E-05	5-60, org	8	a	
240	15.0125	27.5	15.8	1.17E-04	5-80, org	9	a	
Drive 15A								
241	15.1325							disturbed
242	15.1675							disturbed
243	15.2625	30.5	70.3	9.49E-05	5-40, org	7	a	
244	15.3075	41.3	56.7	1.24E-04	5-80, org	9	a	
245	15.36	17.3	48.3	7.74E-05	5-60, org	8	a	
246	15.4075	27.3	48.4	7.89E-05	5-60, org	8	a	
247	15.4575	6.5	44.8	6.99E-05	5-40, org	7	a	
248	15.5075	360	51.3	7.75E-05	5-60, org	8	a	
249	15.5575	50.4	64.2	6.69E-05	5-80, org	9	a	
250	15.6075	70.2	63.2	7.06E-05	5-80, org	9	a	
251	15.6575	44.7	60.8	7.25E-05	5-40, org	7	a	
252	15.7125	86.2	66.4	5.28E-05	5-60, org	8	a	
253	15.7575	55.9	59.5	6.85E-05	5-60, org	8	a	
254	15.8125	45.9	55.1	6.36E-05	5-60, org	8	a	
255	15.85	28.1	45.9	5.10E-05	5-60, org	8	a	
256	15.9075	19.9	31.6	6.05E-05	10-80, org	8	a	
257	15.9525	332.1	28.3	5.07E-05	5-80, org	9	a	
258	16.0125	333.6	40.3	1.02E-04	5-60, org	8	a	
259	16.05	318.6	58.3	1.17E-04	5-80, org	9	a	
Drive 15B								
260	16.1475	246.3	61.6	1.35E-04	5-60, org	8	a	
261	16.2375	257.4	55.3	1.25E-04	5-60, org	8	a	
262	16.29	269.3	41.9	1.22E-04	5-40, org	7	a	
263	16.3375	294.1	47.4	7.83E-05	10-60, org	7	a	
264	16.3875	347.5	35	9.22E-05	5-60, org	8	a	
265	16.4375	329.8	60.9	1.16E-04	5-60, org	8	a	
266	16.49	26.5	50.6	1.88E-04	5-80, org	9	a	
267	16.54	42.4	48.3	1.78E-04	10-80, org	8	a	
268	16.5875	48.2	37.4	1.42E-04	5-60, org	8	a	
269	16.64	41.9	40.6	1.29E-04	5-80, org	9	a	
270	16.6875	120.9	49.9	1.07E-04	5-40, org	7	a	
271	16.7375	92.5	62.2	2.12E-04	5-60, org	8	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
272	16.7875	105.4	60.9	2.19E-04	5-60, org	8	a	
273	16.8375	68.1	64.8	1.92E-04	5-80, org	9	a	
274	16.8875	53.8	60.7	1.97E-04	5-60, org	8	a	
275	16.9375	71.6	61.9	2.17E-04	5-40, org	7	a	
276	16.99	33.1	52.1	2.04E-04	5-80, org	9	a	
Drive 15C								
277	17.11	299.7	62.8	1.50E-04	5-40, org	7	a	
278	17.1575	321.2	58.5	1.35E-04	10-60, org	7	a	
279	17.21	259.9	57.6	1.64E-04	10-40, org	6	a	
280	17.2575	280.2	59.8	1.58E-04	5-80, org	9	a	
281	17.3075	140.9	67.4	1.65E-04	5-60, org	8	a	
282	17.37	125.7	57.2	1.73E-04	10-60, org	7	a	
283	17.4225	133.8	55.3	1.56E-04	10-80, org	8	a	
284	17.4725	136.6	51.4	1.78E-04	5-80, org	9	a	
285	17.54	119.5	52.9	1.82E-04	5-80, org	9	a	
286	17.6	132.2	53	1.17E-04	5-40, org	7	a	
287	17.6475	125.9	50.9	1.83E-04	5-80, org	9	a	
288	17.6975	127.5	53.5	1.26E-04	20-60, org	5	a	
289	17.75	73.6	46.1	1.82E-04	5-80, org	9	a	
290	17.8	337.6	42.8	2.25E-04	5-80, org	9	a	
291	17.8475	287.8	59.6	1.96E-04	5-60, org	8	a	
292	17.9	265.2	55.7	1.63E-04	10-40, org	6	a	
293	17.95	55.7	56.9	1.66E-04	15-30, org	4	a	
294	17.9975	62	51.9	2.40E-04	5-80, org	9	a	
295	18.05	59.6	52.7	2.40E-04	5-80, org	9	a	
296	18.1	69	51.9	1.53E-04	5-60, org	8	a	
297	18.1525	26.7	53.8	1.30E-04	5-40, org	7	a	
298	18.2375							disturbed
299	18.315							disturbed
Drive 16A								
300	18.425	281	47.1	2.10E-04	5-60, org	8	a	
301	18.485	271	51	1.68E-04	5-40, org	7	a	
302	18.54	263.5	51.1	1.83E-04	5-60, org	8	a	
303	18.5925	263.4	46.8	2.14E-04	5-60, org	8	a	
304	18.64	257.6	50.9	2.48E-04	5-60, org	8	a	
305	18.6925	266.1	54.3	2.00E-04	5-60, org	8	a	
306	18.7425	266.1	52.8	1.57E-04	5-60, org	8	a	
307	18.7925	271.2	52.9	1.08E-04	5-60, org	8	a	
308	18.84	262.3	54.6	1.10E-04	5-60, org	8	a	
309	18.8875	170.4	75.7	9.90E-05	5-80, org	9	a	
310	18.94	75.4	50.9	5.70E-05	10-80, org	8	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
311	18.9925	4.2	66.7	8.79E-05	5-60, org	8	a	
312	19.0375	356.9	52.6	1.32E-04	5-60, org	8	a	
313	19.0875	353.6	62.1	1.21E-04	5-80, org	9	a	
314	19.14	11.6	63	1.00E-04	5-40, org	7	a	
315	19.19	341.8	65.2	8.73E-05	5-60, org	8	a	
316	19.24	23.5	59.8	1.53E-04	5-60, org	8	a	
317	19.2875	2.3	44.7	9.59E-05	5-60, org	8	a	
318	19.3325	18.7	55.4	1.23E-04	5-40, org	7	a	
319	19.3875	23.9	49.9	1.10E-04	5-40, org	7	a	
320	19.44	31.6	53.6	1.14E-04	5-40, org	7	a	
321	19.485	28.5	52.4	9.87E-05	5-60, org	8	a	
322	19.535	42.7	61.1	9.81E-05	5-60, org	8	a	
323	19.5825	23.6	54.9	9.65E-05	5-40, org	7	a	
324	19.635	16.6	60	9.38E-05	5-60, org	8	a	
325	19.6875	23.1	58.9	1.01E-04	5-60, org	8	a	
Drive 16B								
326	19.8325	39.9	64.4	1.15E-04	5-60, org	8	a	
327	19.8725	27.1	67.7	1.11E-04	5-40, org	7	a	
328	20.0375							disturbed
329	20.12							disturbed
330	20.2075	9.1	62.3	1.27E-04	5-60, org	8	a	
331	20.2625	356.9	54.4	1.19E-04	5-40, org	7	a	
332	20.315	17.8	48.4	1.17E-04	5-60, org	8	a	
333	20.3675	10	57.6	1.14E-04	5-60, org	8	a	
334	20.415	9.5	62.9	1.36E-04	5-60, org	8	a	
335	20.465	2.9	42.6	1.43E-04	10-60, org	7	a	
336	20.51	1.3	57	1.42E-04	5-60, org	8	a	
337	20.56	358.8	64.4	1.61E-04	5-60, org	8	a	
338	20.6075	2.4	59.7	1.52E-04	5-60, org	8	a	
339	20.67							disturbed
340	20.8							poor fit
341	21.05							disturbed
342	21.095							disturbed
Drive 17A								
343	21.3125							disturbed
344	21.4125	328.1	52.2	1.89E-04	5-80, org	9	a	
345	21.4575	267.5	55.7	1.28E-04	5-80, org	9	a	
346	21.5075	277.9	65.1	1.68E-04	5-40, org	7	a	
347	21.5575	270.3	56.4	2.20E-04	5-60, org	8	a	
348	21.61	265.2	57.2	2.05E-04	10-80, org	8	a	
349	21.66	285.4	60.1	1.43E-04	5-60, org	8	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
350	21.7075	277.9	53.7	1.44E-04	5-60, org	8	a	
351	21.7575	274.3	58.3	6.97E-05	5-80, org	9	a	
352	21.81	291.5	61	7.05E-05	5-60, org	8	a	
353	21.8575	226.3	66.8	4.37E-05	10-30, org	5	a	
354	21.91	240.5	65.4	3.82E-05	5-30, org	6	a	
355	21.955	201.1	72.4	4.00E-05	5-80, org	9	a	
356	22.01	76	53	3.20E-05	5-80, org	9	a	
357	22.0575	29.5	53.5	3.42E-05	5-30, org	6	a	
358	22.1075	17.7	59.1	2.79E-05	5-60, org	8	a	
359	22.1625	158.7	63.4	2.69E-05	5-60, org	8	a	
360	22.2125	117.7	63.3	3.37E-05	5-60, org	8	a	
361	22.2625	82.1	58.9	3.26E-05	5-60, org	8	a	
362	22.31	42.6	29.3	2.76E-05	5-40, org	7	a	
363	22.3725	72.6	35.9		5-80, org	9	a	
364	22.4225	339.4	73.1	1.33E-05	5-80, org	9	a	
365	22.4775							disturbed
Drive 17B								
366	22.5875	70.8	77.2	1.77E-05	5-40, org	7	a	
367	22.64	310.5	55.1	2.78E-05	5-80, org	9	a	
368	22.6875	308.2	47.8	2.85E-05	5-60, org	8	a	
369	22.7375	321.6	55.2	2.73E-05	5-80, org	9	a	
370	22.79	334.8	71.1	1.85E-05	5-80	8	b	
371	22.84	61.1	61.2	2.83E-05	5-30, org	6	a	
372	22.8875	119.1	64.1	2.93E-05	5-40, org	7	a	
373	22.94	79	69.3	2.52E-05	5-30, org	6	a	
374	22.99	56.8	45.6	3.95E-05	5-60, org	8	a	
375	23.04	352.2	52.6	5.22E-05	5-60, org	8	a	
376	23.09	138.4	71	4.62E-05	10-60	6	b	
377	23.1375	209.2	77.4	6.93E-05	5-40, org	7	a	
378	23.19	54.1	52.8	1.29E-04	5-80, org	9	a	
379	23.24	61	59.4	1.35E-04	5-80, org	9	a	
380	23.29	47.3	49	1.08E-04	5-80, org	9	a	
381	23.34	45.5	50.4	1.21E-04	5-80, org	9	a	
382	23.3875	38.5	51.4	1.06E-04	5-80, org	9	a	
383	23.4375	39	43.9	1.17E-04	5-80, org	9	a	
384	23.4925	20.5	51.4	9.49E-05	5-60, org	8	a	
385	23.5375	32.9	60	8.80E-05	5-40, org	7	a	
386	23.5875	24.1	52.9	1.34E-04	5-40, org	7	a	
387	23.64	10.6	48.3	1.16E-04	5-40, org	7	a	
388	23.6875	16.5	47	1.39E-04	5-40, org	7	a	
389	23.7425	9.3	49.2	1.49E-04	5-40, org	7	a	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
390	23.79	13.8	45.2	1.28E-04	5-60, org	8	a	
391	23.845	5.5	44.8	9.22E-05	5-60, org	8	a	
392	23.9	6.2	39.5	9.91E-05	5-40, org	7	a	
Drive 18A								
393	24.09	33	32.7	1.47E-04	5-20	4	c	
394	24.14							not run
395	24.19							not run
396	24.2425	338.9	41.1	8.61E-05	5-30	5	b	
397	24.2875	251.4	65.7	1.03E-04	5-20, org	5	b	
398	24.3375	31.4	79.9	1.07E-04	10-40, org	6	a	
399	24.41							not run
400	24.4675							not run
401	24.5175							not run
402	24.5725							not run
403	24.6175							not run
404	24.665							not run
405	24.715							not run
406	24.76	27.1	63.5	6.06E-05	5-40, org	7	a	
407	24.8025	25.2	64.4	8.73E-05	5-60, org	8	a	
408	24.8575							not run
409	24.9075							not run
410	24.96	43.5	50.8	7.19E-05	5-40, org	7	a	
411	25.02							not run
412	25.1175							not run
413	25.1925	41.2	70.8	6.30E-05	5-40, org	7	a	
Drive 20A								
414	25.7							disturbed
415	25.8							disturbed
416	25.845							disturbed
Drive 21A								
417	26.22	317.2	58.7	7.20E-05	5-60, org	8	a	
418	26.2875	316	61.7	8.84E-05	5-80, org	9	a	
419	26.365	146.5	76.6	9.08E-05	5-60, org	8	a	
420	26.4825							disturbed
421	26.54	338.7	53.8	8.25E-05	5-60, org	8	a	
422	26.5925	308.3	62.5	9.73E-05	5-60, org	8	a	
423	26.6425							disturbed
424	26.6925	279.3	64.8	1.07E-04	5-60, org	8	a	
425	26.7425	272.1	68.6	4.43E-05	5-60, org	8	a	
426	26.79	288.9	68.9	4.72E-05	5-60, org	8	a	
427	26.8375	11.2	71.5	3.49E-05	5-40	6	b	

Sample Box no. GL2-	Sample depth (m)	Declination (degrees)	Inclination from linear fit (degrees)	NRM	demag interval	no. of points used in linear fit	subjective quality (A=best, C=worst)	comments
428	26.8975	326.1	74	5.39E-05	5-40. org	7	a	
429	26.9725	327.9	56.9	7.07E-05	5-20	4	b	
430	27.15							disturbed
Drive 22A								
431	27.32							disturbed
432	27.3975	323.6	65.1	1.70E-04	5-80, org	9	a	
433	27.4525	294.7	50.3	1.05E-04	5-80, org	9	a	
434	27.5075	314.6	55.5	1.92E-04	5-80, org	9	a	
435	27.56	288.9	62.3	1.92E-04	5-80, org	9	a	
436	27.6125	322.5	65	1.77E-04	5-80, org	9	a	
437	27.6625	321	76.9	2.47E-04	5-80, org	9	a	
438	27.715	301.6	75	1.81E-04	5-80, org	9	a	
439	27.7675	337.9	80.2	1.41E-04	5-60	8	b	
440	27.82	255.1	76.5	1.40E-04	10-60, org	7	a	
441	27.8775	209.2	70.7	4.08E-05	5-80, org	9	a	
442	27.93	230.4	60.9	7.56E-05	5-80, org	9	a	
443	27.9825	211.2	71.1	3.19E-05	5-80, org	9	a	
444	28.0375	214.9	60.4	2.77E-05	5-40, org	7	a	
445	28.0925	199.4	51.2	1.32E-04	5-80, org	9	a	
Drive 22B								
446	29.185							disturbed
Drive 22C								
447	28.455							disturbed
Drive 23A								
448	29.0775	306.9	67.5	3.44E-05	5-30	5	b	
449	29.1625	232.3	49.7	1.15E-05	5-80, org	9	a	
450	29.2275							not run
451	29.3	292.2	75	1.05E-05	5-60	7	b	
452	29.35	273.8	41.4	1.02E-05	5-20	4	b	
453	29.4025	97.1	66.4	9.97E-06	5-30, org	6	a	
454	29.6925	6.2	-8.7	2.71E-04	15-80, org	7	a	
455	29.79	212.2	-39.3	1.78E-04	15-30, org	4	b	
456	29.84							disturbed
457	29.9075	164	28.9	1.43E-04	15-60	5	b	
458	30.02	300.3	65.4	8.99E-05	5-60, org	8	a	

TABLE 3. Sediment Magnetic Data

Sample Box no.: A unique sample number assigned to samples that are placed into plastic cubes for magnetic mineral studies. The volume of each cube is 3.2 cubic centimeters.

Sample depth: Depth of sample in meters from top of core.

MSLF: Low-frequency magnetic susceptibility in m^3/kg.

FDMS: Frequency-dependent magnetic susceptibility in percent.

ARM: Anhysteretic remanent magnetization in Am^2/kg.

IRM (1.2T): Isothermal remanent magnetization from induction in a 1.2 tesla field at room temperature. Expressed in Am^2/kg.

IRM (-.3T): Isothermal remanent magnetization from induction in a -0.3 tesla field at room temperature. Expressed in Am^2/kg.

HIRM: Hard isothermal remanent magnetization: HIRM is calculated as: [IRM(1.2T)+IRM(-0.3T)]/2 and expressed in Am^2/kg.

S: (S Ratio) calculated as IRM(-0.3T)/IRM(1.2T).

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
1	0.1875	1.22E-06	10.9	3.94E-04	2.34E-02	1.81E-02	2.67E-03	0.77
2	0.235	1.18E-06	11.2	4.15E-04	2.53E-02	1.99E-02	2.71E-03	0.79
3	0.2825	1.23E-06	10.1	4.77E-04	2.96E-02	2.29E-02	3.35E-03	0.77
4	0.335	1.11E-06	11.3	3.66E-04	2.14E-02	1.77E-02	1.84E-03	0.83
5	0.38	3.79E-07	8.4	1.08E-04	6.22E-03	5.47E-03	3.71E-04	0.88
6	0.4475	3.83E-07	6.9	5.49E-05	2.39E-03	2.01E-03	1.90E-04	0.84
7	0.6475	4.01E-07	6.9	6.18E-05	3.08E-03	2.60E-03	2.35E-04	0.85
8	0.71	4.60E-07	7.3	7.60E-05	4.04E-03	3.44E-03	2.96E-04	0.85
9	0.7625	4.42E-07	7.2	8.42E-05	4.38E-03	3.65E-03	3.64E-04	0.83
10	0.8275	6.37E-07	7.9	1.22E-04	6.12E-03	5.11E-03	5.07E-04	0.83
11	0.88	4.03E-07	7.8	7.79E-05	4.05E-03	3.37E-03	3.38E-04	0.83
12	0.9275	4.61E-07	7.7	9.67E-05	5.40E-03	4.41E-03	4.97E-04	0.82
13	0.9825	6.13E-07	7.9	1.29E-04	7.86E-03	6.55E-03	6.54E-04	0.83
14	1.0425	3.93E-07	7.0	1.02E-04	5.32E-03	3.86E-03	7.31E-04	0.73
15	1.1	4.45E-07	6.4	1.10E-04	6.13E-03	4.55E-03	7.90E-04	0.74
16	1.17	5.69E-07	5.3	1.33E-04	8.19E-03	6.36E-03	9.17E-04	0.78
17	1.3125	4.37E-07	10.5	1.18E-04	6.23E-03	4.32E-03	9.57E-04	0.69
18	1.3875	5.01E-07	6.3	1.20E-04	6.72E-03	5.05E-03	8.35E-04	0.75
19	1.4675	6.09E-07	6.2	1.27E-04	7.54E-03	5.86E-03	8.40E-04	0.78
20	1.55	4.98E-07	6.9	1.14E-04	6.64E-03	5.19E-03	7.28E-04	0.78
21	1.61	3.28E-07	5.6	9.83E-05	4.74E-03	3.16E-03	7.86E-04	0.67
22	1.6625	3.65E-07	3.9	1.14E-04	5.67E-03	3.72E-03	9.73E-04	0.66
23	1.7325	5.18E-07	3.9	1.34E-04	7.82E-03	5.92E-03	9.47E-04	0.76
24	1.7925	3.97E-07	4.0	1.25E-04	6.34E-03	4.53E-03	9.06E-04	0.71
25	1.8425	6.20E-07	4.5	1.70E-04	9.73E-03	7.56E-03	1.08E-03	0.78
26	1.9125	4.27E-07	5.4	1.36E-04	6.71E-03	4.97E-03	8.68E-04	0.74
27	2.3525	4.56E-07	7.6	1.23E-04	6.99E-03	5.13E-03	9.29E-04	0.73
28	2.4025	2.82E-07	16.0	9.41E-05	4.29E-03	2.63E-03	8.30E-04	0.61
29	2.4675	2.62E-07	5.6	9.91E-05	4.30E-03	2.65E-03	8.28E-04	0.62
30	2.5125	4.61E-07	6.3	1.34E-04	7.78E-03	5.87E-03	9.54E-04	0.75
31	2.5625	3.40E-07	6.1	1.13E-04	5.93E-03	4.12E-03	9.01E-04	0.70
32	2.6125	3.39E-07	5.6	1.08E-04	5.35E-03	3.61E-03	8.68E-04	0.68
33	2.6625	2.56E-07	5.2	9.77E-05	4.28E-03	2.76E-03	7.60E-04	0.64
34	2.7175	2.93E-07	5.5	1.04E-04	4.54E-03	2.99E-03	7.77E-04	0.66
35	2.7775	5.75E-07	6.8	1.61E-04	1.01E-02	8.00E-03	1.07E-03	0.79
36	2.8375	4.35E-07	6.4	1.35E-04	8.10E-03	6.25E-03	9.22E-04	0.77
37	3.0875	4.76E-07	6.3	1.33E-04	7.26E-03	5.46E-03	9.00E-04	0.75
38	3.1425	3.67E-07	4.7	1.11E-04	5.43E-03	3.85E-03	7.90E-04	0.71
39	3.2075	3.02E-06	7.3	4.02E-04	2.74E-02	2.44E-02	1.53E-03	0.89
40	3.2325	3.23E-06	5.7	4.90E-04	3.22E-02	2.92E-02	1.47E-03	0.91
41	3.3225	7.38E-06	6.6	6.99E-04	4.98E-02	4.66E-02	1.59E-03	0.94
42	3.3725	8.29E-06	6.2	7.97E-04	5.61E-02	5.30E-02	1.51E-03	0.95
43	3.4275	7.46E-06	5.9	8.51E-04	5.70E-02	5.40E-02	1.48E-03	0.95
44	3.4825	4.26E-06	4.9	6.89E-04	4.39E-02	4.09E-02	1.48E-03	0.93
45	3.4075	4.57E-06	5.7	5.30E-04	3.97E-02	3.66E-02	1.55E-03	0.92
46	3.4575	6.03E-06	5.4	6.37E-04	4.60E-02	4.35E-02	1.22E-03	0.95
47	3.6075	6.38E-06	5.4	7.12E-04	5.20E-02	4.88E-02	1.58E-03	0.94
48	3.6575	3.65E-06	4.4	5.84E-04	4.00E-02	3.84E-02	8.21E-04	0.96
49	3.7075	3.07E-06	4.1	6.03E-04	3.99E-02	3.69E-02	1.50E-03	0.93
50	3.7625	3.30E-06	3.7	7.04E-04	4.58E-02	4.28E-02	1.50E-03	0.93
51	3.8175	3.60E-06	4.0	7.46E-04	4.33E-02	4.04E-02	1.46E-03	0.93
52	3.8725	4.19E-06	4.5	7.00E-04	4.33E-02	4.05E-02	1.38E-03	0.94

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
53	3.9375	3.65E-06	4.6	5.65E-04	3.96E-02	3.67E-02	1.44E-03	0.93
54	4.1775	5.05E-06	5.8	7.69E-04	4.84E-02	4.69E-02	7.55E-04	0.97
55	4.25	5.32E-06	5.6	7.87E-04	5.12E-02	4.83E-02	1.48E-03	0.94
56	4.3075	3.62E-06	5.0	7.59E-04	4.56E-02	4.27E-02	1.48E-03	0.94
57	4.3575	5.94E-06	5.4	8.53E-04	5.58E-02	5.33E-02	1.29E-03	0.95
58	4.4175	2.66E-06	4.1	6.51E-04	4.01E-02	3.78E-02	1.17E-03	0.94
59	4.4775	5.10E-06	5.8	7.05E-04	5.11E-02	4.88E-02	1.16E-03	0.95
60	4.5375	2.74E-06	4.6	6.50E-04	4.04E-02	3.84E-02	1.02E-03	0.95
61	4.5975	3.41E-06	4.9	6.62E-04	4.34E-02	4.14E-02	1.00E-03	0.95
62	4.6575	3.66E-06	4.1	6.96E-04	4.61E-02	4.35E-02	1.27E-03	0.94
63	4.7275	6.31E-06	5.2	7.94E-04	5.60E-02	5.35E-02	1.26E-03	0.95
64	4.7975	5.23E-06	5.6	7.23E-04	5.00E-02	4.75E-02	1.26E-03	0.95
65	4.8625	3.12E-06	5.0	6.51E-04	4.15E-02	3.90E-02	1.26E-03	0.94
66	4.9475	3.12E-06	4.8	6.39E-04	4.07E-02	3.85E-02	1.08E-03	0.95
67	5.0275	3.87E-06	4.6	7.39E-04	4.80E-02	4.59E-02	1.04E-03	0.96
68	5.0825	3.78E-06	5.0	7.49E-04	4.88E-02	4.63E-02	1.27E-03	0.95
69	5.1375	4.45E-06	5.9	7.20E-04	4.73E-02	4.50E-02	1.16E-03	0.95
70	5.21	5.36E-06	5.6	7.42E-04	4.96E-02	4.70E-02	1.30E-03	0.95
71	5.2575	3.94E-06	6.0	7.59E-04	4.90E-02	4.63E-02	1.34E-03	0.95
72	5.5975	5.39E-06	5.5	8.27E-04	5.43E-02	5.07E-02	1.82E-03	0.93
73	5.6475	3.22E-06	4.3	1.14E-03	4.08E-02	3.80E-02	1.39E-03	0.93
74	5.6975	3.22E-06	4.6	1.30E-03	4.07E-02	3.80E-02	1.33E-03	0.93
75	5.7475	3.14E-06	4.3	1.38E-03	4.05E-02	3.78E-02	1.36E-03	0.93
76	5.7975	3.24E-06	4.5	1.39E-03	4.08E-02	3.82E-02	1.31E-03	0.94
77	5.8475	3.42E-06	4.9	1.44E-03	4.14E-02	3.87E-02	1.34E-03	0.94
78	5.8975	4.00E-06	5.1	1.11E-03	4.61E-02	4.35E-02	1.30E-03	0.94
79	5.9475	3.48E-06	4.9	1.44E-03	4.20E-02	3.94E-02	1.28E-03	0.94
80	5.9975	4.23E-06	5.4	1.21E-03	4.79E-02	4.50E-02	1.48E-03	0.94
81	6.0475	4.33E-06	5.3	1.12E-03	4.79E-02	4.50E-02	1.44E-03	0.94
82	6.0975	3.53E-06	5.1	1.25E-03	4.31E-02	4.06E-02	1.25E-03	0.94
83	6.1475	3.92E-06	5.2	1.11E-03	4.47E-02	4.21E-02	1.29E-03	0.94
84	6.1975	4.30E-06	6.1	9.26E-04	4.89E-02	4.60E-02	1.44E-03	0.94
85	6.2475	4.50E-06	5.7	1.54E-03	4.96E-02	4.67E-02	1.43E-03	0.94
86	6.2975	3.89E-06	5.4	1.33E-03	4.46E-02	4.20E-02	1.31E-03	0.94
87	6.3475	4.11E-06	5.4	1.35E-03	4.54E-02	4.28E-02	1.30E-03	0.94
88	6.3975	3.99E-06	5.9	1.25E-03	4.59E-02	4.33E-02	1.30E-03	0.94
89	6.4475	3.68E-06	5.4	1.04E-03	4.21E-02	3.96E-02	1.26E-03	0.94
90	6.4975	2.28E-06	4.5	9.03E-04	2.65E-02	2.45E-02	1.03E-03	0.92
91	6.5475	2.35E-06	4.6	1.11E-03	2.70E-02	2.50E-02	9.93E-04	0.93
92	6.6075	2.36E-06	4.9	6.26E-04	2.36E-02	2.17E-02	9.67E-04	0.92
93	6.6475	2.52E-06	4.9	6.26E-04	2.43E-02	2.24E-02	9.74E-04	0.92
94	6.6975	2.75E-06	4.9	4.65E-04	2.68E-02	2.47E-02	1.05E-03	0.92
95	6.7775	2.83E-06	4.5	1.87E-03	3.57E-02	3.36E-02	1.05E-03	0.94
96	6.8375	2.97E-06	4.7	2.07E-03	3.73E-02	3.53E-02	1.05E-03	0.94
97	6.8875	2.57E-06	4.3	1.51E-03	3.45E-02	3.22E-02	1.15E-03	0.93
98	7.0625	4.10E-06	5.5	5.44E-04	3.69E-02	3.44E-02	1.26E-03	0.93
99	7.1175	3.79E-06	5.3	5.58E-04	3.71E-02	3.46E-02	1.26E-03	0.93
100	7.1675	4.64E-06	5.8	7.67E-04	4.96E-02	4.77E-02	9.61E-04	0.96
101	7.2175	5.17E-06	5.7	7.71E-04	4.70E-02	4.48E-02	1.13E-03	0.95
102	7.2675	4.40E-06	4.7	6.93E-04	4.54E-02	4.34E-02	9.80E-04	0.96
103	7.3175	4.33E-06	5.0	6.76E-04	4.45E-02	4.35E-02	5.13E-04	0.98
104	7.3675	4.05E-06	6.4	6.60E-04	4.17E-02	4.03E-02	6.99E-04	0.97

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
105	7.4175	4.12E-06	5.7	6.17E-04	4.34E-02	4.13E-02	1.05E-03	0.95
106	7.4675	3.47E-06	5.3	6.38E-04	4.07E-02	3.94E-02	6.69E-04	0.97
107	7.5175	6.19E-06	6.8	7.68E-04	5.02E-02	4.86E-02	7.77E-04	0.97
108	7.5675	4.17E-06	5.2	7.75E-04	4.62E-02	4.47E-02	7.47E-04	0.97
109	7.6175	3.86E-06	4.7	6.94E-04	4.26E-02	4.13E-02	6.48E-04	0.97
110	7.6675	3.37E-06	3.5	5.58E-04	3.85E-02	3.64E-02	1.05E-03	0.95
111	7.7175	5.93E-06	4.8	7.85E-04	5.22E-02	5.02E-02	1.00E-03	0.96
112	7.7675	4.46E-06	4.4	6.52E-04	4.48E-02	4.26E-02	1.09E-03	0.95
113	7.8175	5.29E-06	4.4	6.85E-04	4.73E-02	4.52E-02	1.04E-03	0.96
114	7.8675	4.10E-06	4.5	6.27E-04	4.18E-02	3.98E-02	1.00E-03	0.95
115	7.9175	4.61E-06	5.1	6.64E-04	4.31E-02	4.19E-02	5.93E-04	0.97
116	7.9675	4.22E-06	4.8	6.60E-04	4.30E-02	4.11E-02	9.62E-04	0.96
117	8.0175	4.29E-06	4.3	6.62E-04	4.33E-02	4.14E-02	9.36E-04	0.96
118	8.0675	4.25E-06	4.6	5.92E-04	4.34E-02	4.14E-02	9.96E-04	0.95
119	8.1175	4.46E-06	4.6	6.02E-04	4.32E-02	4.23E-02	4.50E-04	0.98
120	8.1675	3.53E-06	4.4	6.11E-04	4.01E-02	3.82E-02	9.62E-04	0.95
121	8.2175	4.51E-06	4.8	6.34E-04	4.33E-02	4.22E-02	5.22E-04	0.98
122	8.2675	3.21E-06	3.7	5.78E-04	3.89E-02	3.67E-02	1.09E-03	0.94
123	8.3175	4.80E-06	4.4	6.39E-04	4.59E-02	4.42E-02	8.76E-04	0.96
124	8.3675	4.29E-06	4.5	6.65E-04	4.43E-02	4.23E-02	1.00E-03	0.95
125	8.4375	4.17E-06	4.6	6.57E-04	4.33E-02	4.14E-02	9.46E-04	0.96
126	8.4875	3.81E-06	4.2	6.09E-04	4.10E-02	3.90E-02	1.00E-03	0.95
127	8.5475	4.09E-06	4.6	6.50E-04	4.39E-02	4.17E-02	1.08E-03	0.95
128	8.5975	2.98E-06	3.9	6.51E-04	3.79E-02	3.57E-02	1.11E-03	0.94
129	8.6475	4.13E-06	4.3	7.51E-04	4.18E-02	3.99E-02	9.78E-04	0.95
130	8.6975	3.75E-06	4.2	6.56E-04	4.00E-02	3.78E-02	1.09E-03	0.95
131	8.7475	3.41E-06	4.0	6.22E-04	3.35E-02	3.15E-02	1.01E-03	0.94
132	8.7975	2.89E-06	4.0	5.10E-04	3.14E-02	2.95E-02	9.65E-04	0.94
133	8.8475	3.70E-06	4.2	7.29E-04	3.96E-02	3.76E-02	1.02E-03	0.95
134	8.8975	3.19E-06	4.2	1.17E-03	3.90E-02	3.70E-02	1.01E-03	0.95
135	8.9475	3.13E-06	3.8	1.11E-03	4.01E-02	3.79E-02	1.12E-03	0.94
136	8.9975	3.33E-06	3.6	9.70E-04	4.24E-02	4.00E-02	1.17E-03	0.94
137	9.0475	3.45E-06	4.0	1.15E-03	4.44E-02	4.20E-02	1.23E-03	0.94
138	9.0975	3.24E-06	4.2	8.66E-04	4.26E-02	4.03E-02	1.14E-03	0.95
139	9.1475	2.71E-06	3.7	8.99E-04	3.98E-02	3.76E-02	1.10E-03	0.94
140	9.1975	2.72E-06	3.4	8.38E-04	4.13E-02	3.88E-02	1.23E-03	0.94
141	9.26	2.45E-06	3.9	7.17E-04	3.66E-02	3.50E-02	8.30E-04	0.95
142	9.6175	2.39E-06	2.8	1.15E-03	3.17E-02	2.90E-02	1.36E-03	0.91
143	9.6875	2.55E-06	2.6	1.39E-03	3.46E-02	3.21E-02	1.25E-03	0.93
144	9.7375	1.73E-06	1.9	7.28E-04	2.37E-02	2.15E-02	1.11E-03	0.91
145	9.7875	1.02E-06	2.0	2.66E-04	1.32E-02	1.14E-02	9.12E-04	0.86
146	9.8375	5.80E-07	3.9	1.73E-04	8.71E-03	7.25E-03	7.27E-04	0.83
147	9.8875	4.06E-07	4.6	1.12E-04	6.41E-03	5.21E-03	5.98E-04	0.81
148	9.9375	1.21E-08	4.9	3.36E-06	1.95E-04	1.58E-04	1.87E-05	0.81
149	9.9875	4.56E-07	5.4	1.20E-04	7.41E-03	6.08E-03	6.63E-04	0.82
150	10.0375	4.71E-07	6.1	1.21E-04	7.55E-03	6.09E-03	7.30E-04	0.81
151	10.0875	5.31E-07	5.6	1.35E-04	8.51E-03	6.81E-03	8.50E-04	0.80
152	10.1375	4.42E-07	5.5	1.23E-04	7.24E-03	5.68E-03	7.83E-04	0.78
153	10.1875	5.53E-07	5.1	1.40E-04	9.06E-03	7.26E-03	8.98E-04	0.80
154	10.2375	6.10E-07	4.5	1.41E-04	9.26E-03	7.45E-03	9.06E-04	0.80
155	10.2875	8.04E-07	3.6	1.55E-04	1.05E-02	8.65E-03	9.41E-04	0.82
156	10.3375	7.84E-07	3.3	1.47E-04	9.77E-03	7.97E-03	9.00E-04	0.82

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
157	10.3875	7.71E-07	2.9	1.41E-04	9.42E-03	7.65E-03	8.85E-04	0.81
158	10.4375	7.65E-07	2.7	1.40E-04	9.11E-03	7.32E-03	8.94E-04	0.80
159	10.4875	7.73E-07	2.7	1.45E-04	9.33E-03	7.57E-03	8.81E-04	0.81
160	10.5375	6.59E-07	2.4	1.30E-04	8.32E-03	6.68E-03	8.19E-04	0.80
161	10.5875	6.43E-07	2.3	1.27E-04	7.95E-03	6.40E-03	7.79E-04	0.80
162	10.6375	5.72E-07	2.4	1.12E-04	6.98E-03	5.47E-03	7.52E-04	0.78
163	10.6875	5.48E-07	3.0	1.16E-04	7.26E-03	5.72E-03	7.68E-04	0.79
164	10.7375	6.23E-07	4.7	1.28E-04	8.04E-03	6.54E-03	7.52E-04	0.81
165	10.7875	3.64E-07	4.4	8.85E-05	5.06E-03	3.68E-03	6.88E-04	0.73
166	10.8375	3.28E-07	5.0	7.84E-05	4.56E-03	3.54E-03	5.06E-04	0.78
167	10.8875	3.14E-07	5.6	8.09E-05	4.82E-03	3.75E-03	5.36E-04	0.78
168	10.9875	5.02E-07	6.8	1.24E-04	8.37E-03	6.58E-03	8.95E-04	0.79
169	11.0375	8.55E-07	4.6	1.86E-04	1.80E-02	1.34E-02	2.31E-03	0.74
170	11.0875	5.66E-07	5.6	1.37E-04	9.25E-03	7.22E-03	1.02E-03	0.78
171	11.1375	4.73E-07	5.1	1.16E-04	7.15E-03	5.50E-03	8.25E-04	0.77
172	11.1875	4.81E-07	4.5	1.14E-04	7.11E-03	5.44E-03	8.31E-04	0.77
173	11.2375	3.43E-07	5.2	9.51E-05	5.48E-03	4.01E-03	7.33E-04	0.73
174	11.2875	3.01E-07	5.5	8.48E-05	5.02E-03	3.83E-03	5.94E-04	0.76
175	11.3525	3.70E-07	6.7	9.22E-05	5.67E-03	4.64E-03	5.16E-04	0.82
176	11.39	3.12E-07	6.3	7.94E-05	4.63E-03	3.75E-03	4.41E-04	0.81
177	11.44	3.02E-07	5.7	7.39E-05	4.18E-03	3.37E-03	4.06E-04	0.81
178	11.49	4.31E-07	6.2	1.07E-04	7.11E-03	5.95E-03	5.82E-04	0.84
179	11.5375	3.03E-07	5.7	7.18E-05	4.23E-03	3.44E-03	3.91E-04	0.82
180	11.5875	3.29E-07	5.6	7.69E-05	4.62E-03	3.78E-03	4.21E-04	0.82
181	11.6325	2.92E-07	5.7	7.23E-05	4.20E-03	3.37E-03	4.14E-04	0.80
182	11.6875	4.04E-07	5.8	1.03E-04	6.04E-03	4.94E-03	5.53E-04	0.82
183	11.7375	4.34E-07	5.5	1.04E-04	6.21E-03	4.91E-03	6.53E-04	0.79
184	11.7875	4.41E-07	4.9	1.05E-04	6.28E-03	4.95E-03	6.61E-04	0.79
185	11.8375	5.54E-07	4.6	1.30E-04	8.29E-03	6.60E-03	8.44E-04	0.80
186	11.8875	6.94E-07	4.0	1.42E-04	9.27E-03	7.57E-03	8.47E-04	0.82
187	11.9475	9.20E-07	3.5	1.83E-04	1.16E-02	9.88E-03	8.79E-04	0.85
188	11.9875	1.00E-06	2.6	1.70E-04	1.16E-02	9.88E-03	8.60E-04	0.85
189	12.0375	1.04E-06	3.1	1.79E-04	1.19E-02	1.02E-02	8.48E-04	0.86
190	12.0875	9.82E-07	3.3	1.96E-04	1.29E-02	1.09E-02	9.75E-04	0.85
191	12.1375	8.46E-07	3.4	1.73E-04	1.10E-02	9.18E-03	8.96E-04	0.84
192	12.1875	5.36E-07	4.3	1.44E-04	8.82E-03	6.87E-03	9.74E-04	0.78
193	12.55	1.26E-06	6.1	5.87E-04	1.68E-02	1.46E-02	1.11E-03	0.87
194	12.6	6.18E-07	6.2	1.60E-04	8.32E-03	7.00E-03	6.58E-04	0.84
195	12.65	5.46E-07	9.4	1.00E-04	6.18E-03	4.86E-03	6.58E-04	0.79
196	12.695	3.85E-07	6.4	9.98E-05	6.41E-03	4.99E-03	7.10E-04	0.78
197	12.745	3.43E-07	6.3	9.34E-05	5.82E-03	4.52E-03	6.46E-04	0.78
198	12.795	3.59E-07	7.5	9.05E-05	5.75E-03	4.79E-03	4.83E-04	0.83
199	12.845	3.76E-07	7.6	9.36E-05	6.18E-03	5.19E-03	4.93E-04	0.84
200	12.89	3.31E-07	7.6	8.33E-05	5.23E-03	4.43E-03	3.99E-04	0.85
201	12.94	3.75E-07	7.8	8.93E-05	5.84E-03	4.96E-03	4.37E-04	0.85
202	12.99	3.32E-07	7.5	7.84E-05	4.88E-03	4.14E-03	3.71E-04	0.85
203	13.04	3.45E-07	6.4	9.23E-05	5.80E-03	5.00E-03	4.01E-04	0.86
204	13.09	3.37E-07	6.2	9.05E-05	5.43E-03	4.56E-03	4.39E-04	0.84
205	13.14	4.22E-07	5.2	1.49E-04	9.03E-03	7.76E-03	6.36E-04	0.86
206	13.185	5.01E-07	5.0	1.49E-04	9.32E-03	8.05E-03	6.32E-04	0.86
207	13.235	3.10E-07	6.0	7.37E-05	4.43E-03	3.58E-03	4.25E-04	0.81
208	13.285	3.33E-07	5.0	7.48E-05	4.59E-03	3.55E-03	5.16E-04	0.78

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
209	13.335	3.38E-07	4.9	7.45E-05	4.57E-03	3.45E-03	5.61E-04	0.75
210	13.385	4.42E-07	4.6	9.65E-05	6.46E-03	5.08E-03	6.92E-04	0.79
211	13.435	5.84E-07	5.0	1.04E-04	7.03E-03	5.80E-03	6.18E-04	0.82
212	13.485	1.91E-06	6.7	2.45E-04	1.77E-02	1.61E-02	7.72E-04	0.91
213	13.535	4.98E-07	4.0	8.03E-05	5.49E-03	4.52E-03	4.84E-04	0.82
214	13.585	2.05E-07	0.8	4.80E-05	2.64E-03	1.94E-03	3.49E-04	0.73
215	13.64	1.93E-07	3.7	5.63E-05	3.34E-03	2.40E-03	4.72E-04	0.72
216	13.695	3.08E-07	5.6	6.28E-05	3.75E-03	2.88E-03	4.35E-04	0.77
217	13.74	4.92E-07	9.3	5.93E-05	3.30E-03	2.65E-03	3.27E-04	0.80
218	13.785	1.37E-07	2.3	3.66E-05	2.38E-03	1.82E-03	2.84E-04	0.76
219	13.8225	1.14E-07	2.6	3.49E-05	2.30E-03	1.75E-03	2.77E-04	0.76
220	13.8675	9.73E-08	0.6	2.85E-05	1.71E-03	1.31E-03	2.03E-04	0.76
221	13.91	2.57E-07	3.2	4.09E-05	3.46E-03	3.07E-03	1.99E-04	0.89
222	13.9475	2.52E-07	3.2	6.50E-05	3.76E-03	2.76E-03	5.01E-04	0.73
223	13.9975	2.79E-07	3.5	9.02E-05	4.84E-03	3.48E-03	6.79E-04	0.72
224	14.045	3.45E-07	4.4	9.47E-05	5.36E-03	3.81E-03	7.71E-04	0.71
225	14.0975	2.79E-07	3.9	7.44E-05	3.98E-03	2.89E-03	5.43E-04	0.73
226	14.1475	2.20E-07	3.0	6.34E-05	3.11E-03	2.22E-03	4.41E-04	0.72
227	14.225	2.29E-07	3.3	6.62E-05	3.23E-03	2.26E-03	4.88E-04	0.70
228	14.3575	3.29E-07	3.0	8.75E-05	4.79E-03	3.38E-03	7.07E-04	0.70
229	14.395	2.96E-07	3.8	8.32E-05	4.25E-03	2.95E-03	6.49E-04	0.69
230	14.4475	5.30E-07	3.9	1.57E-04	6.71E-03	5.02E-03	8.42E-04	0.75
231	14.4975	7.38E-07	3.6	3.48E-04	8.60E-03	6.93E-03	8.36E-04	0.81
232	14.545	2.45E-06	5.1	2.27E-03	2.84E-02	2.58E-02	1.26E-03	0.91
233	14.6025	2.45E-06	5.4	2.56E-03	2.72E-02	2.52E-02	9.73E-04	0.93
234	14.6525	2.68E-06	5.2	2.68E-03	3.04E-02	2.83E-02	1.02E-03	0.93
235	14.6975	3.18E-06	5.5	2.57E-03	3.59E-02	3.37E-02	1.11E-03	0.94
236	14.7675	2.89E-06	4.6	2.38E-03	3.33E-02	3.10E-02	1.15E-03	0.93
237	14.8175	3.10E-06	4.8	2.48E-03	3.65E-02	3.42E-02	1.19E-03	0.93
238	14.8725	3.38E-06	4.4	2.18E-03	4.00E-02	3.76E-02	1.19E-03	0.94
239	14.9375	3.34E-06	5.0	2.87E-03	4.12E-02	3.87E-02	1.24E-03	0.94
240	15.0125	3.38E-06	4.9	2.98E-03	4.18E-02	3.93E-02	1.26E-03	0.94
241	15.1325	4.21E-06	3.9	3.56E-03	5.52E-02	5.22E-02	1.51E-03	0.95
242	15.1675	3.64E-06	4.4	3.59E-03	4.89E-02	4.59E-02	1.49E-03	0.94
243	15.2625	4.10E-06	4.5	3.54E-03	5.32E-02	5.03E-02	1.44E-03	0.95
244	15.3075	4.06E-06	4.0	2.86E-03	5.45E-02	5.10E-02	1.73E-03	0.94
245	15.36	3.72E-06	3.7	3.01E-03	5.00E-02	4.70E-02	1.50E-03	0.94
246	15.4075	3.69E-06	4.3	3.19E-03	4.88E-02	4.59E-02	1.45E-03	0.94
247	15.4575	3.86E-06	4.3	3.04E-03	4.93E-02	4.66E-02	1.33E-03	0.95
248	15.5075	3.72E-06	4.4	3.12E-03	4.78E-02	4.52E-02	1.30E-03	0.95
249	15.5575	3.69E-06	4.6	3.56E-03	4.93E-02	4.68E-02	1.27E-03	0.95
250	15.6075	3.67E-06	4.4	3.10E-03	4.94E-02	4.65E-02	1.43E-03	0.94
251	15.6575	3.48E-06	4.4	3.26E-03	4.72E-02	4.46E-02	1.31E-03	0.94
252	15.7125	2.98E-06	3.0	2.15E-03	4.23E-02	3.93E-02	1.51E-03	0.93
253	15.7575	3.75E-06	4.2	2.99E-03	5.15E-02	4.81E-02	1.70E-03	0.93
254	15.8125	3.81E-06	4.9	3.36E-03	5.31E-02	5.01E-02	1.52E-03	0.94
255	15.85	3.04E-06	3.7	2.30E-03	4.14E-02	3.88E-02	1.30E-03	0.94
256	15.9075	3.37E-06	4.1	2.98E-03	4.39E-02	4.15E-02	1.22E-03	0.94
257	15.9525	2.82E-06	3.3	2.13E-03	3.79E-02	3.53E-02	1.27E-03	0.93
258	16.0125	4.32E-06	4.1	3.19E-03	5.88E-02	5.57E-02	1.55E-03	0.95
259	16.05	4.56E-06	4.2	3.44E-03	6.52E-02	6.20E-02	1.62E-03	0.95
260	16.1475	4.44E-06	3.4	2.60E-03	6.11E-02	5.76E-02	1.76E-03	0.94

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
261	16.2375	4.38E-06	3.9	2.76E-03	6.00E-02	5.67E-02	1.63E-03	0.95
262	16.29	4.29E-06	3.6	2.54E-03	6.03E-02	5.69E-02	1.69E-03	0.94
263	16.3375	3.23E-06	3.5	1.10E-03	4.69E-02	4.47E-02	1.10E-03	0.95
264	16.3875	2.94E-06	3.7	2.16E-03	4.19E-02	3.97E-02	1.12E-03	0.95
265	16.4375	3.92E-06	-13.4	3.22E-03	6.38E-02	5.98E-02	2.01E-03	0.94
266	16.49	4.86E-06	4.0	3.92E-03	6.70E-02	6.45E-02	1.27E-03	0.96
267	16.54	4.63E-06	4.1	3.97E-03	6.26E-02	5.96E-02	1.50E-03	0.95
268	16.5875	5.05E-06	3.9	3.83E-03	6.71E-02	6.45E-02	1.28E-03	0.96
269	16.64	4.98E-06	4.0	3.96E-03	6.64E-02	6.34E-02	1.51E-03	0.95
270	16.6875	4.88E-06	4.1	3.88E-03	6.81E-02	6.48E-02	1.65E-03	0.95
271	16.7375	4.95E-06	4.0	3.70E-03	6.92E-02	6.60E-02	1.60E-03	0.95
272	16.7875	4.96E-06	4.4	4.04E-03	6.93E-02	6.59E-02	1.70E-03	0.95
273	16.8375	4.71E-06	4.5	3.72E-03	6.98E-02	6.57E-02	2.07E-03	0.94
274	16.8875	4.71E-06	4.6	3.96E-03	6.52E-02	6.19E-02	1.66E-03	0.95
275	16.9375	4.96E-06	4.3	3.91E-03	7.07E-02	6.73E-02	1.70E-03	0.95
276	16.99	4.98E-06	4.1	3.66E-03	6.50E-02	6.20E-02	1.47E-03	0.95
277	17.11	4.72E-06	3.5	3.25E-03	6.76E-02	6.33E-02	2.17E-03	0.94
278	17.1575	4.44E-06	3.3	3.15E-03	6.46E-02	6.04E-02	2.08E-03	0.94
279	17.21	4.57E-06	4.2	3.28E-03	6.95E-02	6.49E-02	2.31E-03	0.93
280	17.2575	4.66E-06	3.9	3.38E-03	6.81E-02	6.38E-02	2.13E-03	0.94
281	17.3075	4.34E-06	3.7	3.14E-03	6.20E-02	5.84E-02	1.80E-03	0.94
282	17.37	4.70E-06	4.0	3.53E-03	6.64E-02	6.27E-02	1.85E-03	0.94
283	17.4225	4.93E-06	3.7	3.27E-03	6.83E-02	6.46E-02	1.85E-03	0.95
284	17.4725	4.40E-06	3.7	3.01E-03	6.04E-02	5.71E-02	1.64E-03	0.95
285	17.54	4.60E-06	3.9	3.17E-03	6.41E-02	6.06E-02	1.71E-03	0.95
286	17.6	4.41E-06	3.7	2.90E-03	6.04E-02	5.75E-02	1.47E-03	0.95
287	17.6475	4.86E-06	3.7	3.44E-03	6.67E-02	6.37E-02	1.49E-03	0.96
288	17.6975	4.54E-06	4.0	3.39E-03	6.20E-02	5.88E-02	1.60E-03	0.95
289	17.75	4.86E-06	3.9	3.55E-03	6.70E-02	6.43E-02	1.38E-03	0.96
290	17.8	4.59E-06	4.1	3.65E-03	6.27E-02	6.00E-02	1.35E-03	0.96
291	17.8475	5.11E-06	4.0	3.82E-03	7.06E-02	6.75E-02	1.56E-03	0.96
292	17.9	4.79E-06	3.8	3.31E-03	6.61E-02	6.21E-02	2.01E-03	0.94
293	17.95	4.86E-06	3.8	3.10E-03	6.62E-02	6.25E-02	1.82E-03	0.94
294	17.9975	4.88E-06	4.1	3.53E-03	6.57E-02	6.26E-02	1.53E-03	0.95
295	18.05	4.97E-06	3.8	3.44E-03	6.72E-02	6.42E-02	1.50E-03	0.96
296	18.1	4.94E-06	4.1	3.06E-03	6.31E-02	5.98E-02	1.64E-03	0.95
297	18.1525	4.89E-06	3.4	2.49E-03	6.80E-02	6.35E-02	2.30E-03	0.93
298	18.2375	4.05E-06	3.9	2.99E-03	5.51E-02	5.21E-02	1.46E-03	0.95
299	18.315	4.68E-06	4.2	3.06E-03	6.87E-02	6.42E-02	2.24E-03	0.93
300	18.425	4.48E-06	3.1	2.60E-03	6.21E-02	5.82E-02	1.93E-03	0.94
301	18.485	4.50E-06	3.1	3.04E-03	6.53E-02	6.17E-02	1.77E-03	0.95
302	18.54	4.51E-06	3.2	2.98E-03	5.94E-02	5.63E-02	1.51E-03	0.95
303	18.5925	4.35E-06	3.2	3.02E-03	6.42E-02	6.04E-02	1.92E-03	0.94
304	18.64	4.37E-06	3.4	3.19E-03	6.25E-02	5.93E-02	1.59E-03	0.95
305	18.6925	4.24E-06	3.5	3.05E-03	6.20E-02	5.84E-02	1.84E-03	0.94
306	18.7425	3.69E-06	3.4	2.54E-03	5.78E-02	5.29E-02	2.46E-03	0.92
307	18.7925	3.07E-06	3.3	1.99E-03	4.59E-02	4.17E-02	2.08E-03	0.91
308	18.84	3.05E-06	2.9	1.88E-03	4.63E-02	4.20E-02	2.17E-03	0.91
309	18.8875	3.13E-06	3.4	1.96E-03	4.86E-02	4.39E-02	2.35E-03	0.90
310	18.94	2.56E-06	3.7	5.82E-04	4.56E-02	3.79E-02	3.85E-03	0.83
311	18.9925	5.32E-06	5.0	1.06E-03	9.84E-02	9.18E-02	3.27E-03	0.93
312	19.0375	4.33E-06	4.3	1.15E-03	1.15E-01	9.59E-02	9.62E-03	0.83

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
313	19.0875	3.87E-06	3.3	1.10E-03	1.20E-01	1.01E-01	9.60E-03	0.84
314	19.14	3.32E-06	3.9	1.13E-03	1.14E-01	9.36E-02	1.01E-02	0.82
315	19.19	3.45E-06	4.4	1.09E-03	1.09E-01	9.12E-02	8.92E-03	0.84
316	19.24	5.69E-06	4.3	1.24E-03	1.14E-01	9.78E-02	8.16E-03	0.86
317	19.2875	3.92E-06	3.9	1.15E-03	1.05E-01	8.73E-02	8.74E-03	0.83
318	19.3325	4.23E-06	3.8	1.20E-03	1.11E-01	9.34E-02	8.85E-03	0.84
319	19.3875	4.41E-06	3.4	1.19E-03	1.23E-01	1.05E-01	8.86E-03	0.86
320	19.44	4.16E-06	4.1	1.21E-03	1.19E-01	1.02E-01	8.64E-03	0.86
321	19.485	4.09E-06	4.2	1.19E-03	1.20E-01	1.01E-01	9.57E-03	0.84
322	19.535	3.88E-06	3.9	1.17E-03	1.18E-01	9.92E-02	9.51E-03	0.84
323	19.5825	4.25E-06	3.7	1.21E-03	1.20E-01	1.01E-01	9.19E-03	0.85
324	19.635	4.48E-06	4.0	1.20E-03	1.19E-01	1.01E-01	9.02E-03	0.85
325	19.6875	4.66E-06	4.6	1.27E-03	1.12E-01	9.52E-02	8.48E-03	0.85
326	19.8325	4.30E-06	3.8	1.11E-03	1.21E-01	1.01E-01	1.00E-02	0.83
327	19.8725	4.06E-06	2.6	1.19E-03	1.26E-01	1.04E-01	1.06E-02	0.83
328	20.0375	4.74E-06	3.2	1.20E-03	1.23E-01	1.05E-01	9.34E-03	0.85
329	20.12	4.67E-06	3.5	1.06E-03	1.18E-01	1.02E-01	8.09E-03	0.86
330	20.2075	3.78E-06	3.3	1.78E-03	8.84E-02	7.63E-02	6.07E-03	0.86
331	20.2625	3.75E-06	3.7	1.69E-03	9.37E-02	7.99E-02	6.87E-03	0.85
332	20.315	3.97E-06	4.3	1.48E-03	1.05E-01	8.86E-02	8.00E-03	0.85
333	20.3675	4.25E-06	3.5	1.42E-03	1.13E-01	9.55E-02	8.52E-03	0.85
334	20.415	4.15E-06	3.8	1.68E-03	1.03E-01	8.77E-02	7.53E-03	0.85
335	20.465	4.25E-06	3.9	1.56E-03	1.04E-01	8.79E-02	7.96E-03	0.85
336	20.51	4.01E-06	4.2	2.16E-03	8.49E-02	7.47E-02	5.12E-03	0.88
337	20.56	4.02E-06	3.6	2.32E-03	7.93E-02	7.12E-02	4.03E-03	0.90
338	20.6075	3.96E-06	3.9	2.01E-03	8.82E-02	7.68E-02	5.71E-03	0.87
339	20.67	4.29E-06	4.0	2.27E-03	8.46E-02	7.56E-02	4.50E-03	0.89
340	20.8	4.28E-06	3.8	2.23E-03	9.53E-02	8.35E-02	5.91E-03	0.88
341	21.05	4.09E-06	3.7	2.25E-03	7.75E-02	6.96E-02	3.91E-03	0.90
342	21.095	4.20E-06	4.2	2.92E-03	6.26E-02	5.91E-02	1.73E-03	0.94
343	21.3125	4.10E-06	3.9	2.63E-03	6.42E-02	5.93E-02	2.44E-03	0.92
344	21.4125	3.80E-06	3.9	2.48E-03	5.87E-02	5.45E-02	2.14E-03	0.93
345	21.4575	4.16E-06	3.6	2.82E-03	6.26E-02	5.93E-02	1.64E-03	0.95
346	21.5075	3.98E-06	4.1	2.85E-03	6.16E-02	5.75E-02	2.04E-03	0.93
347	21.5575	4.26E-06	3.8	3.03E-03	6.46E-02	6.16E-02	1.50E-03	0.95
348	21.61	4.29E-06	3.6	2.98E-03	6.36E-02	6.04E-02	1.63E-03	0.95
349	21.66	3.39E-06	4.0	1.99E-03	5.41E-02	4.95E-02	2.29E-03	0.92
350	21.7075	3.38E-06	3.9	2.06E-03	5.07E-02	4.70E-02	1.87E-03	0.93
351	21.7575	2.24E-06	3.3	1.35E-03	3.26E-02	3.00E-02	1.32E-03	0.92
352	21.81	2.17E-06	3.7	9.53E-04	3.64E-02	3.21E-02	2.18E-03	0.88
353	21.8575	1.71E-06	3.1	4.60E-04	2.98E-02	2.54E-02	2.22E-03	0.85
354	21.91	1.53E-06	2.5	3.93E-04	2.43E-02	2.10E-02	1.65E-03	0.86
355	21.955	1.35E-06	2.1	3.75E-04	1.96E-02	1.73E-02	1.13E-03	0.88
356	22.01	1.19E-06	2.5	3.06E-04	1.77E-02	1.54E-02	1.19E-03	0.87
357	22.0575	9.59E-07	3.0	2.14E-04	1.62E-02	1.33E-02	1.46E-03	0.82
358	22.1075	1.04E-06	3.6	2.28E-04	2.02E-02	1.61E-02	2.04E-03	0.80
359	22.1625	9.59E-07	3.5	2.25E-04	1.86E-02	1.49E-02	1.83E-03	0.80
360	22.2125	9.67E-07	3.5	2.25E-04	1.76E-02	1.43E-02	1.66E-03	0.81
361	22.2625	8.93E-07	3.2	2.13E-04	1.46E-02	1.22E-02	1.22E-03	0.83
362	22.31	9.19E-07	2.9	2.14E-04	1.69E-02	1.40E-02	1.45E-03	0.83
363	22.3725	8.31E-07	2.5	1.84E-04	1.31E-02	1.09E-02	1.09E-03	0.83
364	22.4225	6.86E-07	2.3	1.55E-04	9.90E-03	8.43E-03	7.38E-04	0.85

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
365	22.4775	6.56E-07	2.5	1.53E-04	1.00E-02	8.30E-03	8.51E-04	0.83
366	22.5875	8.81E-07	2.2	1.79E-04	1.30E-02	1.08E-02	1.08E-03	0.83
367	22.64	1.09E-06	2.7	2.27E-04	1.82E-02	1.51E-02	1.56E-03	0.83
368	22.6875	9.35E-07	2.4	2.14E-04	1.61E-02	1.33E-02	1.40E-03	0.83
369	22.7375	8.72E-07	3.1	2.03E-04	1.56E-02	1.28E-02	1.42E-03	0.82
370	22.79	8.25E-07	3.0	1.95E-04	1.39E-02	1.15E-02	1.24E-03	0.82
371	22.84	1.01E-06	2.9	2.22E-04	1.59E-02	1.32E-02	1.33E-03	0.83
372	22.8875	1.21E-06	2.5	2.61E-04	1.84E-02	1.55E-02	1.43E-03	0.84
373	22.94	1.48E-06	2.1	2.83E-04	1.98E-02	1.72E-02	1.29E-03	0.87
374	22.99	1.74E-06	2.5	3.51E-04	2.34E-02	2.05E-02	1.44E-03	0.88
375	23.04	2.02E-06	2.7	5.30E-04	3.21E-02	2.81E-02	2.00E-03	0.88
376	23.09	2.02E-06	2.5	5.69E-04	3.26E-02	2.87E-02	1.94E-03	0.88
377	23.1375	2.41E-06	2.5	7.67E-04	3.81E-02	3.40E-02	2.08E-03	0.89
378	23.19	3.06E-06	2.8	1.28E-03	4.80E-02	4.35E-02	2.26E-03	0.91
379	23.24	2.67E-06	2.6	1.11E-03	4.26E-02	3.86E-02	1.99E-03	0.91
380	23.29	3.11E-06	3.7	1.26E-03	6.78E-02	5.87E-02	4.52E-03	0.87
381	23.34	2.91E-06	3.6	1.15E-03	5.12E-02	4.52E-02	3.00E-03	0.88
382	23.3875	2.63E-06	2.8	1.31E-03	4.48E-02	4.04E-02	2.19E-03	0.90
383	23.4375	3.06E-06	3.5	1.83E-03	4.61E-02	4.30E-02	1.57E-03	0.93
384	23.4925	3.07E-06	4.4	1.46E-03	6.86E-02	5.87E-02	4.95E-03	0.86
385	23.5375	3.13E-06	4.3	1.32E-03	8.72E-02	7.28E-02	7.22E-03	0.83
386	23.5875	3.08E-06	3.7	1.59E-03	5.51E-02	4.98E-02	2.63E-03	0.90
387	23.64	3.16E-06	3.9	1.73E-03	6.35E-02	5.62E-02	3.65E-03	0.89
388	23.6875	3.25E-06	4.2	1.70E-03	6.75E-02	5.97E-02	3.92E-03	0.88
389	23.7425	3.37E-06	4.1	1.63E-03	7.68E-02	6.65E-02	5.11E-03	0.87
390	23.79	3.37E-06	4.6	1.66E-03	7.91E-02	6.78E-02	5.66E-03	0.86
391	23.845	3.13E-06	5.0	1.21E-03	1.04E-01	8.57E-02	9.13E-03	0.82
392	23.9	3.05E-06	4.8	1.19E-03	1.06E-01	8.68E-02	9.81E-03	0.82
393	24.09	2.34E-06	4.0	9.10E-04	9.53E-02	7.86E-02	8.35E-03	0.82
394	24.14	2.43E-06	3.2	1.19E-03	1.25E-01	1.06E-01	9.65E-03	0.85
395	24.19	2.69E-06	3.5	9.74E-04	9.14E-02	8.04E-02	5.51E-03	0.88
396	24.2425	2.68E-06	4.3	8.99E-04	1.03E-01	8.56E-02	8.78E-03	0.83
397	24.2875	2.11E-06	3.5	8.53E-04	9.15E-02	7.78E-02	6.87E-03	0.85
398	24.3375	2.19E-06	4.1	7.95E-04	9.21E-02	7.69E-02	7.56E-03	0.84
399	24.41	2.27E-06	3.8	9.69E-04	1.00E-01	8.71E-02	6.68E-03	0.87
400	24.4675	2.22E-06	4.2	9.01E-04	9.69E-02	8.08E-02	8.02E-03	0.83
401	24.5175	2.28E-06	4.7	9.42E-04	1.15E-01	9.27E-02	1.10E-02	0.81
402	24.5725	2.63E-06	4.2	1.00E-03	1.13E-01	9.62E-02	8.48E-03	0.85
403	24.6175	2.29E-06	4.6	8.61E-04	1.07E-01	8.95E-02	8.90E-03	0.83
404	24.665	2.28E-06	5.0	8.34E-04	1.09E-01	8.89E-02	1.01E-02	0.82
405	24.715	2.28E-06	4.7	8.69E-04	9.69E-02	8.29E-02	7.03E-03	0.85
406	24.76	1.88E-06	5.3	6.68E-04	9.24E-02	7.51E-02	8.67E-03	0.81
407	24.8025	2.22E-06	5.6	7.75E-04	1.05E-01	8.46E-02	1.04E-02	0.80
408	24.8575	2.13E-06	5.5	7.72E-04	1.02E-01	8.29E-02	9.35E-03	0.82
409	24.9075	1.92E-06	5.2	7.04E-04	9.63E-02	7.67E-02	9.79E-03	0.80
410	24.96	2.23E-06	5.4	7.90E-04	1.07E-01	8.35E-02	1.18E-02	0.78
411	25.02	2.15E-06	5.2	9.11E-04	9.65E-02	8.02E-02	8.18E-03	0.83
412	25.1175	3.49E-06	4.9	1.09E-03	1.10E-01	8.68E-02	1.16E-02	0.79
413	25.1925	2.29E-06	5.5	5.87E-04	4.18E-02	3.58E-02	2.97E-03	0.86
414	25.7	1.79E-06	3.4	4.60E-04	3.38E-02	3.05E-02	1.65E-03	0.90
415	25.8	3.28E-06	3.2	9.46E-04	5.09E-02	4.89E-02	1.01E-03	0.96
416	25.845	3.44E-06	3.4	9.81E-04	5.74E-02	5.50E-02	1.18E-03	0.96

Sample Box no. GL2-	Sample Depth (m)	MSLF	FDMS (%)	ARM	IRM (1.2T)	IRM (-.3T)	HIRM	S
417	26.22	1.41E-06	2.7	3.43E-04	2.69E-02	2.42E-02	1.37E-03	0.90
418	26.2875	1.63E-06	2.0	4.06E-04	3.39E-02	3.15E-02	1.20E-03	0.93
419	26.365	2.11E-06	2.3	5.52E-04	3.81E-02	3.54E-02	1.34E-03	0.93
420	26.4825	1.86E-06	0.7	4.33E-04	3.36E-02	3.11E-02	1.23E-03	0.93
421	26.54	1.70E-06	2.0	4.36E-04	3.23E-02	3.01E-02	1.09E-03	0.93
422	26.5925	1.32E-06	2.2	3.81E-04	2.63E-02	2.43E-02	9.64E-04	0.93
423	26.6425	1.56E-06	1.9	4.63E-04	2.92E-02	2.74E-02	9.00E-04	0.94
424	26.6925	2.06E-06	2.7	5.11E-04	3.64E-02	3.45E-02	9.77E-04	0.95
425	26.7425	9.40E-07	3.3	2.56E-04	1.95E-02	1.70E-02	1.23E-03	0.87
426	26.79	1.06E-06	3.2	2.87E-04	2.18E-02	1.94E-02	1.19E-03	0.89
427	26.8375	1.27E-06	4.4	3.50E-04	2.28E-02	2.00E-02	1.40E-03	0.88
428	26.8975	1.45E-06	4.7	3.47E-04	2.41E-02	2.10E-02	1.55E-03	0.87
429	26.9725	1.99E-06	5.3	4.99E-04	3.11E-02	2.75E-02	1.76E-03	0.89
430	27.15	3.54E-06	4.6	8.19E-04	4.81E-02	4.36E-02	2.25E-03	0.91
431	27.32	4.53E-06	5.1	7.05E-04	4.78E-02	4.38E-02	1.99E-03	0.92
432	27.3975	5.29E-06	4.4	1.36E-03	6.89E-02	6.43E-02	2.27E-03	0.93
433	27.4525	3.78E-06	4.0	1.10E-03	5.43E-02	5.08E-02	1.76E-03	0.93
434	27.5075	4.32E-06	3.5	1.35E-03	6.41E-02	6.02E-02	1.98E-03	0.94
435	27.56	3.32E-06	4.0	1.31E-03	5.34E-02	4.95E-02	1.95E-03	0.93
436	27.6125	2.96E-06	3.7	1.11E-03	5.07E-02	4.68E-02	1.97E-03	0.92
437	27.6625	3.77E-06	3.9	1.25E-03	5.83E-02	5.46E-02	1.86E-03	0.94
438	27.715	2.54E-06	3.7	1.08E-03	4.50E-02	4.15E-02	1.73E-03	0.92
439	27.7675	2.67E-06	3.9	1.00E-03	4.59E-02	4.27E-02	1.62E-03	0.93
440	27.82	2.48E-06	3.6	1.01E-03	4.42E-02	4.07E-02	1.76E-03	0.92
441	27.8775	9.06E-07	4.4	2.53E-04	1.50E-02	1.20E-02	1.48E-03	0.80
442	27.93	1.71E-06	3.9	6.80E-04	2.80E-02	2.48E-02	1.60E-03	0.89
443	27.9825	7.77E-07	4.0	2.25E-04	1.47E-02	1.20E-02	1.35E-03	0.82
444	28.0375	7.22E-07	4.5	2.27E-04	1.60E-02	1.31E-02	1.44E-03	0.82
445	28.0925	1.92E-06	3.7	6.84E-04	3.67E-02	3.32E-02	1.73E-03	0.91
446	29.185	4.65E-07	4.4	1.50E-04	9.40E-03	6.86E-03	1.27E-03	0.73
447	28.455	1.70E-06	5.4	6.41E-04	2.64E-02	2.34E-02	1.48E-03	0.89
448	29.0775	3.35E-06	4.9	6.03E-04	4.03E-02	3.65E-02	1.91E-03	0.91
449	29.1625	5.10E-07	5.4	1.58E-04	1.10E-02	8.62E-03	1.18E-03	0.79
450	29.2275	6.34E-07	5.5					
451	29.3	6.19E-07	5.5	1.66E-04	1.15E-02	9.09E-03	1.18E-03	0.79
452	29.35	9.72E-07	5.2	2.43E-04	1.54E-02	1.30E-02	1.19E-03	0.85
453	29.4025	5.28E-07	5.7	1.80E-04	1.27E-02	9.99E-03	1.33E-03	0.79
454	29.6925	2.04E-06	2.5	9.49E-04	4.56E-02	3.99E-02	2.83E-03	0.88
455	29.79	3.95E-06	2.1	2.10E-03	7.26E-02	6.79E-02	2.36E-03	0.93
456	29.84	3.28E-06	3.2	1.24E-03	4.93E-02	4.58E-02	1.75E-03	0.93
457	29.9075	3.35E-06	2.8	1.18E-03	5.07E-02	4.56E-02	2.55E-03	0.90
458	30.02	3.99E-06	3.8	9.87E-04	5.16E-02	4.56E-02	2.99E-03	0.88

TABLE 4. Elemental Abundance from X-ray Fluorescence

Vial no.: A unique sample number assigned to sediment samples placed in vials.

Sample depth: Depth of sample in meters from top of core.

Paired sample box no.: Sample box number which corresponds in depth to vial number.

Elements: The elements analyzed are listed below. The units are either weight percent (Wt%) or parts per million (ppm).

Cr: Chromium-ppm	Rb: Rubidium-ppm
Cr: Copper-ppm	Sr: Strontium-ppm
Fe: Iron- Wt%	Ti: Titanium-Wt %
Mn: Manganese-ppm	V: Vanadium-ppm
Mo: Molybdenum-ppm	Y: Yttrium-ppm
Nb: Niobium-ppm	Zn: Zinc-ppm
Ni: Nickel-ppm	Zr: Zirconium-ppm

Vial no.	Sample depth (m)	Paired Sample box no.	Cr ppm	Cu ppm	Fe Wt%	Mn ppm	Mo ppm	Nb ppm	Ni ppm	Rb ppm	Sr ppm	Ti Wt%	V ppm	Y ppm	Zn ppm	Zr ppm
10936	0.885	11	99	41	3.61	175	15	24	41	31	413	0.46	183	17	79	126
10957	1.665	22	131	74	5.99	226	3	11	43	45	284	0.59	115	28	89	143
10958	1.665	22	125	74	5.93	192	15	25	42	37	284	0.59	87	25	88	132
10975	2.5625	31	134	63	4.49	345	16	24	76	37	418	0.53	128	21	90	129
10976	2.5625	31	126	74	4.58	237	14	23	53	36	341	0.54	107	20	101	146
10987	2.335	37	128	64	5.77	449	15	26	72	39	367	0.53	80	19	87	120
10989	2.385	38	80	61	5.02	245	17	27	49	43	337	0.55	155	25	89	146
10990	2.385	38	116	68	4.86	302	16	28	67	43	312	0.55	96	28	98	145
10991	2.45	39	109	26	4.05	760	14	18	53	53	22	0.38	122	13	73	54
10992	2.45	39	104	21	4	702	13	19	52	16	633	0.37	101	13	74	68
10995	2.565	41	152	17	4.96	946	2	6	56	19	602	0.43	129	15	85	89
10996	2.565	41	209	15	6.05	1200	1	8	67	17	635	0.54	39	14	98	91
11009	3.71	49	86	20	3.18	444	12	6	39	7	652	0.3	27	18	64	41
11023	4.725	63	183	13	6.47	1200	6	13	73	21	634	0.53	76	13	112	77
11030	5.21	70	78	26	3.85	692	7	18	38	25	706	0.35	21	16	68	82
11032	5.6	72	119	10	4.24	677	8	20	46	20	620	0.38	2	10	79	61
11039	5.95	79	104	34	3.92	483	16	21	51	33	520	0.37	2	8	73	103
11044	6.2	84	114	26	4.02	585	7	20	56	26	645	0.33	2	11	77	89
11051	6.55	91	97	58	4.19	360	18	26	54	30	335	0.41	101	21	86	114
11055	6.78	95	89	55	3.78	313	4	8	47	35	330	0.38	120	22	81	117
11060	7.1725	100	88	14	3.99	699	16	24	39	25	717	0.31	73	6	79	73
11067	7.5225	107	235	4	8.72	1900	8	0	95	7	496	0.42	15	18	160	57
11075	7.9225	775	103	16	4.41	916	14	17	57	22	632	0.32	96	10	85	92
11082	8.27	122	63	19	3.14	467	8	22	36	23	677	0.29	43	8	65	95
11092	8.8	132	114	32	3.78	655	11	26	59	25	597	0.33	62	5	79	56
11097	9.05	137	46	43	3.3	399	16	20	30	39	591	0.33	122	16	69	109
11100	9.2	140	54	44	2.94	387	16	27	29	32	654	0.31	48	2	63	83
11101	9.26	141	39	44	3.08	477	15	24	33	39	652	0.31	132	11	64	111
11103	9.69	143	140	60	4.49	346	18	25	53	32	345	0.49	146	21	102	122
11104	9.7425	144	123	70	4.11	309	13	21	39	35	274	0.46	120	17	94	99
11105	9.7925	145	111	59	4.08	291	3	6	41	36	275	0.44	126	23	90	111
11107	9.8925	147	115	49	3.84	305	16	24	63	29	266	0.42	114	18	90	102
11109	9.9925	149	140	50	3.64	308	3	9	48	36	321	0.42	30	23	91	121
11112	10.143	152	107	58	4.09	302	17	26	47	33	332	0.49	148	19	96	125
11115	10.293	155	139	51	4.58	289	17	28	40	37	367	0.47	49	13	93	134
11121	10.593	161	118	50	4.55	271	3	8	43	32	264	0.43	138	19	82	109
11125	10.793	165	152	52	5.36	334	3	10	53	38	292	0.5	2	21	88	124
11334	11.29	174	100	57	3.45	230	3	8	46	38	264	0.43	126	22	92	117
11344	11.79	184	98	52	5.39	334	5	11	38	38	297	0.47	147	29	95	152
11353	12.55	193	82	48	3.73	427	5	10	41	38	383	0.42	54	20	85	130
11361	12.94	201	52	24	2.61	302	17	25	19	48	293	0.27	119	19	65	135
11367	13.235	207	80	48	3.33	336	4	10	31	45	297	0.34	49	24	71	142
11372	13.485	212	50	36	2.9	369	17	26	25	37	482	0.3	53	11	67	122
11376	13.695	216	40	69	3.63	288	19	28	30	52	231	0.33	46	23	96	156

Vial no.	Sample depth (m)	Paired Sample box no.	Cr ppm	Cu ppm	Fe Wt%	Mn ppm	Mo ppm	Nb ppm	Ni ppm	Rb ppm	Sr ppm	Ti Wt%	V ppm	Y ppm	Zn ppm	Zr ppm
11380	13.868	220	21	28	2.02	324	17	35	21	83	84	0.23	19	39	64	232
11385	14.1	225	130	57	4.43	378	2	6	46	27	208	0.45	125	22	91	88
11390	14.448	230	158	72	5.22	380	18	25	75	32	252	0.54	49	19	100	113
11391	14.5	231	144	65	5.09	334	3	8	45	33	249	0.52	141	23	85	117
11393	14.603	233	139	71	5.71	504	5	9	47	38	269	0.56	63	26	103	130
11395	14.695	235	117	67	5.72	574	15	23	73	41	291	0.56	121	30	97	139
11398	14.875	238	171	77	6.12	452	2	14	53	32	272	0.6	122	32	99	136
11406	15.405	246	118	70	5.9	454	15	24	55	31	275	0.59	174	25	108	126
11414	15.813	254	117	80	5.67	421	3	13	46	35	280	0.58	149	27	105	135
11425	16.44	265	167	69	5.9	517	18	26	69	30	309	0.59	101	21	101	137
11442	17.37	282	109	78	6.64	575	20	28	51	34	283	0.65	260	17	92	122
11450	17.8	290	155	62	6.84	1000	3	12	75	41	302	0.65	89	32	102	142
11461	18.485	301	150	64	5.81	476	17	26	47	34	356	0.64	248	14	103	141
11469	18.89	309	163	57	4.97	482	3	10	70	30	401	0.52	92	21	97	126
11471	18.99	311	189	26	5.71	0	3	7	91	19	608	0.48	61	25	89	93
11474	19.14	314	189	33	5.92	1000	12	26	100	18	591	0.5	116	10	89	72
11476	19.24	316	180	29	5.95	1100	17	24	91	23	605	0.51	41	19	97	69
11484	19.635	324	131	26	5.34	888	15	23	75	20	637	0.47	142	17	84	85
11489	20.12	329	175	21	5.74	1100	0	10	67	21	600	0.47	21	17	93	96
11496	20.51	336	158	48	5.5	667	15	24	66	31	515	0.55	2	19	88	113
11499	20.67	339	174	46	6.04	670	17	24	66	30	448	0.56	29	20	91	99
11507	21.56	347	187	75	6.35	625	4	10	85	37	312	0.67	134	30	107	149
11511	21.758	351	180	63	5.12	489	17	23	49	27	332	0.52	31	21	100	102
11515	21.955	355	155	56	4.53	388	15	22	55	25	279	0.46	140	24	85	99
11519	22.168	359	156	48	4.33	457	3	7	70	27	329	0.45	114	20	85	101
11522	22.31	362	144	52	4.19	334	2	8	45	18	272	0.4	127	19	77	92
11525	22.478	365	148	50	4.7	375	3	7	47	24	276	0.43	33	21	78	99
11528	22.69	368	122	51	4.25	395	3	10	67	22	294	0.41	89	18	79	101
11531	22.84	371	139	48	3.98	345	17	24	49	22	361	0.41	138	17	86	82
11534	22.99	374	151	51	4.57	414	17	25	63	30	371	0.47	71	20	80	105
11538	23.19	378	161	57	5.32	545	3	10	63	39	437	0.58	48	26	97	151
11543	23.438	383	132	59	5.49	494	17	27	71	39	316	0.57	46	17	99	121
11550	23.79	390	115	55	5.02	505	2	8	49	30	455	0.52	141	21	87	124
11567	24.803	407	95	44	5.1	853	17	26	59	20	655	0.49	71	16	76	112
11580	26.483	420	73	40	4.3	347	18	26	34	47	447	0.35	23	11	70	168
11590	27.15	430	157	50	6.49	684	16	28	53	28	505	0.59	132	19	95	140
11604	28.035	444	128	48	5.11	396	15	25	64	44	428	0.5	2	9	89	132
11615	29.79	455	152	65	6.75	479	3	12	48	36	280	0.65	163	22	77	168

TABLE 5. Carbon Contents

Grass Lake Sample No.: A unique sample number assigned to samples regardless of type.

Vial No.: A unique sample number assigned to sediment put into vials.

Sample Depth: Depth of sample in meters from top of core.

Paired Sample Box no.: Sample box number which corresponds in depth to vial number.

Total Carbon: Percent of carbon (both organic and inorganic) in sample.

Carbonate Carbon: Percent of inorganic carbon in sample.

Organic Carbon: Percent of organic carbon in sample. Calculated as total carbon minus carbonate carbon.

Grass Lake sample no.	vial no.	sample depth (m)	paired sample box no. GI-2-	Total Carbon (%)	Carbonate Carbon (%)	Organic Carbon (%)
10958	10958	1.665	22	0.27	0.00	0.27
10987	10987	2.335	37	0.44	0.01	0.43
10996	10996	2.565	41	0.07	0.00	0.07
11023	11023	4.725	63	0.06	0.01	0.05
11051	11051	6.55	91	2.44	0.00	2.44
11075	11075	7.9225	115	0.06	0.03	0.03
11092	11092	8.8	132	1.36	0.00	1.36
11103	11103	9.69	143	1.30	0.01	1.29
11107	11107	9.8925	147	5.42	0.00	5.42
11112	11112	10.1425	152	1.20	0.01	1.19
11121	11121	10.5925	161	2.44	0.01	2.44
11334	11334	11.29	174	2.22	0.01	2.21
11380	11380	13.8675	220	0.78	0.01	0.77
11390	11390	14.4475	230	4.34	0.01	4.33
11398	11398	14.875	238	1.62	0.01	1.62
11425	11425	16.44	265	1.06	0.04	1.02
11450	11450	17.8	290	0.94	0.12	0.82
11471	11471	18.99	311	0.08	0.00	0.08
11476	11476	19.24	316	0.07	0.02	0.05
11499	11499	20.67	339	0.43	0.00	0.43
11515	11515	21.955	355	2.35	0.00	2.35
11525	11525	22.4775	365	2.06	0.00	2.06
11534	11534	22.99	374	0.97	0.00	0.97
11543	11543	23.4375	383	0.61	0.00	0.61
11567	11567	24.8025	407	0.06	0.00	0.06